

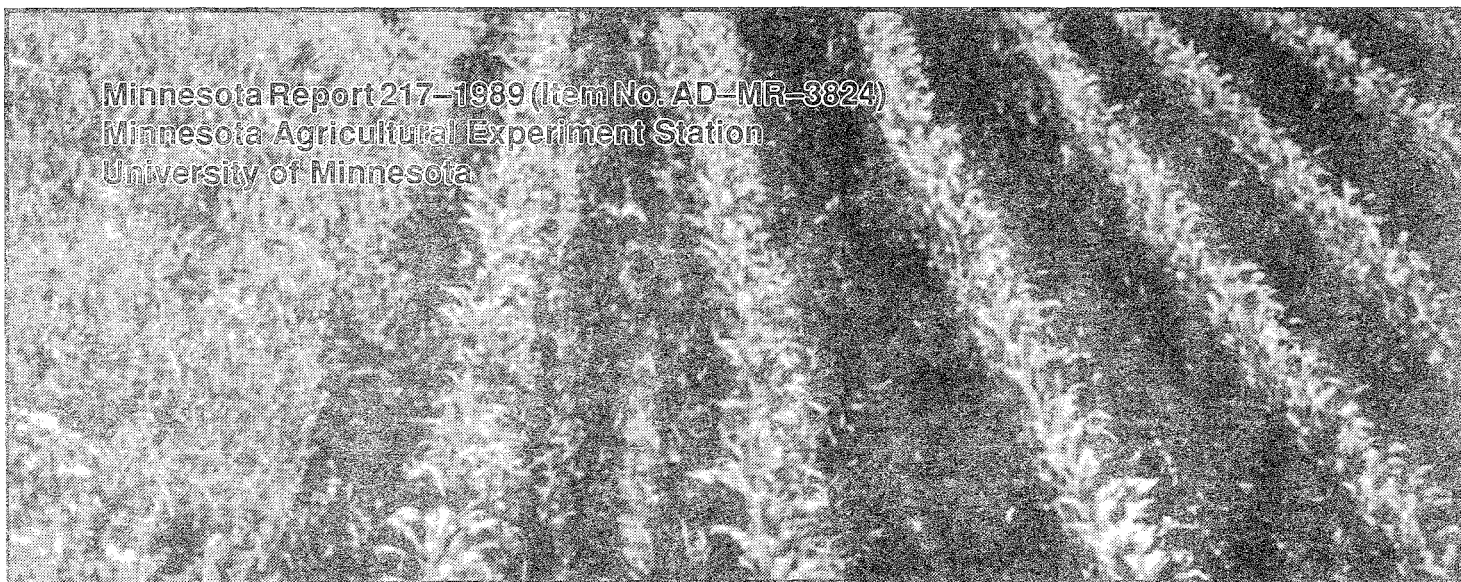
The Conservation Reserve Program in Minnesota:

1986–89 Enrollment Characteristics and Program Impacts

Steven J. Taff



Minnesota Report 217–1989 (Item No. AD-MR-3824)
Minnesota Agricultural Experiment Station
University of Minnesota



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Author

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THE CONSERVATION RESERVE PROGRAM IN MINNESOTA:

1986-89 ENROLLMENT CHARACTERISTICS AND PROGRAM IMPACTS

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Bulletin Overview

This bulletin reports the effects in Minnesota of the federal Conservation Reserve Program (CRP) over its first three and a half years. It contains county and state level aggregations of individual CRP contract records. The intent is to present as much data as possible--with a modest amount of analysis--for readers to use as they see fit.

The report divides into three major parts. Section I provides a brief historical and policy setting for the onset of the CRP. This is followed by a discussion of some necessary program implementation details and by a description of the bulletin's underlying data set. The section closes with a statewide summary of CRP operations to date. (All data in the main body of this report cover the first six CRP enrollment rounds, through February 1988.)

Section II characterizes both the land entered into the CRP in Minnesota and the farms on which land is enrolled. Land quality is

approximated by each parcel's land capability classification. Special attention is paid to those farms on which all or nearly all the cropland has been entered into the Reserve.

Some of the impacts of the program's retired lands are examined in Section III. Financial effects are measured by the distributions of annual CRP rental payments across counties and land quality groupings. Soil erosion reductions are calculated for the same categories. Finally, CRP-induced reductions in commodity base acreage are shown by county and by crop.

The reader's attention is drawn as well to Appendix C, which contains abbreviated summaries for the seventh and eighth CRP enrollment periods (August 1988 and February 1989, respectively). This information was received too late to be included in the main body of this report.

Section I: Program Description and Study Framework

POLICY CONTEXT

The Conservation Reserve Program was authorized under Title XII of the 1985 Food Security Act (the "Farm Bill") as part of a

broader panoply of conservation oriented measures that were relatively new to American farm legislation. Coupled with the quite different Sodbuster, Swampbuster, and Conservation Compliance provisions forbidding federal farm

subsidies to those farms that fail to follow official conservation plans on highly erodible or wet soils, the CRP was hailed by diverse interests as a program that would surely accomplish many goals at once.

These measures were drawn up at a time when two major perceptions held sway in the farm policy community. One was that ever-increasing farm productivity coupled with only slowly increasing farm demand would result for many years to come in a severe overproduction problem, at least with respect to major crops like wheat and the feed grains. The conclusion drawn was that a substantial new land retirement program would not only not hurt American competitiveness, it would actually move production down toward levels that better matched demand at prevailing prices. A long-term program such as the CRP, it was argued, could only help in shifting what were thought to be excess resources out of farming.

The second perception, held by many conservationists, wildlife interests, and environmentalists, was that an unchecked American agriculture posed a present and continuing threat to public health and welfare. Those holding this view argued that the unprecedented expansion of cropped acres during the 1970s export boom had brought into production a great deal of "marginal" land. This was land, they said, that would turn a profit only in the short run, land that "should never have been farmed in the first place." Continued cropping brought with it substantial public damages through increased erosion and decreased wildlife habitat. A long-term land retirement program would, it was argued, reverse both trends.

These two widely-held perceptions, that some cropped lands were causing environmental problems and that less land was needed for agricultural production, allowed the CRP concept to move through Congress with relatively little opposition. Most details were left to the Department of Agriculture's (USDA) implementation of the program, principally through the Agricultural Stabilization and Conservation Service (ASCS) and the Soil Conservation Service (SCS).

GOALS AND PROCEDURES

The stated goals of the CRP promise a little something for nearly everyone. It was to "reduce water and wind erosion; protect our long-term capability to produce food and fiber; reduce

sedimentation; improve water quality; create better habitat for fish and wildlife through improved food and cover; curb production of surplus commodities; and provide needed income support for farmers."

As implemented, the program generally focused on surplus control and erosion reduction, but water quality goals have more recently begun to be addressed. Not surprisingly, federal budget considerations figure prominently in all CRP implementation decisions.

The CRP is relatively simple both in concept and in implementation. Landowners voluntarily lease to the government some or all of the cropping rights to highly erodible lands (and some of the landowners' rights to receive annual production subsidies) in exchange for a fixed annual payment for ten years. The landowner agrees to maintain the retired land according to a conservation/wildlife plan drawn up by government officials. After the ten-year contract expires, landowners can do whatever they will with the land, subject to any legal restrictions in place at that time.

The CRP differs from other land retirement programs that landowners might consider. First and foremost is the annual set-aside provision (more formally, the Acreage Reduction Program, or ARP). As a condition to receiving commodity program subsidies, farmers are required to idle a fixed proportion (which varies year to year) of their legally permitted commodity "base" acreage.

Set-asides are used by the government both to limit the production of crops held to be in surplus and to reduce the acreage on which per-bushel subsidies must be paid. The idled lands have no formal environmental or wildlife management provisions, other than a modest erosion control cover requirement.

The Reinvest in Minnesota (RIM) Reserve program was consciously patterned after the CRP, but it has evolved differently. Under RIM, the state makes a one-time payment to farmers for a 20-year or a perpetual easement on cropland that is either highly erodible and non-productive, or is drained wetland. The RIM program administrators pay considerable attention to how the land is managed after retirement, in order to maximize public benefits.

Finally, the present CRP is not the first conservation reserve this country has tried. Under the Soil Bank programs of the 1950s and 1960s, a provision operated under that name as well. But that program differed in that any and all

cropland was eligible for entry, not just highly erodible land. The idea was that entered land was to be rested and recharged for anticipated reentry into production. The nation was conserving its productive capacity against the day when it would once again be needed.

PROGRAM IMPLEMENTATION

This section briefly notes the program implementation details necessary to enhance understanding of the data that follow. A reader well-versed in CRP lore can safely skip to the next section. However, all readers are urged to peruse the discussion of data sources and interpretations.

ELIGIBLE LAND

The definition of highly erodible land (HEL) was the focus of intense debate in the early stages of CRP implementation. One set of interests wanted the threshold erodibility level to be set relatively low, so as to increase the nation-wide pool of eligible land to better ensure that enrollments would meet a congressional mandate of 40-45 million acres retired within five years. Other interests wanted the level set high, to ensure that lands entered were indeed highly erodible. Their retirement would presumably result in significant public benefits.

A concurrent debate centered around the question of whether eligible soils ought to be actually eroding at or above the threshold rate or should just be potentially erodible at this rate. Those who took the first position argued that the CRP should focus on current problems. If landowners were doing a good job of keeping erosion down, why pay them to take those lands out of production when no erosion reduction would ensue? Those holding the second position argued that such a strategy would "penalize" good stewards by making them ineligible for CRP entry and its promised financial benefits.

A third debate, not yet resolved, centered on whether the CRP should target lands that erode the most, or those whose erosion causes the most off-site damage. While the second position is generally favored by environmental groups, the lack of agreement on measures of links between field-level erosion and off-site damages has thus far precluded use of any technique other than on-site erosion as measured by the Universal Soil Loss Equation (USLE). It is relatively easily calculated for all soil classifications and management practices.

The USLE, among other outputs, estimates how much erosion is actually occurring relative to a soil's "tolerance," or T-value. This is the erosion loss (measured in tons of soil per year) that a soil can sustain and still "replenish itself."

The T-value norm has the advantage of being widely designated; it is not, however, uniformly accepted among soil scientists. Several question both its conceptual premises and its empirical determination. In Minnesota, T-values typically range from 2-5 tons per acre per year.

The first set of CRP entries became eligible under the so-called 3T criterion. A field was eligible if it was made up of a predominance of soils that were determined to be actually eroding at three times the tolerance rate or greater. (There were some additional fields entered under a provision that made sheet and gully erosion an eligibility determinant even if the field as a whole did not exceed 3T. In addition, all steeper soils were automatically eligible.)

In subsequent sign-up periods, the set of eligibility criteria was expanded to include the so-called erodibility index (EI), which measures potential and not actual erosion. This meant that land defined as highly erodible under the CRP would be the same as that defined under the Sodbuster and Conservation Compliance provisions. The actual criterion used was: EI>8 and eroding at a rate greater than that recommended by the local SCS office.

Again, some had argued for a higher erosion index threshold so that all enrolled lands would be highly erodible. Furthermore, the actual erosion condition was waived for certain fields in rotation pasture, thus permitting enrollment of a significant amount of land that was not eroding at the time of entry. The specific eligibility criteria and dates of use are detailed in Appendix A.

BIDDING, POOLS, AND ROUNDS

Annual CRP payments were to be established through bidding. Each interested landowner would tell the government the annual rental payment it would take to retire each acre of eligible land. The government would take the lowest bids, up to the point where program resources were exhausted or program goals met. This was to make the program cost effective and to reveal the "price" of cropping rights to erodible land, a price not generally revealed by market transactions. In actuality, the USDA set a maximum rental rate (MARR) for each county, beyond which no bids were accepted.

Bidding into the CRP is periodic, not continuous. The USDA announces two or three enrollment periods ("rounds" or "sign-ups") each year. Landowners have the option of enrolling land in the CRP for either the current or the subsequent crop year. If crops are already in the ground, they can be plowed up and cover established to ensure same-year payments.

During each bidding round, a landowner tells the government how much eligible land might be entered, what the necessary rental rate would be, and when the retirement would commence. Within a few months, the USDA announces which bids are accepted--those that are at or below the MARR and that are eligible--and signs a contract with the landowner.

To try to match MARRs to local conditions, so that they would be neither too high nor too low compared to prevailing land values and rental rates, the USDA divided each state into one or more multi-county "pools," each of which was thought to be a distinct cropping region. These pools bore little relation to multi-county groupings used for other official statistical or agronomic data reporting purposes. Though each pool was assigned a single MARR for all counties in it, this rate was never officially reported.

Minnesota was divided into seven pools for the first bidding round, then into nine for subsequent rounds (Maps 1-2). The various MARRs have changed little in Minnesota since the program was initiated.

There is one major exception to this procedure. Congress decided that enrollment of more than 25% of any given bidding county's cropland into the CRP would impose substantial hardship on local business that rely on farm production rather than farm income. Once a county's CRP enrollment reaches the 25% level, that county's landowners are not permitted to bid in subsequent rounds.

However, there is an exception to this exception. If the county government petitions for a waiver, one further enrollment period is generally permitted. Consequently, a few Minnesota counties show more than 25% of their cropland in the CRP, presumably reflecting the local judgement that further entry provides more benefits than does further diminution in local business activity.

BASE REDUCTION

There are two ways in which the CRP is supposed to reduce the production of crops

deemed to be in surplus. The first is through the non-cropping of CRP land itself. This is successful to the extent that the retirement reduces the land available for the planting of commodity program crops (wheat and the feed grains) on the farm as a whole. To the extent, however, that the landowner merely shifts some or all program crop production to remaining land on the farm, thereby displacing current production of non-program crops, the CRP has not accomplished one of its stated goals.

This possible "slippage" was to be tempered by a requirement that CRP entry bring with it a reduction (the "base bite") in the farm's total acreage base, the aggregate of individual program crop acreage bases. The reduction is equivalent to the ratio of the CRP entry to the farm's total cropland, multiplied by the base.

Those farmers participating in federal crop subsidy programs are permitted to plant no more than (and in years in which a set-aside requirement is attached, something less than) their crop base in any given year. Any reduction in this base reduces the number of acres that participating farmers can legally plant, even if they have sufficient non-CRP land to plant more.

After the 10 years of the CRP contract, the reduced base is to be restored to the landowner for use in whatever commodity programs might be current at the time.

DATA USED IN THE STUDY

The data set on which this publication was based was provided by the Washington office of the USDA Agricultural Stabilization and Conservation Service (ASCS), which administers the program. Only a subset of the available variables are reported here. These were further manipulated to create additional variables of interest (Table 1).

Each record in the data set is an individual CRP contract, aggregated in this report to the county level. Sub-county location information is not available except for three larger Minnesota counties (Otter Tail, Polk, and St. Louis) that are divided for USDA administrative purposes into two roughly equal parts. In most cases, these county divisions are treated separately in this report.

The data reported here may diverge slightly from other published CRP accounts, depending on how outliers and missing data were handled.

Only publications from the USDA itself can be considered in any way "official," and even these change over time as contract files are updated and corrected. In this bulletin, the data are reported exactly as listed in ASCS files or as calculated following the procedures shown in Table 1.

Land is enrolled into the CRP on a field-by-field, rather than on an acre-by-acre basis. Fields that have a "predominance" of highly erodible land are eligible for entry, where predominance is defined as two-thirds or more. (The cut-off is one-third for tree plantings in certain cases.) As a result, up to a third of any given CRP parcel need not be highly erodible. However, in this report all CRP acreage is considered erodible, because ASCS data entry procedures require that only one land capability classification be assigned to an entire CRP parcel.

The data set reported here is not a sample. It is a complete enumeration of all CRP contracts signed in Minnesota during the first six enrollment periods. Consequently, reported parameters are exact. No probability analyses or statistical tests are necessary for the descriptive data reported here.

THE STATE AT A GLANCE

The sections that follow by no means constitute an exhaustive accounting of the CRP as it has been implemented in Minnesota. The focus here is upon five major areas:

- the characteristics of the land that has been enrolled,
- the characteristics of the farms that contain CRP parcels,
- the cash transfers resulting from annual CRP rental payments,
- the reduction in soil erosion due to cropland retirement, and
- the reduction in commodity program production base associated with CRP entry.

This section summarizes the program's effects at the state level.

Over 1.7 million acres of Minnesota cropland have been entered into the conservation reserve to date (Spring 1989). By way of comparison, total Minnesota cropland usually runs around 20

million acres. There have been eight CRP bidding rounds, but complete data are available only for the first six, through February 1988 (Table 2).

At sign-up, farmers can choose whether to plow up any unharvested crop already planted on the CRP land and so get rental payments starting that same year, or wait to retire land the next year. Most of the land entered during the winter sign-up periods (1, 4, and 6) was slated to be retired that same year. The reverse pattern held during summer and fall sign-ups.

Table 3 summarizes the statewide impacts of the program through the first six rounds. The actual number of farms with CRP entries, however, is probably somewhat less than the 20,000 reported here, because multiple contracts per farm are permitted. The extent of this overlap is not determinable from the data.

The 1.5 million acres enrolled through the sixth round bring in more than \$85 million annually to Minnesota landowners. These same owners, as a direct consequence of CRP entry, forego an undetermined, but presumably lower, income from not growing crops on the retired land and from reduced subsidies on any crop acreage base they had to give up.

For each variable, the range, mean, sum and standard deviation are reported for all six rounds combined (Table 4) and for each round (Table 5). Annual per-acre payments (BID) are strongly influenced by the county MARR, itself a function of which pool the county is in. Statewide average payments reported in this table, therefore, do not reflect the range of accepted bids within any single pool. The interrelationship among five of the more interesting variables is reported in Table 6. These are CRP parcel size, total cropland, CRP ratio (CRP acres divided by total cropland), base ratio, and farm base.

Farm base and total cropland are highly correlated (Pearson $r=.96$) among CRP enrollees, and CRP parcel size is moderately correlated with total cropland ($r=.40$) and farm base ($r=.42$). Generally, the larger the farm and farm base, the smaller is the CRP ratio.

The enrollment history of each Minnesota county with CRP entries through the first six rounds is shown in Table 7. Each cell of the table shows the acreage and the percent of the county's total CRP acreage enrolled during that round. Acreage totals are repeated in Table 8, along with the number of contracts signed in each county.

The vast majority of Minnesota's CRP land is to be covered by "introduced grasses," rather than by native grasses or trees (Table 9), a choice that is at the discretion of the landowner. This

cover is both inexpensive for the landowner (and for the government's cost share) and more likely to be plowed under at the end of the contract period.

Table 1: Reported and Calculated Variables Used in the Study

Reported	
BID	CRP per-acre annual payment (\$/Y)
ACRES	Number of acres in CRP parcel
CROPLAND	Total farm acreage
EROSIONB	Average parcel erosion before CRP (T/A/Y)
EROSIONA	Average parcel erosion after CRP (T/A/Y)
CAPCLASS	Average land capability class for parcel (with subclass)
CNACRE	Reduced corn acreage base. [Same for wheat (WH), oats (OT), barley (BY), sorghum (SG)]
CNYIELD	Established yield on corn base. [Same for wheat (WH), oats (OT), barley (BY), sorghum (SG)]
Calculated	
PAYMENT	$BID \times ACRES$ Annual CRP contract payment (dollars)
SOILSAVE	$(EROSIONB - EROSIONA) \times ACRES$ Annual CRP contract avoided erosion (tons/year)
CNSAVE	$CNYIELD \times CNACRE$ [Same for WHSAVE, BYSAVE, OTSAVE, and SGSAVE] Annual reduced commodity production base (bushels)
FARMBASE	$\sum CROP_i \times CROPLAND/ACRES$; $CROP_i = CNACRES, \dots, SGACRES$ Total farm acreage base
CRPSIZE	$ACRES/CROPLAND$ Percent of cropland put into CRP
BASRATIO	$FARMBASE/CROPLAND$ Percent of cropland tied to base

Table 2: CRP Sign-Up Dates and Enrolled Acres by Actual Year of Retirement: State

Round	Date	1986	1987	1988	1989	1990	Total
1	March 1986	64,589					64,589
2	May 1986	71,292	87,454				158,746
3	August 1986	126	298,608				298,734
4	February 1987		613,761	58,149			671,910
5	July 1987		6,748	201,825			208,573
6	February 1988			76,965	51,163		128,128
----- [end of detailed enrollment data] -----							
7	July-Aug. 1988			4,055	109,107		113,162
8	February 1989				56,419	27,816	84,234
TOTAL		136,007	1,006,571	340,994	216,689	27,816	1,728,076

Source: From USDA ASCS data, compiled or calculated by author.

Table 3: Selected CRP Summary Data: State

Number of contracts:		20,309
Total CRP enrollment (acres):		1,530,678
Total annual payments (dollars):		85,244,156
Reduced soil erosion (tons/year):		26,372,379
Reduced base (acres):	corn	362,007
	wheat	313,012
	barley	191,175
	oats	163,390
	grain sorghum	251

Source: From USDA ASCS data, compiled or calculated by author.

Table 4: CRP Variable Summary: State

Variable	Number of Contracts	Minimum	Maximum	Sum	Mean	Standard Deviation
BID	20309	7.00	125.00	n.a.	61.02	16.65
ACRES	20309	0.4	1700.5	1530878.0	75.4	101.1
CROPLAND	20309	1.2	6890.8	5705849.6	281.0	401.5
WHACRE	8295	0	933.7	313011.5	37.7	69.1
CNACRE	12023	0	970.0	362007.4	30.1	40.8
BYACRE	4433	0	1045.7	191174.8	43.1	66.1
SGACRE	29	0.1	54.2	250.0	8.7	13.8
OTACRE	10560	0	337.7	163389.7	15.5	22.8
PAYMENT	20309	28.00	77105.12	85244155.90	4197.36	5013.80
SOILSAVE	20230	-217.2	40057.5	26372379.3	1303.6	1961.3
CNSAVE	12023	0	75000.0	32245396.2	2682.0	3619.6
BYSAVE	4433	0	45170.4	9196315.2	2074.5	3215.3
OTSAVE	10560	0	17898.1	9134766.2	865.0	1228.6
WHSAVE	8295	0	31334.8	10488943.0	1264.5	2308.7
SGSAVE	29	0.3	2547.4	7096.9	244.7	600.1
FARMBASE	19085	0	6218.9	3797474.7	199.0	306.9
CRPSIZE	20309	0.001	1.000	n.a.	0.462	0.364
BASRATIO	19085	0	4.96	n.a.	0.64	0.23

Source: From USDA ASCS data, compiled or calculated by author.

Table 5: Summary of Variables by Bidding Round: State

ROUND 1 Variable	N	Minimum	Maximum	Mean	Standard Deviation
BID	950	7.000000	85.000000	53.9022842	16.3709746
ACRES	950	2.000000	1117.10	67.9884211	97.3488021
CROPLAND	950	7.200000	6560.00	271.7284211	441.7731148
WHACRE	407	0.100000	561.800000	29.1471744	49.2216104
CNACRE	443	0.100000	679.800000	26.7826185	45.8994311
BYACRE	212	0.100000	392.600000	41.0056604	60.1168291
SGACRE	0	.	.	.	.
OTACRE	598	0.100000	176.500000	18.7854515	26.2652697
PAYMENT	950	82.600000	47979.44	3269.34	4265.20
SOILSAVE	948	13.200000	25693.30	1245.23	1916.42
CNSAVE	443	10.200000	51664.80	2093.72	3597.70
BYSAVE	212	4.200000	18844.80	1902.15	2887.66
OTSAVE	598	5.100000	10212.00	1024.02	1395.24
WHSAVE	407	5.500000	17415.80	926.7845209	1504.56
SGSAVE	0	.	.	.	.
FARMBASE	915	1.5491349	6218.88	190.3706839	365.6911973
CRPSIZE	950	0.0055588	1.000000	0.4313551	0.3550865
BASRATIO	915	0.0378788	1.4356436	0.6520132	0.2234336
ROUND 2					
BID	2019	18.500000	86.000000	57.3475582	16.7418570
ACRES	2019	1.200000	1303.00	78.6255572	112.2014477
CROPLAND	2019	3.300000	6791.50	298.8089153	446.3787067
WHACRE	833	0.100000	670.000000	38.4741897	68.3296217
CNACRE	1026	0.100000	970.000000	28.9102339	55.1316029
BYACRE	471	0.200000	587.200000	44.5095541	60.6695617
SGACRE	3	3.400000	19.800000	14.1666667	9.3275577
OTACRE	1209	0.100000	337.700000	21.2125724	30.7390527
PAYMENT	2019	99.600000	62587.35	3982.00	5083.83
SOILSAVE	2011	11.000000	26060.00	1450.94	2080.93
CNSAVE	1026	10.800000	70810.00	2260.19	4032.56
BYSAVE	471	8.200000	24075.20	2037.77	2752.51
OTSAVE	1209	7.100000	17898.10	1157.54	1639.20
WHSAVE	833	3.100000	20770.00	1244.05	2160.09
SGSAVE	3	125.800000	849.200000	556.000000	380.6621074
FARMBASE	1905	0.5415094	5226.22	213.5601922	344.4698474
CRPSIZE	2019	0.0016431	1.000000	0.4558877	0.3568385
BASRATIO	1905	0.0188679	2.000000	0.6461006	0.2382628
ROUND 3					
BID	3513	15.000000	125.000000	60.9944321	16.4018246
ACRES	3513	1.500000	1352.60	85.0367777	109.5552593
CROPLAND	3513	2.400000	6878.60	303.5810418	429.2354631
WHACRE	1633	0.100000	899.200000	37.4688916	64.0881729
CNACRE	1841	0.100000	388.400000	29.3640956	35.5596938
BYACRE	917	0.100000	1045.70	52.9010905	84.8672082
SGACRE	4	1.500000	54.200000	29.3250000	26.3898181
OTACRE	2233	0.100000	312.700000	18.8292880	26.4242107
PAYMENT	3513	82.125000	58161.80	4738.98	5433.81
SOILSAVE	3510	0	24212.50	1475.86	2032.13
CNSAVE	1841	6.100000	31848.80	2517.43	3077.54
BYSAVE	917	3.500000	41828.00	2544.07	4105.15
OTSAVE	2233	5.000000	17511.20	1052.97	1440.93
WHSAVE	1633	3.000000	30572.80	1262.16	2136.69
SGSAVE	4	42.000000	2547.40	1284.55	1153.21
FARMBASE	3323	0.5675000	4417.78	218.6409436	326.1111240
CRPSIZE	3513	0.0051867	1.000000	0.4601172	0.3540782
BASRATIO	3323	0.0027100	2.000000	0.6619532	0.2242453

Table 5 (continued): Summary of Variables by Bidding Round: State

ROUND 4 Variable	N	Minimum	Maximum	Mean	Standard Deviation
BID	8801	12.5000000	85.0000000	63.3527224	15.8014365
ACRES	8801	0.7000000	1700.50	76.3447222	98.7631686
CROPLAND	8801	1.2000000	6890.80	263.9545733	372.2137450
WHACRE	3211	0.1000000	933.7000000	37.5038306	71.2873444
CNACRE	6352	0.1000000	937.5000000	34.3008344	42.6953490
BYACRE	1541	0.1000000	1026.60	43.7369241	67.8442556
SGACRE	9	0.2000000	14.1000000	3.4888889	4.3590264
OTACRE	3844	0.1000000	303.5000000	13.1065817	18.9337303
PAYMENT	8801	49.0000000	77105.12	4490.70	5145.39
SOILSAVE	8735	-217.2000000	29538.50	1270.51	1807.84
CNSAVE	6352	4.3000000	7500.00	3156.28	3955.61
BYSAVE	1541	3.0000000	45170.40	2122.32	3309.68
OTSAVE	3844	4.1000000	16692.50	745.5545005	1028.23
WHSAVE	3211	2.5000000	31334.80	1269.91	2408.10
SGSAVE	9	0.6000000	42.3000000	10.9888889	13.1161584
FARMBASE	8291	0.5864407	4084.44	186.0843733	281.3316659
CRPSIZE	8801	0.0013050	1.0000000	0.4890820	0.3677662
BASRATIO	8291	0.0169492	1.9857143	0.6454473	0.2212704
ROUND 5					
BID	3049	20.0000000	85.0000000	60.0371696	17.1079957
ACRES	3049	0.8000000	1056.30	68.4067891	91.2910600
CROPLAND	3049	2.2000000	5301.20	296.8909806	407.4623013
WHACRE	1393	0	898.6000000	40.4844939	75.4885727
CNACRE	1434	0	308.8000000	21.3324965	27.2827774
BYACRE	809	0	429.7000000	36.1561187	48.6189265
SGACRE	4	0.2000000	17.4000000	6.6000000	7.6105190
OTACRE	1646	0	245.3000000	13.9335966	19.0764326
PAYMENT	3049	64.0000000	50540.00	3710.60	4393.38
SOILSAVE	3049	2.2000000	19490.20	1184.77	1742.57
CNSAVE	1434	0	22542.40	1883.15	2482.17
BYSAVE	809	0	21678.00	1765.23	2492.25
OTSAVE	1646	0	12019.70	772.6826245	1013.59
WHSAVE	1393	0	30552.40	1341.87	2494.16
SGSAVE	4	0.6000000	69.6000000	21.9500000	32.1357018
FARMBASE	2875	0	3732.33	213.7383811	320.5660451
CRPSIZE	3049	0.0017884	1.0000000	0.4220910	0.3575787
BASRATIO	2875	0	4.9571429	0.6315501	0.2429972
ROUND 6					
BID	1977	20.0000000	90.0000000	59.3929287	16.0290626
ACRES	1977	0.4000000	910.2000000	64.8091047	96.5263279
CROPLAND	1977	2.0000000	5365.70	278.0209408	394.5304079
WHACRE	818	0	653.8000000	38.0112469	67.4375771
CNACRE	927	0	336.8000000	19.3664800	27.5606826
BYACRE	483	0	403.2000000	33.8683230	48.2189398
SGACRE	9	0.1000000	20.1000000	3.7000000	6.4532937
OTACRE	1030	0	211.7000000	10.8231068	16.0895402
PAYMENT	1977	28.0000000	50061.00	3345.64	4539.67
SOILSAVE	1977	0	40057.50	1204.30	2576.28
CNSAVE	927	0	27104.00	1742.43	2522.37
BYSAVE	483	0	19507.50	1660.03	2410.20
OTSAVE	1030	0	9949.90	615.4524272	886.2597250
WHSAVE	818	0	26805.80	1304.93	2379.72
SGSAVE	9	0.3000000	60.3000000	11.5555556	19.3131504
FARMBASE	1776	0	3756.69	187.2669323	281.1462896
CRPSIZE	1977	0.0011103	1.0000000	0.4258558	0.3745355
BASRATIO	1776	0	1.5584989	0.6226106	0.2257822

Source: From USDA ASCS data, compiled or calculated by author.

Table 6: Correlation Coefficients among Major Variables: State

	CRP Acres	Total Cropland	CRP Acres/ Cropland	Base/ Cropland
TOTAL CROPLAND	0.40001 20309			
CRP ACRES/ CROPLAND	0.28864 20309	-0.37235 20309		
FARM BASE/ CROPLAND	0.18012 19085	0.12263 19085	0.06341 19085	
FARM BASE	0.42364 19085	0.96164 19085	-0.31935 19085	0.26971 19085
Source: From USDA ASCS data, compiled or calculated by author.				

Table 7: Enrolled Acres by Round by County

County	(Acres/Row Percent)		Enrollment Round				County Total
	1	2	3	4	5	6	
Aitkin	0 0.00	0 0.00	457.4 11.83	418.9 10.83	2669.2 69.02	321.8 8.32	3867.3
Anoka	0 0.00	53.8 29.27	41.8 22.74	36.9 20.08	13.8 7.51	37.5 20.40	183.8
Becker	6134.7 18.38	3424 10.26	5190.9 15.55	11007 32.98	4431.4 13.28	3184.3 9.54	33372
Beltrami	366.4 4.56	63.6 0.79	173.7 2.16	2819.4 35.08	3163.2 39.35	1451.5 18.06	8037.8
Benton	121.3 6.29	133.1 6.90	364.7 18.90	382 19.80	504.6 26.15	423.8 21.96	1929.5
Big Stone	719.4 4.53	403.2 2.54	4017.2 25.32	6818.9 42.97	2289.8 14.43	1618.7 10.20	15867
Blue Earth	241.1 2.23	796.3 7.37	1537.6 14.24	6436.3 59.59	1420.9 13.16	368.4 3.41	10801
Brown	409.4 8.62	401.1 8.45	387.2 8.16	2736.7 57.65	812.6 17.12	0 0.00	4747
Carlton	0 0.00	0 0.00	0 0.00	0 0.00	112.2 100.00	0 0.00	112.2
Carver	75 4.97	89.2 5.91	197.7 13.11	894.2 59.28	172.6 11.44	79.8 5.29	1508.5
Cass	0 0.00	50 2.42	135.4 6.54	1184.1 57.21	246.5 11.91	453.8 21.92	2069.8
Chippewa	136.8 2.61	88 1.68	171.6 3.27	3438.8 65.52	609.8 11.62	803.5 15.31	5248.5
Chisago	59.9 2.58	110.6 4.76	146.8 6.31	1289 55.43	167.2 7.19	552.1 23.74	2325.6
Clay	1986 5.17	5939.2 15.46	8162.6 21.25	13410 34.91	6844.2 17.82	2069.5 5.39	38411
Clearwater	0 0.00	267.1 5.97	78.1 1.74	377 8.42	2696.9 60.25	1057.1 23.62	4476.2
Cottonwood	850.7 5.56	1133.3 7.40	2935 19.17	8685.9 56.73	1506.4 9.84	199.7 1.30	15311
Crow Wing	0 0.00	36.3 1.26	339.7 11.78	1319.8 45.76	911.4 31.60	276.8 9.60	2884
Dakota	708.3 5.53	814.7 6.37	7508.8 58.67	1495.4 11.68	1421.1 11.10	350.2 6.64	12798
Dodge	146.4 3.28	265.2 5.95	461.1 10.34	2042.1 45.78	850.6 19.07	695.1 15.58	4460.5
Douglas	473.8 1.55	2391.3 7.84	7927.3 26.00	16122 52.88	2922.9 9.59	653 2.14	30491
Faribault	32.1 0.89	90 2.48	720.3 19.87	2641.3 72.85	76.9 2.12	65.2 1.80	3625.8
Fillmore	819.6 1.90	1665.9 3.86	3253.4 7.54	29781 69.06	4117.9 9.55	3485.8 8.08	43123
Freeborn	571.6 2.49	1229.7 5.35	4315 18.77	14858 64.62	1364.2 5.93	654.7 2.85	22993

Table 7 (continued): Enrolled Acres by Round by County

County	Enrollment Round						County Total
	1	2	3	4	5	6	
Goodhue	834.4 5.71	993.1 6.80	1930.9 13.22	7427.1 50.85	1509.7 10.34	1911.4 13.09	14607
Grant	598.4 2.48	1008.5 4.19	3512.9 14.58	15821 65.67	2325.5 9.65	826.7 3.43	24093
Hennepin	0 0.00	12.3 3.54	0 0.00	162.8 46.92	37.2 10.72	134.7 38.82	347
Houston	235.4 2.29	316.5 3.08	725 7.05	5579.3 54.27	1866.8 18.16	1557.3 15.15	10280
Hubbard	173.3 3.06	143.3 2.53	744.5 13.16	1374.2 24.30	1864 32.96	1356.2 23.98	5655.5
Isanti	110.1 4.07	475.5 17.56	426.3 15.74	1089.4 40.23	241.4 8.92	364.9 13.48	2707.6
Itasca	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	34.2 100.00	34.2
Jackson	488.7 5.08	852.8 8.86	1966.9 20.43	5239.4 54.41	836.9 8.69	244.8 2.54	9629.5
Kanabec	53.2 3.30	539 33.45	214.8 13.33	261.4 16.22	189.3 11.75	353.5 21.94	1611.2
Kandiyohi	3482 10.89	4744.2 14.84	7709.2 24.12	12866 40.25	2568.6 8.04	593.3 1.86	31963
Kittson	6142.4 8.80	20115 28.82	15791 22.62	19987 28.63	4018.4 5.76	3752.2 5.38	69806
Koochiching	0 0.00	0 0.00	202.1 10.84	24 1.29	1248.8 66.96	390.1 20.92	1865
Lac qui Parle	1438.3 4.87	2119.8 7.18	6514.1 22.05	12580 42.58	6251.9 21.16	640.2 2.17	29544
Lake of the Woods	0 0.00	0 0.00	202.1 5.71	204.4 5.77	1481.3 41.85	1651.6 46.66	3539.4
Le Sueur	824.5 2.90	2969.4 10.44	7664.8 26.95	13620 47.89	1754.7 6.17	1606.2 5.65	28439
Lincoln	1007.9 1.92	2702.7 5.14	12773 24.29	29412 55.94	5578.5 10.61	1100.8 2.09	52575
Lyon	724.4 3.50	1949.8 9.41	6075.8 29.32	8864.5 42.77	2407.2 11.62	702.9 3.39	20725
Mahnomen	0 0.00	197.6 2.53	1490.5 19.10	3767.2 48.29	1606.4 20.59	740.3 9.49	7802
Marshall	5062.2 4.02	5411.5 4.30	26861 21.32	46636 37.02	22567 17.91	19447 15.44	125985
Martin	0 0.00	111.5 4.70	502.5 21.17	1479.1 62.30	203.8 8.58	77.3 3.26	2374.2
McLeod	111.6 2.27	221.5 4.50	767.7 15.60	2653 53.91	651.8 13.24	516 10.48	4921.6
Meeker	1332.4 7.27	1218.8 6.65	3570.4 19.49	8998.3 49.12	2876.9 15.70	323.8 1.77	18321
Mille Lacs	0 0.00	183.8 17.40	265.3 25.12	477.3 45.19	75.8 7.18	54.1 5.12	1056.3

Table 7 (continued): Enrolled Acres by Round by County

County	(Acres/Row Percent)		Enrollment Round				County Total
	1	2	3	4	5	6	
Morrison	135.1 1.27	366.4 3.43	556.7 5.21	4936.8 46.25	2915.5 27.31	1764.7 16.53	10675
Mower	86.6 0.68	269.4 2.11	2264 17.76	8670.3 68.03	836.4 6.56	618.5 4.85	12745
Murray	317 2.23	352.5 2.48	954.3 6.72	7767 54.65	2891.4 20.35	1929 13.57	14211
Nicollet	2.6 0.14	189.2 10.04	697.2 36.98	785 41.64	182.2 9.67	28.9 1.53	1885.1
Nobles	38 0.98	0 0.00	453.7 11.70	1903.3 49.06	470.9 12.14	1013.5 26.13	3879.4
Norman	1689.4 3.10	7392.6 13.55	12238 22.44	23248 42.62	7138.5 13.09	2835.2 5.20	54542
Olmsted	295.9 1.02	1402.6 4.84	2125.9 7.33	18629 64.25	4421 15.25	2118.2 7.31	28993
Otter Tail	5652 6.61	15774 18.44	21515 25.15	32818 35.36	9355.1 10.93	448.5 0.52	85563
Pennington	3660.1 4.74	16280 21.10	23677 30.68	27407 35.52	6142.7 7.96	0 0.00	77166
Pine	0 0.00	0 0.00	33.7 10.21	195.8 59.30	64.4 19.50	36.3 10.99	330.2
Pipestone	501.2 5.02	259.9 2.60	1392.5 13.94	4486.2 44.90	2029.6 20.31	1322.3 13.23	9991.7
Polk	904.3 1.18	7514.2 9.81	18320 23.92	33986 44.38	9999.4 13.06	5858.7 7.65	76583
Pope	393.4 1.23	1432.8 4.49	6551.5 20.55	19172 60.13	3021.3 9.48	1314.2 4.12	31885
Red Lake	1504.5 2.69	15092 26.99	16268 29.09	18977 33.93	0 0.00	4084.9 7.30	55926
Redwood	691 4.93	1056.6 7.53	2298.2 16.38	6225.3 44.38	2605.5 18.57	1151.8 8.21	14028
Renville	74.2 1.68	81.5 1.84	584.4 13.21	2080.8 47.02	1491.4 33.70	113.2 2.56	4425.5
Rice	1546.4 5.42	4169.3 14.61	5272.9 18.48	13353 46.81	2514.1 8.81	1671.9 5.86	28528
Rock	0 0.00	177.5 13.48	25.9 1.97	1027.1 77.99	0 0.00	86.5 6.57	1317
Roseau	3692.8 4.33	9254.2 10.85	7741 9.07	10324 12.10	27226 31.91	27084 31.74	65324
Scott	81.2 4.24	48.4 2.53	574.7 30.02	770.8 40.26	272.2 14.22	167.2 8.73	1914.5
Sherburne	40.5 10.08	46.4 11.55	0 0.00	120 29.86	50 12.45	144.7 36.03	401.6
Sibley	133.7 5.61	60.9 2.56	393 16.49	1613.4 67.72	145.4 6.10	36.2 1.52	2382.6
St. Louis	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	116.0 100.00	116

Table 7 (continued): Enrolled Acres by Round by County

County	Enrollment Round						County Total
	1	2	3	4	5	6	
Stearns	152.5 0.66	1295.5 5.60	2318.8 10.03	11883 51.40	5033.6 21.78	2432.9 10.52	23116
Steele	577.3 3.54	1204.6 7.39	2037.5 12.50	9548.3 58.56	1236.5 7.58	1700.9 10.43	16305
Stevens	7 0.03	239.1 1.04	3250.7 14.07	18362 79.49	901.7 3.90	338.5 1.47	23099
Swift	2176.8 11.84	1272.7 6.92	2562.1 13.93	9487.8 51.59	1766.8 9.61	1124.7 6.12	18391
Todd	75.7 0.87	164.7 1.90	370.4 4.28	2566.4 29.66	2739 31.65	2737.1 31.63	8653.3
Traverse	0 0.00	270.6 3.11	840.8 9.66	5488.4 63.09	1561.3 17.95	538.9 6.19	8700
Wabasha	514.1 3.49	1118.5 7.59	2314.9 15.70	8366.4 56.76	1568.2 10.64	858 5.82	14740
Wadena	12 0.24	203 4.08	172.1 3.46	2276.3 45.74	1079 21.68	1234 24.80	4976.4
Waseca	172.4 1.99	1072.1 12.34	2681.8 30.88	4063.4 46.79	318 3.66	376.8 4.34	8684.5
Washington	10.9 0.89	53.8 4.37	186.6 15.17	657.1 53.43	146.3 11.90	175.2 14.25	1229.9
Watonwan	84.5 4.54	40.9 2.20	109.9 5.91	1062.6 57.14	365.2 19.64	196.4 10.56	1859.5
Wilkin	1390.9 6.50	2016.3 9.43	4189.8 19.59	9306.5 43.51	2091.1 9.78	2397 11.21	21392
Winona	827.9 10.00	632.7 7.64	218.5 2.64	4661 56.30	1229.8 14.85	709.5 8.57	8279.4
Wright	117.8 1.80	85 1.30	1112 17.01	3545.6 54.23	1101.3 16.84	576.8 8.82	6538.5
Yellow Medicine	557.6 2.20	2122.4 8.36	3996.4 15.75	15421 60.78	2171 8.56	1104.6 4.35	25373
STATE TOTAL	64589	158745	298734	671910	208572	128020	1530678

Source: From USDA ASCS data, compiled or calculated by author.

Table 8: Number of CRP Contracts and Enrolled Acres by County

County	Number of Contracts	Total Enrolled Acres	County	Number of Contracts	Total Enrolled Acres
Aitkin	16	3867.3	Meeker	383	18320.6
Anoka	7	183.8	Mille Lacs	20	1056.3
Becker	402	33372.4	Morrison	213	10675.2
Beltrami	59	8037.8	Mower	234	12745.2
Benton	71	1929.5	Murray	244	14211.2
Big Stone	175	15867.2	Nicollet	58	1885.1
Blue Earth	266	10800.6	Nobles	106	3879.4
Brown	139	4747.0	Norman	391	54541.8
Carlton	2	112.2	Olmsted	531	28992.6
Carver	63	1508.5	Otter Tail (East)	570	35628.5
Cass	27	2069.8	Otter Tail (West)	749	49934.0
Chippewa	130	5248.5	Pennington	444	77166.4
Chisago	81	2325.6	Pine	10	330.2
Clay	360	38411.2	Pipestone	196	9991.7
Clearwater	60	4476.2	Polk (East)	338	36222.1
Cottonwood	320	15311.0	Polk (West)	216	40361.2
Crow Wing	35	2884.0	Pope	360	31884.9
Dakota	269	12798.5	Red Lake	339	55926.2
Dodge	133	4460.5	Redwood	332	14028.4
Douglas	476	30490.8	Renville	146	4425.5
Faribault	126	3625.8	Rice	642	28528.0
Fillmore	578	43123.2	Rock	38	1317.0
Freeborn	479	22993.5	Roseau	595	85324.3
Goodhue	454	14606.6	St. Louis (North)	1	8.0
Grant	273	24093.2	St. Louis (South)	2	108.0
Hennepin	18	347.0	Scott	79	1914.5
Houston	230	10280.3	Sherburne	22	401.6
Hubbard	79	5655.5	Sibley	116	2382.6
Isanti	82	2707.6	Stearns	442	23116.0
Itasca	1	34.2	Steele	399	16305.1
Jackson	222	9629.5	Stevens	199	23099.4
Kanabec	56	1611.2	Swift	173	18390.9
Kandiyohi	577	31963.3	Todd	184	8653.3
Kittson	396	69806.5	Traverse	70	8700.0
Koochiching	10	1865.0	Wabasha	328	14740.1
Lac qui Parle	460	29544.0	Wadena	84	4976.4
Lake of the Woods	43	3539.4	Waseca	236	8684.5
Le Sueur	561	28439.5	Washington	41	1229.9
Lincoln	546	52574.9	Watsonwan	83	1859.5
Lyon	363	20724.6	Wilkin	165	21391.6
McLeod	151	4921.6	Winona	206	8279.4
Mahnomen	71	7802.0	Wright	182	6538.5
Marshall	783	125985.4	Yellow Medicine	424	25372.5
Martin	68	2374.2	STATE TOTAL	20,239	1,530,678

Source: From USDA ASCS data, compiled or calculated by author.

Table 9: Conservation Practices Established on CRP Parcels: State

Practice	Acres
Introduced Grasses	1,282,295
Nature Grasses	81,904
Trees	32,118
Wildlife Habitat	5,027
Windbreaks	1,117
Diversions	35
Erosion Structures	148
Grass Waterways	579
Wildlife Ponds	457
Existing Grass	126,242
Existing Trees	573
Wildlife Food Plots	327
Filter Strips	514

Note: Because the data in this table are from a source different from the remainder of this report, the total CRP acreage figure would be slightly different from that reported elsewhere.

Source: USDA, "Conservation Reserve Program: Progress Report and Preliminary Evaluation of the First Two Years," January 1989.

Section II: Characteristics of CRP Enrollments

CAPABILITY CLASSIFICATIONS OF ENROLLED LAND

Over eighty percent of Minnesota's cropland is in land capability classes II and III, so it is perhaps not unexpected that over seventy percent of the state's CRP acres are also in these classes (Table 10). These are soils that are reasonably productive within certain production constraints. Only 25% of the enrolled acres are in classes IV-VII, soils with "very severe limitations" to crop production, or worse.

A breakdown of CRP acres by capability subclass shows that crop production on most of the class II and III entries is limited by erosion (subclass e) (Table 11). The county-level distribution of CRP enrollments by capability class is shown in Table 12.

As bidding rounds have proceeded there has been a shift away from a dominance of lower quality land (higher capability classes) toward "better" land (Table 13). Classes IV-VII made up half of the first round entries, but by the sixth

round this group of soils accounted for less than 20% of the enrolled acres.

SIZE AND PRODUCTION HISTORY OF ENROLLING FARMS

Any landowner with currently cropped highly erodible land is eligible to enroll fields in the CRP. The average size of farms enrolling land fluctuated between 260 and 300 acres over the six rounds of bidding (Table 14). The average ratio of CRP parcel size to total cropland stayed between 0.42 and 0.49, but as we will see below, this variable is by no means normally distributed.

Nearly all CRP entrants (19,085 out of the 20,309 contracts) had established farm acreage bases, the farm's official planting history by which USDA crop subsidies are calculated. The distribution of the ratio of this farm base to total cropland, suggesting the extent to which CRP enrollees also participate in traditional federal

commodity crop programs, is also shown in Table 14. This base ratio has averaged consistently just above 0.60 over the six rounds.

Table 14 reports only those farms that had a base, not all CRP entrants. A base ratio greater than 1.0 is possible because prior to recent program revisions, farmers could establish and retain bases in different program crops that individually were less than total cropland but in aggregate could exceed the cropland figure.

Nearly twenty-three percent of the Minnesota CRP enrollees put 90% or more—and 18% put all—of their cropland into the CRP (Table 15). The parcels represented by these farming “exits” accounted for 32% of the state’s CRP acreage. County-by-county exits are listed in Table 16. Four explanations for so many whole farms being enrolled into the CRP have been proposed.

First, exiting farms might be owned by farmers nearing retirement who will use CRP payments as a guaranteed income stream while now-

unneded equipment is gradually sold off.

Second, exits may reflect non-farmer landowners who prefer a fixed payment over ten years to the vagaries of the annual rental market.

Third, exiting farmers may intend only to sit out the CRP contract while they work elsewhere. They may plan to resume farming after ten years, “when things get better.”

Finally, whole-farm entries might indicate that a farmer intends to sell to a new owner who wants to use the land for some non-farm purpose like hunting.

None of these explanations can be confirmed or rigorously examined with the existing data. We can, however, compare exiting farms with those that do not (“stays”) (Table 17). Exiting farms were noticeably smaller (in total cropland) and their CRP entry larger (in acres) than those farms that did not put in more than 90% of their cropland.

Table 10: Total Cropland and Enrolled Acres by Land Capability Class: State

Class	Total Cropland		CRP Enrollment	
	Acres	Percent	Acres	Percent
I	2,051,500	8.9	176	-
II	14,074,500	61.1	362,257	23.7
III	4,749,400	20.6	782,594	51.1
IV	1,856,000	8.1	336,388	22.0
V	34,100	0.1	3,101	0.2
VI	200,300	0.9	41,655	2.7
VII	58,300	0.3	4,499	0.3
TOTAL	23,024,100	100.0	1,530,678	100.0

Source: All cropland data from USDA NRI. Rest from USDA ASCS data, compiled or calculated by author.

Table 11: Enrolled Acres by Land Capability Class and Subclass: State

Capability Class	Number of CRP Acres	Percent	Capability Class	Number of CRP Acres	Percent
I	51.0	0.0	IVs	165283.5	10.8
Ie	110.2	0.0	IVw	53067.7	3.5
Iw	15.1	0.0	V	57.5	0.0
II	2177.9	0.1	Vc	122.8	0.0
IIc	4472.0	0.3	Ve	1032.7	0.1
IIE	180355.5	11.8	Vs	1543.7	0.1
IIIs	46373.9	3.0	Vw	344.6	0.0
IIw	128883.2	8.4	VI	115.7	0.0
III	7812.1	0.5	Vic	162.5	0.0
IIIc	1623.9	0.1	Vie	13558.1	0.9
IIIe	407156.4	26.6	Vis	24926.7	1.6
IIIs	174944.9	11.4	VIw	2892.3	0.2
IIIw	191056.7	12.5	VIIe	2421.3	0.2
IV	3010.6	0.2	VIIIs	2010.1	0.1
IVc	383.4	0.0	VIIw	67.2	0.0
IVe	114644.8	7.5	TOTAL	1,530,678	

Note: Data as reported in ASCS tapes. In actuality, SCS designates no subclasses on class I land, nor is there an e subclass in class V. See Appendix B.

Source: From USDA ASCS data, compiled or calculated by author.

Table 12: CRP Acres by Land Capability Class by County

County	Capability Class							County Total
	I	II	III	IV	V	VI	VII	
Aitkin	0 0.00	0 0.00	78.1 2.02	2336.6 60.42	0 0.00	1452.6 37.56	0 0.00	3867.3
Anoka	0 0.00	13.8 7.51	0 0.00	170 92.49	0 0.00	0 0.00	0 0.00	183.8
Becker	0 0.00	4453.6 13.35	21715 65.07	5251.5 15.74	0 0.00	1952.1 5.85	0 0.00	33372
Beltrami	0 0.00	780.4 9.71	5656.6 70.37	1417.3 17.63	37.1 0.46	129.3 1.61	17.1 0.21	8037.8
Benton	0 0.00	805.9 41.77	305.6 15.84	791.4 41.02	0 0.00	25.6 1.38	0 0.00	1929.5
Big Stone	48.2 0.30	9765.6 61.55	5416.9 34.14	636.5 4.01	0 0.00	0 0.00	0 0.00	15867
Blue Earth	0 0.00	1778.8 16.47	7704.4 71.33	1190.6 11.02	0 0.00	126.8 1.17	0 0.00	10801
Brown	0 0.00	686.9 14.47	3107.1 65.45	824.3 17.36	0 0.00	75.2 1.58	53.5 1.13	4747
Carlton	0 0.00	0 0.00	112.2 100.00	0 0.00	0 0.00	0 0.00	0 0.00	112.2
Carver	0 0.00	171 11.34	737.9 48.92	239.2 15.86	80 5.30	280.4 18.59	0 0.00	1508.5
Cass	0 0.00	0 0.00	546 26.38	1523.8 73.62	0 0.00	0 0.00	0 0.00	2069.8
Chippewa	0 0.00	1315.7 25.07	3668.4 69.89	254.4 4.85	0 0.00	10 0.19	0 0.00	5248.5
Chisago	0 0.00	27.6 1.19	981.1 42.19	1283.3 55.18	0 0.00	26.4 1.14	7.2 0.31	2325.6
Clay	0 0.00	2062 5.37	16016 41.70	17634 45.91	1641.7 4.27	1021.7 2.66	35 0.09	38411
Clearwater	0 0.00	1704.5 38.08	2228.5 49.79	543.2 12.14	0 0.00	0 0.00	0 0.00	4476.2
Cottonwood	0 0.00	498 3.25	11377 74.31	3057.8 19.97	84.1 0.55	294.1 1.92	0 0.00	15311
Crow Wing	0 0.00	546.9 18.96	472.8 16.39	1727.2 59.89	137.1 4.75	0 0.00	0 0.00	2884
Dakota	0 0.00	2102.9 16.43	3936.7 30.76	5191.7 40.56	51.5 0.40	1033.9 8.08	481.8 3.76	12798
Dodge	0 0.00	1792.4 40.18	2104.4 47.18	543.1 12.18	0 0.00	20.6 0.46	0 0.00	4460.5
Douglas	0 0.00	6939.9 22.76	19261 63.24	2178.6 7.15	94 0.31	1904.1 6.24	93 0.31	30491
Faribault	0 0.00	564.4 15.57	1959.9 54.05	534.9 14.75	0 0.00	566.6 15.63	0 0.00	3625.8
Fillmore	0 0.00	61.8 0.14	41645 96.57	1363.5 3.16	0 0.00	40.7 0.09	12.3 0.03	43123
Freeborn	0 0.00	1991.7 8.66	14494 63.04	5396.1 23.47	249.7 1.09	862 .75	0 0.00	22993

Table 12 (continued): CRP Acres by Land Capability Class by County

County	Capability Class							County Total
	(Acres/Row Percent)	I	II	III	IV	V	VI		VII
Goodhue	0 0.00	241.1 1.65	6712 45.95	5976 40.91	0 0.00	632.6 4.33	1044.9 7.15	14607
Grant	0 0.00	6010.8 24.95	6427.3 26.68	8379.8 34.78	0 0.00	3200.4 13.28	74.9 0.31	24093
Hennepin	0 0.00	0 0.00	179.8 51.82	167.2 48.18	0 0.00	0 0.00	0 0.00	347
Houston	0 0.00	0 0.00	6694.2 65.12	3359.8 32.68	0 0.00	216.3 2.10	10 0.10	10280
Hubbard	0 0.00	31.2 0.55	1762 31.16	3494.8 61.79	0 0.00	346.5 6.13	21 0.37	5655.5
Isanti	0 0.00	36.1 1.33	771.3 28.49	1297.6 47.92	0 0.00	456.9 16.87	145.7 5.38	2707.6
Itasca	0 0.00	0 0.00	0 0.00	34.2 100.00	0 0.00	0 0.00	0 0.00	34.2
Jackson	0 0.00	1080.3 11.22	7330.1 76.12	1199.7 12.46	4.2 0.04	15.2 0.16	0 0.00	9629.5
Kanabec	0 0.00	780.4 48.44	566 35.13	219.5 13.62	0 0.00	45.3 2.81	0 0.00	1611.2
Kandiyohi	0 0.00	767.4 2.40	26072 81.57	4808.2 15.04	0 0.00	311.5 0.97	4.4 0.01	31963
Kittson	0 0.00	8651.1 12.39	15171 21.73	45113 64.63	0 0.00	872.1 1.25	0 0.00	69806
Koochiching	0 0.00	1077.8 57.79	305.1 16.36	482.1 25.85	0 0.00	0 0.00	0 0.00	1865
Lac qui Parle	0 0.00	9257.5 31.33	17518 59.29	2769 9.37	0 0.00	0 0.00	0 0.00	29544
Lake of the Woods	0 0.00	459.7 12.99	1142.3 32.27	1937.4 54.74	0 0.00	0 0.00	0 0.00	3539.4
Le Sueur	0 0.00	338.8 1.19	24885 87.50	3090.4 10.87	0 0.00	125.6 0.44	0 0.00	28440
Lincoln	0 0.00	39678 75.47	12126 23.06	685.1 1.30	0 0.00	85.7 0.16	0 0.00	52575
Lyon	0 0.00	3184.2 15.36	16536 79.79	989.6 4.78	0 0.00	14.5 0.07	0 0.00	20725
McLeod	0 0.00	1927.2 39.16	2791.7 56.72	178.5 3.63	10.2 0.21	14 0.28	0 0.00	4921.6
Mahnomen	0 0.00	3470.7 44.48	3032.8 38.87	1120.2 14.36	178.3 2.29	0 0.00	0 0.00	7802
Marshall	0 0.00	44121 35.02	61480 48.80	20385 16.18	0 0.00	0 0.00	0 0.00	125985
Martin	0 0.00	15.7 0.66	1697.3 71.49	641.2 27.01	0 0.00	20 0.84	0 0.00	2374.2
Meeker	0 0.00	3391.4 18.51	11159 60.91	3186.2 17.39	0 0.00	584.4 3.19	0 0.00	18321
Mille Lacs	0 0.00	60.1 5.69	81.4 7.71	914.8 86.60	0 0.00	0 0.00	0 0.00	1056.3

Table 12 (continued): CRP Acres by Land Capability Class by County

County	Capability Class							County Total
	(Acres/Flow Percent)	I	II	III	IV	V	VI		VII
Morrison	0 0.00	1349.4 12.64	3687.6 34.54	5553.8 52.03	0 0.00	84.4 0.79	0 0.00	0675
Mower	0 0.00	10810 84.81	1701.8 13.35	178.8 1.40	0 0.00	55 0.43	0 0.00	12745
Murray	0 0.00	820.6 5.77	9024.8 63.50	3776.1 26.57	183.6 1.29	313.5 2.21	92.6 0.65	14211
Nicollet	0 0.00	29.4 1.56	977.3 51.84	838.4 44.48	0 0.00	40 2.12	0 0.00	1885.1
Nobles	77.1 1.99	1129.1 29.11	2332.8 60.13	213 5.49	0 0.00	127.4 3.28	0 0.00	3879.4
Norman	0 0.00	11210 20.55	25984 47.64	13632 24.99	0 0.00	3714.8 6.81	0 0.00	54542
Olmsted	0 0.00	8472.4 29.22	18281 63.05	2165.4 7.47	29.7 0.10	10 0.03	34.1 0.12	28993
Otter Tail (East)	0 0.00	5424 15.22	9944.3 27.91	14091 39.55	0 0.00	5807.7 16.30	361.1 1.01	35629
Otter Tail (West)	0 0.00	4587.5 9.19	20510 41.08	18361 36.77	147 0.29	5911.7 11.84	415.8 0.83	49934
Pennington	0 0.00	19156 24.82	44931 58.23	13079 16.95	0 0.00	0 0.00	0 0.00	77166
Pine	0 0.00	16.7 5.06	5.9 1.79	307.6 93.16	0 0.00	0 0.00	0 0.00	330.2
Pipestone	0 0.00	5004.6 50.09	3400 34.03	1181.4 11.82	0 0.00	360.7 3.61	45 0.45	9991.7
Polk (East)	0 0.00	6116 16.88	15339 42.35	14749 40.72	0 0.00	18.2 0.05	0 0.00	36222
Polk (West)	0 0.00	19175 47.51	10373 25.70	10619 26.31	0 0.00	194.6 0.48	0 0.00	40361
Pope	0 0.00	8738.9 27.41	19556 61.33	2273.5 7.13	0 0.00	1191.8 3.74	124.6 0.39	31885
Ramsey	0 0.00	16597 29.66	23483 41.99	15672 28.02	0 0.00	174.2 0.31	0 0.00	55926
Redwood	0 0.00	1499 10.69	9300.7 66.30	2875.9 20.50	0 0.00	276.9 1.97	75.9 0.54	14026
Renville	0 0.00	87.2 1.97	4071 91.99	267.3 6.04	0 0.00	0 0.00	0 0.00	4425.5
Rice	0 0.00	84.4 0.30	26943 94.44	1284.2 4.50	0 0.00	216.7 0.76	0 0.00	28528
Rock	0 0.00	22 1.67	825.8 62.70	40.5 3.06	0 0.00	428.7 32.55	0 0.00	1317
Roseau	0 0.00	16953 18.81	52371 61.36	16638 19.50	0 0.00	261.9 0.31	0 0.00	85324
St. Louis (North)	0 0.00	0 0.00	0 0.00	8 100.00	0 0.00	0 0.00	0 0.00	8
St. Louis (South)	0 0.00	78 72.22	0 0.00	30 27.78	0 0.00	0 0.00	0 0.00	108

Table 12 (continued): CRP Acres by Land Capability Class by County

County	(Acres/Row Percent)							County Total
	Capability Class							
	I	II	III	IV	V	VI	VII	
Scott	0 0.00	13.9 0.73	1022.9 53.43	682.7 35.66	7.4 0.39	187.6 9.80	0 0.00	1914.5
Sherburne	0 0.00	0 0.00	26 6.47	272.3 67.80	0 0.00	91.9 22.88	11.4 2.84	401.6
Sibley	0 0.00	56.3 2.36	2165.9 90.90	148.4 6.23	0 0.00	12 0.50	0 0.00	2382.6
Stearns	10 0.04	4152 17.96	11428 49.44	6352.6 27.48	24.2 0.10	792.8 3.43	356.2 1.54	23116
Steele	0 0.00	3928.5 24.09	10944 67.12	942.5 5.78	0 0.00	366.1 2.25	124.3 0.76	16305
Stevens	0 0.00	17396 75.31	3696.4 16.00	867.9 3.76	0 0.00	1139 4.93	0 0.00	23099
Swift	0 0.00	5398.1 29.35	10213 55.53	2709.2 14.73	0 0.00	70.8 0.38	0 0.00	18391
Todd	0 0.00	935.4 10.81	4513.1 52.15	2057 23.77	0 0.00	1021.5 11.80	126.3 1.46	8653.3
Traverse	0 0.00	5087.8 58.48	1577.1 18.13	2016.5 23.18	0 0.00	0 0.00	18.6 0.21	8700
Wabasha	0 0.00	82.5 0.56	8855.5 60.08	5377.2 36.48	5.5 0.04	315.3 2.14	104.1 0.71	14740
Wadena	0 0.00	889.5 17.87	1729.1 34.75	2357.8 47.38	0 0.00	0 0.00	0 0.00	4976.4
Waseca	0 0.00	44.2 0.51	6160.7 70.94	2235.7 25.74	0 0.00	243.9 2.81	0 0.00	8684.5
Washington	0 0.00	165 13.42	635 51.63	160.5 13.05	0 0.00	266 21.63	3.4 0.28	1229.9
Watonwan	0 0.00	30.9 1.66	1124.5 60.47	704.1 37.87	0 0.00	0 0.00	0 0.00	1859.5
Wilkin	0 0.00	8711.9 40.73	7605.7 35.55	4231.1 19.78	0 0.00	550.7 2.57	292.2 1.37	21392
Winona	0 0.00	0 0.00	6993.1 84.46	916.6 11.07	136 1.64	208.7 2.52	25 0.30	8279.4
Wright	0 0.00	189 2.89	4324.3 66.14	1301.3 19.90	0 0.00	436.7 6.68	287.2 4.39	6538.5
Yellow Medicine	41 0.16	16077 63.36	8552.4 33.71	702 2.77	0 0.00	0 0.00	0 0.00	25373
STATE TOTAL	176.3	362263	782594	336390	3101.3	41655.3	4498.6	1530678

Source: From USDA ASCS data, compiled or calculated by author.

Table 13: Enrolled Acres by Land Capability Class by Bidding Round: State

Round	Capability Class							Total
	I	II	III	IV	V	VI	VII	
1	0 0.00	4862.3 7.53	27557 42.67	27524 42.61	30 0.06	4422.9 6.85	185.1 0.29	64589
2	0 0.00	19088 28.63	70821 107.22	61128 91.68	551.6 0.83	6591.3 9.91	564.4 0.85	158745
3	0 0.00	49065 73.24	160764 241.26	77519 115.73	976.8 1.46	9307.9 13.95	1101.4 1.65	298734
4	0 0.00	192395 28.63	347518 51.72	112792 16.79	866.1 1.29	10163 15.24	2176.7 3.25	671910
5	0 0.00	69404 103.56	98907 146.85	35993 52.99	617 0.91	3399.1 5.05	253 0.37	208572
6	176.3 0.14	27448 41.12	77027 113.85	21434 31.67	51.8 0.07	1771.2 2.61	218 0.32	128128
TOTAL	176.3	362263	782594	336390	3101.3	41855.3	4498.6	1530678

Source: From USDA ASCS data, compiled or calculated by author.

Table 14: Farm Size and CRP Parcel Size by Bidding Round: State

Round	Average Total Cropland (Acres)	Average CRP Parcel (Acres)	CRP Acres/ Cropland	Farm Base (Acres)	Base/ Cropland*
1	272	68.0	0.43	190	.65
2	299	78.6	0.46	214	.66
3	304	85.0	0.46	219	.66
4	264	76.3	0.49	186	.65
5	297	68.4	0.42	214	.63
6	278	64.6	0.43	187	.62

*Note: Only those farms that reported reduced bases are included here.

Source: From USDA ASCS data, compiled or calculated by author.

Table 15: Distribution of Ratio of CRP Parcel Size to Total Cropland: State

CRP Ratio	Percent of Contracts	Percent of Enrolled Acres	CRP Ratio	Percent of Contracts	Percent of Enrolled Acres
0 - .09	19.7	7.9	.5 - .59	5.2	6.9
.1 - .19	15.9	10.5	.6 - .69	4.4	6.3
.2 - .29	9.6	8.3	.7 - .79	4.2	6.2
.3 - .39	7.4	8.1	.8 - .89	4.2	6.5
.4 - .49	6.1	7.3	.9 - 1.0	23.3	32.0

Source: From USDA ASCS data, compiled or calculated by author.

Table 16: Number and Acreage of CRP Exits by County

County	Number of Exits	Total CRP Acreage of Farms Exiting	County	Number of Exits	Total CRP Acreage of Farms Exiting
Aitkin	4	706.8	McLeod	16	688.1
Anoka	2	46.9	Meeker	85	5974.0
Becker	161	16359.2	Mille Lacs	9	426.1
Beltrami	11	1474.8	Morrison	59	3842.7
Benton	6	327.8	Mower	37	3246.2
Big Stone	31	4565.9	Murray	16	1954.2
Blue Earth	62	3579.8	Nicollet	4	143.7
Brown	11	581.3	Nobles	12	712.2
Carver	12	402.2	Norman	141	21752.0
Cass	11	1003.3	Olmsted	177	13170.4
Chippewa	16	1248.7	Otter Tail	425	36104.8
Chisago	14	632.1	Pennington	122	22405.9
Clay	86	11642.6	Pipestone	9	714.6
Clearwater	17	1009.0	Polk	184	34512.3
Cottonwood	39	4244.3	Pope	106	13437.1
Crow Wing	17	2298.9	Red Lake	97	20455.5
Dakota	46	4045.6	Redwood	22	1547.1
Dodge	10	440.5	Renville	9	485.2
Douglas	191	15018.9	Rice	195	11445.7
Faribault	3	59.0	Rock	4	344.3
Fillmore	222	20760.6	Roseau	112	19824.1
Freeborn	48	2708.9	Scott	6	156.4
Goodhue	47	1769.9	Sherburne	2	41.6
Grant	83	9460.8	Sibley	12	355.4
Hennepin	4	75.8	Stearns	108	7806.6
Houston	65	3640.5	Steele	64	3400.0
Hubbard	36	3138.8	Stevens	118	17186.1
Isanti	21	858.5	Swift	39	6363.7
Jackson	30	2716.3	Todd	52	3314.7
Kanabec	16	524.9	Traverse	24	3261.6
Kandiyohi	162	11903.0	Wabasha	42	3592.4
Kittson	102	20856.4	Wadena	39	2518.1
Koochiching	4	1233.0	Waseca	14	813.8
Lac qui Parle	35	3592.4	Washington	9	249.8
Lake of the Woods	21	2049.8	Watsonwan	6	234.9
Le Sueur	185	12906.1	Wilkin	39	7345.3
Lincoln	123	16962.2	Winona	22	1414.9
Lyon	19	2110.7	Wright	69	2957.6
Mahnomen	26	3880.5	Yellow Medicine	56	6133.0
Marshall	130	24702.5			
Martin	3	101.6	STATE TOTAL	4,694	495,972.9

Note: Exit defined as CRP parcel greater than or equal to 90% of cropland.
Source: From USDA ASCS data, compiled or calculated by author.

Table 17: CRP Exits and Stays: State

	Exits	Stays
Number of Contracts	4,694	15,615
Cropland (acres)	107	333
Parcel (acres)	106	66
CRP Parcel/Cropland	0.99	0.30
Base Ratio	0.68	0.63
Farm base (acres)	83	232
Percent of farms with base	90	95

Note: Exit defined as CRP parcel greater than or equal to 90% of cropland.

Source: From USDA ASCS data, compiled or calculated by author.

Section III: Financial, Conservation, and Crop Production Impacts

BIDS AND ANNUAL PAYMENTS FOR CRP PARCELS

The government makes two payments to the landowner for CRP entry. The principal payment is the annual CRP rental, the product of the landowner's per-acre bid and the CRP parcel size (one or more fields, measured in acres). The second is a one-time 50% cost-share for the establishment of necessary cover crops and practices. Only the former, recurring expenditure is covered in this report.

The \$85 million in annual rental payments to Minnesota CRP enrollees is distributed among counties roughly in proportion to their participation levels measured in acres (Table 18). Maximum accepted bids in the northwest part of the state, a high participation area, were roughly half those in the south-central. The top ten counties in payments differ in order but, with one exception, not in membership from the top ten in acreage (Table 19). (Note that in Table 19, Otter Tail and Polk are reported as complete counties; they are reported by their east-west divisions in Table 18.)

Tables 20 and 21 show statewide CRP payments by principal land capability classification. About a third of the payments go to landowners whose enrolled fields are

dominated by class IIIe soils. Nearly eighty percent of the payments went to owners who entered class II and III soils. The most expensive lands on a per acre basis were for classes I and VII, respectively the "best" and the "worst" soils for agricultural production in Minnesota.

A significant phenomenon demonstrated by the data reported here is that of "bid convergence." As potential entrants discovered over time that the government was going to hold both pool boundaries and maximum acceptable rental rates (MARR) essentially unchanged, they pegged their bids to this newly created "going rate" for CRP land in their area. The average bids over the rounds converged to the MARR: increasingly fewer bids were either above or below that level.

The effect for the government is that any program cost savings which are potentially achieved by taking lower bids is being substantially diminished. Localities benefit because more outside money is brought in than would otherwise be the case.

Bid convergence at the state level can be shown by the distribution of each contract's "bid ratio." This is obtained by dividing the CRP bid by the MARR for that pool for the round in which

the bid was accepted. Over the six rounds, the statewide average ratio climbed from .82 to a high of .98 (Table 22). The first quartile, the ratio above which 75% of the bid ratios lie, climbed from .73 to .94.

Pool boundaries are shown on Maps 1 and 2, and their respective MARRs are in Table 23. Some contracts administratively assigned to a county in one pool were paid under the MARR of an adjacent pool in which the land was located. Consequently, a few bid ratios as calculated here exceed 1.0.

The previous round's MARR did not serve as a good indicator for potential bidders in those counties that changed pools after the first round or in those assigned to the pool that changed its MARR after the third round (Pool 9). In those counties, the previous MARR gave the wrong "signal," so bidders might be expected to cluster around the old "incorrect" MARR. In the third, and succeeding rounds, however, pool boundaries and bid caps remained unchanged, so the bids rapidly converged to the MARR.

Table 24 shows the pattern of convergence for bidders in those counties that did and those that did not change boundaries. If there was any higher disarray among the bidders in the changed-pool set, it is not evident from this data. The set includes both those counties for which the bids changed upward and those for which it changed downward. Many bidders in this second subset might have bid too high in the second round and so were not even included in the data set of accepted bids.

SOIL EROSION REDUCTION ATTRIBUTED TO CRP ENTRY

A major stated objective of the CRP is to reduce erosion attributable to highly erodible cropland. Only land so designated is eligible for entry. However, as noted earlier, actual entry is by established fields, and no more than two-thirds of any particular field (one-third in the case of land to be planted to trees) need actually be erodible. Consequently, the data set, which reports only a single average before and after rate for each contract, may give a misleading impression of the extent to which erosion is actually reduced by that contract's CRP entry. Each contract may actually be made up of several fields, each of which may in turn contain several soil types.

Tons per CRP acre in reduced erosion across Minnesota counties ranges from 2.0 in St. Louis

County to 33.0 in adjacent Carlton County, but these averages represent only a few bids each. More typically, reductions range from 15 to 25 tons per acre per year (Table 25). Aggregate soil savings by county are shown in the table as well.

Erosion reduction achieved by retiring lands in each of the several land capability classes is shown in Table 26. While the overwhelming majority of Minnesota's CRP land is in classes II and III, the largest per-acre erosion reduction is achieved, not surprisingly, by retiring lands in classes V-VII, the more "marginal" agricultural lands. Nevertheless, 70% of the 26 million tons per year in CRP-induced soil erosion reduction is being achieved by retiring class II and III lands.

All reported CRP erosion levels are based on the USLE, which measures soil loss at a field boundary. Erosion deposition is not necessarily into water courses or public ditches; sometimes it is onto low spots in adjacent fields, perhaps even on the same farm. As a result, the soil erosion reduction figures shown here reflect avoided loss from particular fields. They do not necessarily reflect loss from particular farms. Importantly, they also do not reflect avoided clean-up costs in off-site locations.

REDUCED COMMODITY CROP PLANTING ATTRIBUTABLE TO CRP ENTRY

To accomplish in part its objectives with respect to surplus crop production, Congress required that each acre of land entered into the CRP carry with it a proportional reduction in the farm's official commodity program acreage base. The idea was to cut down on commodity production and commodity program expenditures by reducing the acreage on which program crops could legally be grown. The specific reduction in base is the ratio of the CRP entry to the farm's total cropland. The higher the CRP entry relative to cropland, the more any associated base would be reduced.

While it is not possible to measure the total effect of the CRP on commodity production, it is possible to gauge relative effects on a crop by crop basis by examining the extent to which landowners assigned any required base reduction to individual crop acreage bases. CRP enrollees are allowed to allocate a given required base acreage reduction among any or all established crop acreage bases on the farm, up to the size of each individual base.

The pattern of base bite allocations thus provides indirect evidence of those crop bases that farmers consider least lucrative, if one assumes that the decisions are made on the basis of foregone income from federal subsidies. For example, if a CRP enrollee elects to give up more oats base than corn base, it must be because oats base is deemed less valuable.

This line of reasoning should not be pushed too hard against the data. All we learn from the data set is the allocation of base reduction among crops. An entrant who puts all the reduction in oats, for example, might indeed be signalling that oats are less valuable than corn. But the action may simply reflect the fact that the entrant had no corn base to give up.

Annual production changes will thus vary according to crop subsidy program participation rates, required set-aside rates, and slippage rates of the type discussed in Section II. Overall, the 1.53 million acres of CRP entry in Minnesota have led to a reduction of 1.03 million acres of farm acreage bases (Table 27). Thirty-five percent of this reduction came in corn, and 31% was in wheat. The barley and oat bases, which in some years are virtually interchangeable administratively, accounted for another 34%.

Associated production decreases are sensitive to the required set-aside rate. For example, if the rate is 10% of base, as it is for 1989 in corn and wheat, the CRP will lead to a reduction in planting--for that year, on CRP enrollees' farms--of at least 326,000 acres of corn (90% of the base reduction) and 282,000 acres of wheat.

Overall, the aggregate allocation of base bites is

fairly uniform across the bidding rounds, although 60% of all corn base reductions came in the fourth round. For that round only, the USDA paid a two-dollar one-time bonus for every bushel of established corn production that was reduced due to CRP entry. For example, a 100 acre CRP entry at \$55 per acre would result in a \$5,500 annual payment. If, however, the CRP entry brought with it (through the base bite) a fifty acre, reduction in a corn base with a 100 bu/acre established yield, then the enrollee would get an additional \$10,000 payment the first year of entry.

In the last two rounds reported here, wheat base reductions have become dominant, making up 41% of the reductions tied to much smaller total enrollments.

The data set also includes the established program yield for each crop base that the enrollee chooses to reduce. These numbers allow an approximation of the potential reduction in output attributable to the CRP. However, these yield figures are for the whole farm's crop base, not for the CRP acres individually. Consequently, they can be used as proxies for CRP land quality only if one is willing to assume that the CRP land on a high-base-yield farm is itself of higher "quality" than is the CRP land on a low-yield farm.

Only that reduction in production potential caused by the legal constraints imposed by the base bite is reported here. The county level base acreage and production reductions are contained in Tables 28 and 29. The second column in each table, labeled "Number of Contracts," shows the number of CRP contracts on farms with a farm acreage base, not all farms with contracts.

Table 18: Annual Payments and Average Payment per Acre by County

County	Number of Contracts	Total CRP Enrollment (Acres)	Total Annual Payments (dollars)	Annual CRP Payment Per Acre (dollars)
Aitkin	16	3867.3	105612.89	27.31
Anoka	7	183.8	7728.09	42.05
Becker	402	33372.4	1461044.82	43.78
Beltrami	59	8037.8	208525.79	25.94
Benton	71	1929.5	81570.57	42.28
Big Stone	175	15867.2	856438.02	53.98
Blue Earth	266	10800.6	882730.40	81.73
Brown	139	4747.0	372715.20	78.52
Carlton	2	112.2	3366.00	30.00
Carver	63	1508.5	100141.39	66.38
Cass	27	2069.8	47474.05	22.94
Chippewa	130	5248.5	359055.28	68.41
Chisago	81	2325.6	99945.50	42.98
Clay	360	38411.2	2006105.12	52.23
Clearwater	60	4476.2	130520.90	29.16
Cottonwood	320	15311.0	1249029.90	81.58
Crow Wing	35	2884.0	71874.67	24.92
Dakota	269	12798.5	991062.91	77.44
Dodge	133	4460.5	354724.35	79.53
Douglas	476	30490.8	1452373.38	47.63
Faribault	126	3625.8	302131.98	83.33
Fillmore	578	43123.2	3293174.78	76.37
Freeborn	479	22993.5	1871805.04	81.41
Goodhue	454	14606.6	1103623.17	75.56
Grant	273	24093.2	1291747.04	53.61
Hennepin	18	347.0	16317.51	47.02
Houston	230	10280.3	789694.78	76.82
Hubbard	79	5655.5	148679.00	26.29
Isanti	82	2707.6	114727.95	42.37
Itasca	1	34.2	1026.00	30.00
Jackson	222	9629.5	794447.41	82.50
Kanabec	56	1611.2	63411.72	39.36
Kandiyohi	577	31963.3	2077280.99	64.99
Kittson	396	69806.5	2953811.62	42.31
Koochiching	10	1865.0	53444.40	28.66
Lac qui Parle	460	29544.0	2018678.36	68.33
Lake of the Woods	43	3539.4	102285.59	28.90
Le Sueur	561	28439.5	2312384.89	81.31
Lincoln	546	52574.9	3538356.54	67.30
Lyon	363	20724.6	1418841.73	68.46
McLeod	151	4921.6	324297.65	65.89
Mahnomen	71	7802.0	342385.57	43.88
Marshall	783	125985.4	5399227.43	42.86
Martin	68	2374.2	197206.89	83.06
Meeker	383	18320.6	1190086.16	64.96
Morrison	213	10675.2	456034.83	42.72

Table 18: Annual Payments and Average Payment per Acre by County

County	Number of Contracts	Total CRP Enrollment (Acres)	Total Annual Payments (dollars)	Annual CRP Payment Per Acre (dollars)
Aitkin	16	3867.3	105612.89	27.31
Anoka	7	183.8	7728.09	42.05
Becker	402	33372.4	1461044.82	43.78
Beltrami	59	8037.8	208525.79	25.94
Benton	71	1929.5	81570.57	42.28
Big Stone	175	15867.2	856438.02	53.98
Blue Earth	266	10800.6	882730.40	81.73
Brown	139	4747.0	372715.20	78.52
Carlton	2	112.2	3366.00	30.00
Carver	63	1508.5	100141.39	66.38
Cass	27	2069.8	47474.05	22.94
Chippewa	130	5248.5	359055.28	68.41
Chisago	81	2325.6	99945.50	42.98
Clay	360	38411.2	2006105.12	52.23
Clearwater	60	4476.2	130520.90	29.16
Cottonwood	320	15311.0	1249029.90	81.56
Crow Wing	35	2884.0	71874.67	24.92
Dakota	269	12798.5	991082.91	77.44
Dodge	133	4460.5	354724.35	79.53
Douglas	476	30490.8	1452373.38	47.63
Faribault	126	3625.8	302131.98	83.33
Fillmore	576	43123.2	3293174.78	76.37
Freeborn	479	22993.5	1871805.04	81.41
Goodhue	454	14606.6	1103623.17	75.56
Grant	273	24093.2	1291747.04	53.61
Hennepin	18	347.0	16317.51	47.02
Houston	230	10280.3	789694.78	76.82
Hubbard	79	5655.5	148679.00	26.29
Isanti	82	2707.6	114727.95	42.37
Itasca	1	34.2	1026.00	30.00
Jackson	222	9629.5	794447.41	82.50
Kanabec	56	1611.2	63411.72	39.36
Kandiyohi	577	31963.3	2077260.88	64.99
Kittson	396	69806.5	2953811.62	42.31
Koochiching	10	1865.0	53444.40	28.66
Lac qui Parle	460	29544.0	2018678.36	68.33
Lake of the Woods	43	3539.4	102285.59	28.90
Le Sueur	561	28439.5	2312384.89	81.31
Lincoln	546	52574.9	3538356.54	67.30
Lyon	363	20724.6	1418841.73	68.46
McLeod	151	4921.6	324297.65	65.89
Mahnomen	71	7802.0	342385.57	43.88
Marshall	783	125885.4	5399227.43	42.86
Martin	68	2374.2	197206.89	83.06
Meeker	383	18320.6	1190086.16	64.96

Table 18 (continued): Annual Payments and Average Payment per Acre by County

County	Number of Contracts	Total CRP Enrollment (Acres)	Total Annual Payments (dollars)	Annual CRP Payment Per Acre (dollars)
Morrison	213	10675.2	456034.83	42.72
Mower	234	12745.2	994097.08	78.00
Murray	244	14211.2	974728.17	68.59
Nicollet	58	1885.1	152764.56	81.04
Nobles	106	3879.4	266193.09	68.62
Norman	391	54541.8	2876808.78	52.75
Olmsted	531	28992.6	2186707.32	75.42
Otter Tail-East	570	35628.5	1513957.47	42.49
Otter Tail-West	749	49934.0	2577131.10	51.61
Pennington	444	77166.4	3232598.23	41.89
Pine	10	330.2	8833.10	26.75
Pipestone	196	9991.7	649272.22	64.98
Polk-East	338	36222.1	1569135.60	43.32
Polk-West	216	40361.2	2118339.53	52.48
Pope	360	31884.9	1530636.05	48.01
Red Lake	339	55926.2	2298282.64	41.09
Redwood	332	14028.4	1149881.92	81.97
Renville	146	4425.5	360068.01	81.36
Rice	642	28528.0	2251696.73	78.93
Rock	38	1317.0	89950.08	68.30
Roseau	595	85324.3	3615373.60	42.37
St. Louis-North	1	8.0	239.92	29.99
St. Louis-South	2	108.0	3090.00	28.61
Scott	79	1914.5	126262.44	65.95
Sherburne	22	401.6	14953.13	37.23
Sibley	116	2382.6	192921.11	80.97
Stearns	442	23116.0	1120659.35	48.48
Steele	399	16305.1	1313459.21	80.56
Stevens	199	23099.4	1256746.47	54.41
Swift	173	18390.9	952481.40	51.79
Todd	184	8653.3	370939.38	42.87
Traverse	70	8700.0	461310.76	53.02
Wabasha	328	14740.1	1115035.29	75.65
Wadena	84	4976.4	124816.88	25.08
Waseca	236	8684.5	706902.10	81.40
Washington	41	1229.9	57523.65	46.77
Watonwan	83	1859.5	150314.51	80.84
Wilkin	165	21391.6	1140412.47	53.31
Winona	206	8279.4	625951.26	75.60
Wright	182	6538.5	306589.36	46.89
Yellow Medicine	424	25372.5	1726335.82	68.04
STATE TOTAL	20,309	1,530,678	85,244,156	55.69

Source: From USDA ASCS data, compiled or calculated by author.

Table 21: Acres Enrolled, Annual Payments, and Payments per Acre by Land Capability Class: State

Capability Class	CRP Enrollment (acres)	Annual Payments (dollars)	Payments Per/Acre (dollars)
I	176	11,177	63.51
II	362,185	19,872,364	54.87
III	782,594	45,751,882	58.46
IV	336,360	16,997,621	50.53
V	3,101	172,151	55.51
VI	41,655	2,167,246	52.03
VII	4,499	27,715	60.39
TOTAL	1,530,678	85,244,156	55.69

Source: From USDA ASCS data, compiled or calculated by author.

Table 22: Ratio of CRP Bid to County Maximum Acceptable Rental Rate by Bidding Round: State

Round	Mean	Standard Deviation	First 5%	First Quartile
1	.82	.14	.54	.73
2	.92	.09	.75	.88
3	.96	.07	.82	.93
4	.95	.07	.81	.93
5	.96	.05	.88	.97
6	.96	.07	.81	.94

Source: From USDA ASCS data, compiled or calculated by author.

Table 23: Maximum Acceptable Rental Rates by Pool by Bidding Round: State

Pool	Round		
	1	2-3	4-6
1	\$44	\$44	\$44
2	20	20	30
3	55	55	55
4	40	45	45
5	70	50	50
6	80	70	70
7	85	70	70
8	n.a.	85	85
9	n.a.	80	80

Source: From USDA ASCS data, compiled or calculated by author.

Table 24: Mean Bid Ratios by Bidding Round by Whether or Not County Maximum Acceptable Rental Rate Changed: State

Round	Mean Bid Ratio	
	No Change (N=6,204)	Changed (N=14,105)
1	.82	.82
2	.91	.92
3	.96	.96
4	.94	.95
5	.97	.98
6	.96	.96

Source: From USDA ASCS data, compiled or calculated by author.

Table 25: Reduced Soil Erosion Attributed to CRP Enrollment by County

County	Number of Contracts	Enrollment (acres)	Reduced Erosion (tons/year)	Reduced Erosion Per Acre (tons/year)
Aitkin	16	3867.3	37530.1	9.70
Anoka	7	183.8	3574.2	19.45
Becker	402	33372.4	484107.8	14.51
Beltrami	59	8037.8	137639.2	17.12
Benton	71	1929.5	27687.4	14.35
Big Stone	175	15867.2	267359.4	16.85
Blue Earth	266	10800.6	196734.9	18.22
Brown	139	4747.0	84845.4	17.87
Carlton	2	112.2	3702.6	33.00
Carver	63	1508.5	15278.7	10.13
Cass	27	2069.8	33509.1	16.19
Chippewa	130	5248.5	78134.7	14.89
Chisago	81	2325.6	36582.7	15.73
Clay	360	38411.2	719961.6	18.74
Clearwater	60	4476.2	71585.9	15.99
Cottonwood	320	15311.0	220618.1	14.41
Crow Wing	35	2884.0	50652.4	17.56
Dakota	269	12798.5	204778.3	16.00
Dodge	133	4460.5	37294.1	8.36
Douglas	476	30490.8	695752.7	22.82
Faribault	126	3625.8	73344.9	20.23
Fillmore	578	43123.2	751116.9	17.42
Freeborn	479	22993.5	594388.6	25.85
Goodhue	454	14606.6	274141.5	18.77
Grant	273	24093.2	451180.6	18.73
Hennepin	18	347.0	4742.4	13.67
Houston	230	10280.3	145719.4	14.17
Hubbard	79	5655.5	81114.1	14.34
Isanti	82	2707.6	46651.8	17.23
Itasca	1	34.2	102.6	3.00
Jackson	222	9629.5	211144.6	21.93
Kanabec	56	1611.2	14942.5	9.27
Kandiyohi	577	31963.3	462688.6	14.48
Kittson	396	69806.5	1376308.1	19.72
Koochiching	10	1865.0	26536.9	14.23
Lac qui Parle	460	29544.0	458046.3	15.50
Lake of the Woods	43	3539.4	56505.7	15.96
Le Sueur	561	28439.5	506967.6	17.83
Lincoln	546	52574.9	854752.3	16.26
Lyon	363	20724.6	358354.5	17.29
McLeod	151	4921.6	61557.4	12.57
Mahnomen	71	7802.0	140972.7	18.07
Marshall	783	125985.4	2536894.6	20.14
Martin	68	2374.2	41355.4	17.42
Meeker	383	18320.6	290289.7	15.84
Mille Lacs	20	1056.3	16223.9	15.36

Table 25 (continued): Reduced Soil Erosion Attributed to CRP Enrollment by County

County	Number of Contracts	Enrollment (acres)	Reduced Erosion (tons/year)	Reduced Erosion PerAcre (tons/year)
Morrison	213	10675.2	154332.8	14.46
Mower	234	12745.2	181867.6	14.27
Murray	244	14211.2	187785.5	13.21
Nicollet	58	1865.1	35567.0	18.87
Nobles	106	3879.4	67274.3	17.34
Norman	391	54541.8	920346.8	16.87
Olmsted	531	28992.6	384882.5	13.28
Otter Tail (East)	570	35628.5	607889.7	17.06
Otter Tail (West)	749	49934.0	941570.6	18.86
Pennington	444	77166.4	1291621.6	16.74
Pine	10	330.2	5221.9	15.81
Pipestone	196	9991.7	157719.7	15.79
Polk (East)	338	36222.1	578400.0	15.97
Polk (West)	216	40361.2	784551.1	19.44
Pope	360	31884.9	368727.9	11.56
Red Lake	339	55926.2	1016522.8	18.18
Redwood	332	14028.4	251879.0	17.95
Renville	146	4425.5	71814.5	16.23
Rice	642	28528.0	540297.7	18.94
Rock	36	1317.0	17162.7	13.03
Roseau	595	85324.3	1380235.0	16.18
St.Louis (North)	1	8.0	16.0	2.00
St.Louis (South)	2	108.0	1140.0	10.56
Scott	79	1914.5	46570.1	24.32
Sherburne	22	401.6	5066.8	12.62
Sibley	116	2382.6	31152.3	13.07
Stearns	442	23116.0	348424.1	15.07
Steele	399	16305.1	202595.1	12.43
Stevens	199	23099.4	384664.3	16.65
Swift	173	18390.9	252347.7	13.72
Todd	184	8653.3	138021.9	15.95
Traverse	70	8700.0	139630.7	16.05
Wabasha	328	14740.1	279338.7	18.95
Wadena	84	4976.4	65975.4	13.26
Waseca	236	8684.5	134101.3	15.44
Washington	41	1229.9	19995.8	16.26
Watonwan	83	1859.5	27832.3	14.97
Wilkin	165	21391.6	390829.6	18.27
Winona	206	8279.4	177441.8	21.43
Wright	182	6538.5	92038.5	14.08
Yellow Medicine	424	25372.5	445853.3	17.57
STATE TOTAL	20,309	1,530,678	26,372,379	17.23

Source: From USDA ASCS data, compiled or calculated by author.

Table 26: Reduced Soil Erosion Attributed to CRP Enrollment by Land Capability Class: State

Capability Class	Enrollment (acres)	Erosion Reduction	
		Total (tons/year)	Per CRP Acre (tons/year)
I	176	1,976	11.2
II	362,185	5,716,196	15.8
III	762,594	13,007,146	16.6
IV	336,360	6,614,919	19.7
V	3,101	93,300	30.1
VI	41,655	836,022	20.1
VII	4,499	102,819	22.9
TOTAL	1,530,570	26,372,379	17.2

Source: From USDA ASCS data, compiled or calculated by author.

Table 27: Reduced Commodity Acreage Bases Associated with CRP Enrollment by Bidding Round: State

Round	Reduced Base (acres)					Total
	Corn	Wheat	Oats	Barley	Sorghum	
1	11,865	11,863	11,234	8,693	0	43,655
2	29,662	32,049	25,646	20,964	43	108,364
3	54,059	61,187	42,046	48,510	117	205,919
4	217,879	120,425	50,382	67,398	31	456,115
5	30,591	56,395	22,934	29,250	26	139,196
6	17,952	31,093	11,148	16,358	33	76,584
TOTAL	362,006	313,012	163,390	191,173	250	1,029,833

Source: From USDA ASCS data, compiled or calculated by author.

Table 28: Reduced Commodity Acreage Bases Associated with CRP Enrollment by County

County	Number of Contracts	Reduced Base (Acres)				
		Corn	Wheat	Oats	Barley	Sorghum
Aitkin	16	123.3	1169.7	464.6	236.0	.
Anoka	7	73.6	1.1	18.3	.	.
Becker	402	4769.5	4586.5	4414.5	5388.8	.
Beltrami	59	829.3	2949.8	704.6	666.3	.
Benton	71	642.3	65.5	402.7	14.9	.
Big Stone	175	3855.9	4702.4	1829.5	2019.9	.
Blue Earth	266	4606.0	1110.4	381.7	.	.
Brown	139	780.0	888.1	931.5	7.8	12.2
Carlton	2	.	.	28.2	.	.
Carver	63	392.6	89.5	172.5	0.1	.
Cass	27	343.7	98.0	285.1	11.5	.
Chippewa	130	1083.2	1648.1	454.6	168.7	.
Chisago	81	1031.9	20.0	119.2	9.9	.
Clay	360	7372.4	10412.7	3359.1	8258.5	.
Clearwater	60	485.7	1034.3	450.6	527.8	.
Cottonwood	320	4925.7	2325.3	1721.2	.	.
Crow Wing	35	1363.4	.	284.8	14.1	.
Dakota	269	3769.6	1482.0	1417.0	202.6	.
Dodge	133	1834.0	149.0	578.4	10.8	.
Douglas	476	8195.6	4077.7	5114.6	1537.9	33.9
Faribault	126	1715.7	275.2	200.7	.	.
Fillmore	578	23884.8	584.8	3188.2	98.4	.
Freeborn	479	12669.5	806.1	1118.2	7.6	0.6
Goodhue	454	5716.3	793.1	1967.4	336.2	.
Grant	273	4311.2	5847.8	1318.2	4910.8	1.8
Hennepin	18	155.4	2.3	22.8	.	.
Houston	230	4155.2	82.4	1581.8	68.4	.
Hubbard	79	893.1	119.4	700.4	461.3	.
Isanti	82	1379.9	14.1	188.8	.	.
Itasca	1	8.1	.	.	.	.
Jackson	222	4543.5	578.5	749.0	.	.
Kanabec	56	511.1	6.5	115.5	4.7	.
Kandiyohi	577	12306.9	4506.6	5778.9	42.1	.
Kittson	396	3027.0	22053.9	10240.1	14944.2	.
Koochiching	10	24.5	875.8	240.4	243.2	.
Lac qui Parle	460	7997.9	8375.5	3769.4	224.7	0.1
Lake of the Woods	43	440.1	878.7	381.5	488.2	.
Le Sueur	561	10785.7	5064.6	1571.2	23.7	.
Lincoln	546	18527.6	10382.7	5442.8	672.9	14.5
Lyon	363	5446.9	4674.6	3278.5	47.7	.
McLeod	151	1470.3	670.0	595.8	.	.
Mahnomen	71	817.0	1969.6	557.8	3053.5	.
Marshall	783	8622.4	36536.5	9703.2	36845.1	.
Martin	68	995.8	106.6	202.4	.	.
Meeker	383	8151.9	2100.0	2007.5	45.3	.
Mille Lacs	20	467.8	0.1	160.3	.	.

Table 28 (continued): Reduced Commodity Acreage Bases Associated with CRP Enrollment by County

County	Number of Contracts	Reduced Base (Acres)				
		Corn	Wheat	Oats	Barley	Sorghum
Morrison	213	3664.6	211.1	1370.0	157.4	.
Mower	234	5875.3	566.6	977.6	15.4	.
Murray	244	4269.1	1883.6	2394.8	13.3	20.1
Nicollet	58	603.9	325.0	215.8	15.1	.
Nobles	106	1595.7	314.4	401.1	6.5	0.3
Norman	391	5443.4	13993.6	5776.1	16667.1	.
Olmsted	531	14372.4	603.8	2483.3	46.9	.
Otter Tail (East)	570	9571.8	1538.2	5659.9	1081.3	.
Otter Tail (West)	749	8084.2	7687.0	5951.4	4220.2	.
Pennington	444	4728.0	24061.2	10263.7	22555.5	.
Pine	10	72.3	.	25.0	12.9	.
Pipestone	196	3412.2	1165.8	1888.6	25.6	.
Polk (East)	338	5946.9	8943.1	2389.4	10180.0	.
Polk (West)	216	3364.6	17688.0	1025.4	11050.3	1.5
Pope	360	11060.2	5120.8	6250.5	582.5	9.5
Red Lake	339	8709.4	16586.2	4109.8	13167.6	.
Redwood	332	2687.7	3701.0	1391.6	27.6	80.7
Renville	146	530.1	1335.4	595.5	32.4	.
Rice	642	12717.2	1925.4	2292.6	64.9	.
Rock	38	570.8	158.4	224.4	.	.
Roseau	595	2938.2	28878.0	9681.4	19826.2	.
St. Louis (North)	1	.	.	.	.	.
St. Louis (South)	2	.	.	13.3	.	.
Scott	79	554.6	205.8	294.5	5.0	.
Sherburne	22	101.7	.	77.9	.	0.6
Sibley	116	779.5	356.4	331.3	1.5	.
Stearns	442	8281.2	1352.7	4812.4	332.7	71.3
Steele	390	8163.9	780.6	1561.1	54.6	0.4
Stevens	199	6746.0	6374.5	1668.6	2096.6	.
Swift	173	5745.9	5252.8	1548.3	297.0	.
Todd	184	2357.9	245.1	1464.0	251.0	.
Traverse	70	1686.9	3769.5	232.5	1374.6	.
Wabasha	328	6249.8	310.4	1702.0	158.5	.
Wadena	84	1541.1	52.6	561.3	91.1	.
Waseca	236	4262.0	1083.5	626.3	.	.
Washington	41	378.3	129.8	135.1	2.9	.
Watonwan	83	605.1	147.2	210.4	.	.
Wilkin	165	5559.0	4763.6	967.2	4966.8	.
Winona	206	3242.7	85.4	833.7	13.4	.
Wright	182	2079.9	371.6	564.8	20.7	.
Yellow Medicine	424	7950.6	6927.9	2203.6	144.1	3.4
STATE TOTAL	19,085	362,008	313,012	163,390	191,173	250

Source: From USDA ASCS data, compiled or calculated by author.

Table 29: Reduced Annual Commodity Base Productive Capacity Associated with CRP Enrollment by County

County	Contracts	Reduced Base Production (bushels)				
		Corn	Wheat	Oats	Barley	Sorghum
Aitkin	16	8726.0	35433.4	19259.0	8169.2	.
Anoka	7	6164.8	40.7	670.3	.	.
Becker	402	308058.2	147684.0	212416.9	238871.5	.
Beltrami	59	48831.9	72310.7	31502.1	25611.1	.
Benton	71	48980.4	2032.6	21211.1	624.6	.
Big Stone	175	313021.6	150755.5	114248.1	92948.8	.
Blue Earth	266	517609.3	43106.2	25992.8	.	.
Brown	139	75371.7	29041.4	56148.8	374.4	622.2
Carlton	2	.	.	1522.8	.	.
Carver	63	40218.8	3511.4	11494.9	3.9	.
Cass	27	21252.2	2781.5	12434.7	421.5	.
Chippewa	130	95169.8	58490.7	29222.9	7769.7	.
Chisago	81	85821.4	570.6	5994.0	413.9	.
Clay	360	532094.7	351077.1	193547.2	420809.2	.
Clearwater	60	30820.6	29242.0	21014.1	21318.9	.
Cottonwood	320	485710.8	64789.4	104566.2	.	.
Crow Wing	35	76835.5	.	14113.3	483.3	.
Dakota	269	370937.4	52857.0	84094.4	10208.8	.
Dodge	133	207791.4	5473.1	39040.1	535.2	.
Douglas	476	591303.3	123739.4	283059.6	70618.6	735.3
Faribault	126	203873.0	11724.4	13954.8	.	.
Fillmore	578	2670858.4	22278.5	184696.4	4877.5	.
Freeborn	479	1408799.2	29506.7	63646.8	398.5	3.0
Goodhue	454	603063.0	28448.0	125488.4	17984.6	.
Grant	273	370960.3	206767.3	77814.9	247214.2	5.4
Hennepin	18	15310.4	75.8	1420.1	.	.
Houston	230	480789.7	2886.3	95845.4	3705.3	.
Hubbard	79	43855.0	1958.9	27040.3	14739.8	.
Isanti	82	116228.4	383.3	10073.4	.	.
Itasca	1	510.3	.	.	.	.
Jackson	222	477211.1	21299.9	47100.0	.	.
Kanabec	56	36624.2	207.4	6176.1	150.4	.
Kandiyohi	577	1005803.6	149237.0	334889.7	2168.5	.
Kittson	396	164423.4	706630.5	530144.5	685348.0	.
Koochiching	10	1470.0	27255.6	11979.5	10591.8	.
Lac qui Parle	460	677280.9	287995.9	214012.7	10333.9	0.3
Lake of the Woods	43	26266.7	26997.5	21100.1	21465.5	.
Le Sueur	561	1185661.0	204574.5	105649.2	1189.4	.
Lincoln	546	1474354.5	321689.6	307658.5	29137.4	43.5
Lyon	363	450433.0	149292.1	180539.4	2301.3	.
McLeod	151	157907.3	28914.0	41720.5	.	.
Mahnomen	71	50715.7	62430.4	29439.5	144409.5	.
Marshall	783	493436.6	1176106.7	508113.1	1837904.8	.
Martin	68	119320.5	4203.7	14351.8	.	.
Meeker	383	767916.7	73839.8	125169.8	2024.4	.
Mille Lacs	20	30519.6	2.6	8167.7	.	.

Table 29 (continued): Reduced Annual Commodity Base Productive Capacity Associated with CRP Enrollment by County

County	Contracts	Reduced Base Production (bushels)				
		Corn	Wheat	Oats	Barley	Sorghum
Morrison	213	271023.8	6121.8	71787.7	5403.8	.
Mower	234	674494.8	22043.4	60106.4	774.1	.
Murray	244	389744.9	65032.9	141332.0	605.8	60.3
Nicollet	58	64004.0	12434.0	13884.8	785.2	.
Nobles	106	148493.4	11232.6	24366.9	273.0	1.5
Norman	391	352944.6	482201.7	337802.8	860042.0	.
Olmsted	531	1589948.8	19879.6	151390.1	2350.8	.
Otter Tail (East)	570	628498.0	45863.7	282263.5	49341.0	.
Otter Tail (West)	749	573052.9	242749.6	312818.6	199543.1	.
Pennington	444	263563.2	785567.4	528848.1	983978.3	.
Pine	10	4652.9	.	1307.2	503.1	.
Pipestone	196	246848.9	35969.8	94532.3	991.0	.
Polk (East)	338	380688.8	307604.4	129268.0	515696.5	.
Polk (West)	216	223787.0	627201.1	55976.4	547304.1	42.0
Pope	360	902102.2	159118.8	354431.7	26909.5	1.3
Red Lake	339	567871.2	557038.2	215075.7	612382.4	.
Redwood	332	264950.8	128334.2	91320.1	1319.2	3425.4
Renville	146	56242.6	54722.4	42238.2	1652.4	.
Rice	642	1373329.5	72223.9	150487.9	3109.6	.
Rock	38	54781.4	5239.4	13890.5	.	.
Roseau	595	157809.9	979362.9	552105.4	66226.6	.
St. Louis (North)	1	.	.	.	.	.
St. Louis (South)	2	.	.	545.3	.	.
Scott	79	51715.4	7350.6	18220.8	230.0	.
Sherburne	22	7632.1	.	3493.5	.	1.8
Sibley	116	87074.0	14562.8	23230.8	70.5	.
Stearns	442	657939.3	38317.8	243777.8	14048.8	2007.1
Steele	399	924451.8	30068.6	97687.4	2695.2	2.0
Stevens	199	626901.9	237312.1	106475.0	111056.1	.
Swift	173	490723.5	178046.5	90510.5	14143.3	.
Todd	184	171059.0	6759.9	78368.5	9494.7	.
Traverse	70	130680.0	125592.2	13585.7	65763.1	.
Wabasha	328	681755.2	10796.3	107607.3	7882.4	.
Wadena	84	90621.5	1424.2	23841.7	4146.2	.
Waseca	236	495200.6	50005.3	43176.1	.	.
Washington	41	35892.9	4659.5	7204.9	118.9	.
Watonwan	83	69676.1	5303.9	14138.5	.	.
Wilkin	165	407497.7	158330.7	54064.4	244206.6	.
Winona	206	363097.1	2927.3	50947.2	607.7	.
Wright	182	177699.1	10005.9	29313.2	716.8	.
Yellow Medicine	424	688635.1	248892.5	135577.4	6835.9	125.8
STATE TOTAL	19,085	32,245,348	10,488,943	9,134,766	9,196,315	7,097

Source: From USDA ASCS data, compiled or calculated by author.

Appendix A: CRP Eligibility Criteria

From USDA, "Conservation Reserve Program: Progress Report and Preliminary Evaluation of the First Two Years," January 1989, p. 11.

In general, both the land classification system and the EI move to higher values as a soil is more erosion prone, less suitable for cropping, and tending to require higher levels of management when cropped. In determining highly erodible cropland eligible for the CRP, a combination of these measures is used, thus combining the strengths of both systems to best satisfy the legislative requirements.

For CRP, highly erodible land is defined as:¹

1. Land in LCC's VI, VII, and VIII; or
2. Land in LCC's II through V having a predicted average annual soil loss greater than three times the T value; or
3. Land in LCC's II through V having a predicted average annual soil loss of two

times the T value or greater with a serious gully erosion problem; or

4. Land consisting of soils having both an EI equal to or greater than 8 for either wind or water erosion; and an erosion rate, during the crop years 1981 through 1985, that is greater than that recommended by the SCS Field Office Technical Guide (FOTG).

¹Criterion 3 was added for signup 3 and all subsequent signups, except for the 1988 contracts in signup 4, where only criterion 4 was applicable. Criterion 4 was added for signup 4 and all subsequent signups. Two additional criteria were added for signup 6: (1) land eroding at 2T if designated for tree planting and only one-third of such land needs to meet erodibility requirements; and (2) filterstrips 66 to 99 feet wide adjacent to water bodies with no erodibility requirements.

Appendix B: Land Capability Classification

From USDA SCS, "Soil Survey for Dakota County, Minnesota."

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The grouping does not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor does it consider possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for woodland, and for engineering purposes.

In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit. These levels are defined in the following paragraphs.

Capability classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follow:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices, or both.

Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class IV soils have very severe limitations

that reduce the choice of plants or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, e, w, s, or c, to the class numeral, for example, IIe. The letter e shows that the main limitation is risk or erosion unless close-growing plant cover is maintained; w shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); s shows that the soil is limited mainly because it is shallow, droughty, or stony; and c, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by w, s, or c because the soils in class V are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, woodland, wildlife habitat, or recreation.

Appendix C: Late Seventh and Eighth Round Data

Just before this report went to press, final data for the seventh (August 1988) and eighth (February 1989) bidding periods became available. The information in the following tables is for the most part additive to that in the main body of the report. Few general observations

need to be changed, as these rounds largely mirrored previous enrollment activity in the state.

The 197,000 acres of new contracts constitute 11.4% of Minnesota's total CRP enrollment through the new rounds.

Table C1: CRP Summary: State: Seventh Round.

Variable	N	Minimum	Maximum	Sum	Mean	Standard Deviation
BID	1724	20.0000000	110.0000000	n.a.	59.8686195	18.0309110
ACRES	1724	0.9000000	1029.00	113161.90	65.6391531	88.2231973
CROPLAND	1724	1.6000000	4460.80	557111.10	323.1502900	444.6644849
WHACRE	1619	0.1000000	703.1000000	48705.70	30.0838172	51.2383744
CNACRE	926	0.1000000	567.4000000	19664.40	21.2358531	33.6914324
BYACRE	330	0.1000000	300.9000000	6488.20	19.6612121	33.5279144
SGACRE	0	.	.	.	.	.
OTACRE	0	.	.	.	.	.
CNSAVE	926	4.9000000	25533.00	1305902.90	1410.26	2199.85
BYSAVE	330	5.2000000	16549.50	335823.50	1017.65	1705.64
OTSAVE	0	.	.	.	.	.
WHSAVE	1619	2.9000000	28123.20	2420280.50	1494.92	2322.73
SGSAVE	0	.	.	.	.	.
SOILSAVE	1709	.	29044.80	1798794.30	1052.54	1671.28
PAYMENT	1724	47.4000000	45276.00	6071217.62	3521.59	4315.92
FARMBASE	1619	0.3000000	4057.25	376359.23	232.4640112	359.8964014
BASRATIO	1619	0.0077821	6.0839161	n.a.	0.6406122	0.2664279
CRPSIZE	1724	0.0028657	1.0000000	n.a.	0.3742988	0.3529008

Source: From USDA ASCS data, compiled or calculated by author.

Table C2: Final Contract Summary by County: Seventh Round

County	Number of Contracts	Acres Enrolled	Annual Payments (Dollars)	Reduced Erosion (Tons per Year)
Anoka	1	25.3	1138.50	379.5
Becker	23	1088.0	48728.26	14848.4
Beltrami	15	1293.0	38459.39	16984.0
Benton	6	359.7	16186.50	3694.9
Big Stone	28	2635.5	140810.43	40275.5
Blue Earth	13	523.4	42965.30	9278.5
Brown	6	131.3	8385.90	1564.0
Carver	6	205.4	13457.00	616.2
Cass	7	227.0	6795.70	2419.3
Chippewa	43	1775.3	24837.70	23904.2
Chisago	4	123.1	5210.50	1784.9
Clay	32	3384.0	177904.21	68437.8
Clearwater	21	1663.8	57495.69	27949.2
Cottonwood	16	288.7	22264.40	4582.8
Crow Wing	6	279.8	8394.00	4145.9
Dakota	25	735.6	57733.90	8895.8
Dodge	21	425.2	35478.38	4753.3
Douglas	8	472.1	21238.75	6709.0
Faribault	5	75.1	6383.50	1323.5
Fillmore	39	2877.7	229644.37	48920.9
Freeborn	32	1254.0	98895.00	29221.5
Goodhue	29	1028.5	80937.60	17464.7
Grant	18	1132.5	62246.75	24410.5
Hennepin	7	216.6	10830.00	2571.7
Houston	35	1666.7	132613.47	27226.0
Hubbard	14	770.5	23020.95	.
Iscanti	6	190.8	8405.00	2731.4
Jackson	15	296.9	24468.50	5336.8
Kanabec	9	265.0	9927.50	2080.0
Kittson	38	5125.5	219755.14	56348.1
Koochiching	8	1390.3	41539.40	19464.2
Lac qui Parle	46	2668.3	170553.95	38955.4
Lake of the Woods	5	334.3	10029.00	5240.7
Le Sueur	40	1245.5	104789.70	21010.0
Lincoln	37	1949.6	129949.45	32864.1
Lyon	54	2707.2	182397.60	46818.7
McLeod	6	110.8	7756.00	1405.9
Mahnomen	6	455.8	19474.90	6182.8
Marshall	110	14306.7	620192.91	310576.8
Martin	9	285.7	28512.65	3993.3
Meeker	30	1259.2	79020.86	18801.2

Table C2 (continued): Final Contract Summary by County: Seventh Round

County	Number of Contracts	Acres Enrolled	Annual Payments (Dollars)	Reduced Erosion (Tons per Year)
Mille Lacs	4	138.2	6219.00	552.8
Mower	43	2148.7	177269.10	34379.2
Murray	28	1331.7	92560.00	17510.0
Nicollet	8	149.3	12245.50	1393.0
Nobles	16	721.3	50491.00	10098.2
Norman	27	2479.4	132931.28	39883.2
Olmsted	37	1568.5	124084.13	23819.4
Otter Tail (East)	34	1391.0	53177.10	19474.0
Otter Tail (West)	14	917.6	36691.40	12846.4
Pine	1	6.0	180.00	84.0
Polk (East)	34	3263.4	142075.71	56303.0
Polk (West)	16	2235.9	121367.00	38010.3
Pope	48	3672.3	160961.31	41034.5
Red Lake	26	2270.4	91108.52	39650.8
Redwood	48	2077.1	168798.30	31156.5
Rice	33	914.6	75293.57	17377.4
Roseau	126	16902.1	718022.05	236629.4
Scott	5	94.1	6472.50	1921.0
Sherburne	3	104.6	4376.45	519.5
Sibley	4	90.6	6914.50	1588.5
Stearns	57	2636.5	123551.99	40349.7
Steele	34	1215.4	102874.97	12176.1
Stevens	21	1714.7	93351.65	30861.5
Swift	27	1647.3	83650.60	27543.2
Traverse	6	463.1	23620.30	9250.6
Wabasha	15	238.6	19026.55	2480.0
Wadena	7	535.8	16074.00	5038.7
Waseca	16	378.3	32120.40	4447.4
Washington	9	276.0	13748.30	3760.4
Watonwan	18	580.0	48781.00	8122.0
Wilkin	12	1594.6	84987.00	38172.5
Winona	15	456.4	36378.80	8215.2
Wright	17	490.4	20649.55	1961.6
Yellow Medicine	34	988.6	66131.37	18010.9
STATE TOTAL	1,724	113,161.9	6,071,217.62	1,798,794.3

Source: From USDA ASCS data, compiled or calculated by author.

Table C3: Enrolled Acres by Land Capability Class by County: Seventh Round

County	Capability Class							County Total
	I	II	III	IV	V	VI	VII	
Anoka	0 0.00	0 0.00	25.3 100.00	0 0.00	0 0.00	0 0.00	0 0.00	25.3
Becker	0 0.00	183.1 16.83	698.2 64.17	184.8 16.99	0 0.00	21.9 2.01	0 0.00	1088
Beltrami	0 0.00	350 27.07	616.8 47.70	301.7 23.33	0 0.00	24.5 1.89	0 0.00	1293
Benton	0 0.00	303 84.24	0 0.00	56.7 15.76	0 0.00	0 0.00	0 0.00	359.7
Big Stone	0 0.00	2446.3 92.82	131.7 5.00	57.5 2.18	0 0.00	0 0.00	0 0.00	2635.5
Blue Earth	0 0.00	294.9 56.34	225.6 43.10	0 0.00	0 0.00	0 0.00	2.9 0.55	523.4
Brown	0 0.00	2.1 1.60	102.7 78.22	26.5 20.18	0 0.00	0 0.00	0 0.00	131.3
Carver	0 0.00	0 0.00	20 9.74	125.4 61.05	0 0.00	60 29.21	0 0.00	205.4
Cass	0 0.00	0 0.00	177.4 78.15	0 0.00	0 0.00	49.6 21.85	0 0.00	227
Chippewa	0 0.00	844.6 47.58	867.2 48.85	63.5 3.58	0 0.00	0 0.00	0 0.00	1775.3
Chisago	0 0.00	13.7 11.13	0 0.00	79.4 64.50	0 0.00	30 24.37	0 0.00	123.1
Clay	0 0.00	460.7 14.21	2269 67.05	623.3 18.42	0 0.00	11 0.33	0 0.00	3384
Clearwater	0 0.00	1732 91.94	118.4 6.29	33.4 1.77	0 0.00	0 0.00	0 0.00	1883.8
Cottonwood	0 0.00	2.9 1.00	197 68.24	36 12.47	0 0.00	44.9 15.55	7.9 2.74	288.7
Crow Wing	0 0.00	61.1 21.84	81.2 29.02	137.5 49.14	0 0.00	0 0.00	0 0.00	279.8
Dakota	0 0.00	197.6 26.86	163.4 22.21	363.6 49.43	3 0.41	0 0.00	8 1.09	735.6
Dodge	0 0.00	272.7 64.13	140.5 33.04	12 2.82	0 0.00	0 0.00	0 0.00	425.2
Douglas	0 0.00	0 0.00	472.1 100.00	0 0.00	0 0.00	0 0.00	0 0.00	472.1
Faribault	0 0.00	41.1 54.73	34 45.27	0 0.00	0 0.00	0 0.00	0 0.00	75.1
Fillmore	0 0.00	0 0.00	2877.7 100.00	0 0.00	0 0.00	0 0.00	0 0.00	2877.7
Freeborn	0 0.00	155.8 12.42	744 59.33	354.2 28.25	0 0.00	0 0.00	0 0.00	1254
Goodhue	0 0.00	0 0.00	897.8 87.27	125.2 12.24	5 0.49	0 0.00	0 0.00	1028.5
Grant	0 0.00	56.9 5.02	521.5 46.05	420.8 37.16	0 0.00	133.3 11.77	0 0.00	1132.5
Hennepin	0 0.00	54 24.93	152.6 70.45	10 4.62	0 0.00	0 0.00	0 0.00	216.6
Houston	0 0.00	0 0.00	824.7 49.48	800.8 48.05	0 0.00	41.2 2.47	0 0.00	1666.7

Table C3 (continued): Enrolled Acres by Land Capability Class by County: Seventh Round

County	(Acres/Row Percent)							County Total
	I	II	III	IV	V	VI	VII	
Hubbard	770.5 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	770.5
Isanti	0 0.00	0 0.00	20 10.48	134.6 70.55	0 0.00	36.2 18.97	0 0.00	190.8
Jackson	0 0.00	64.5 21.72	203.7 68.61	28.7 9.67	0 0.00	0 0.00	0 0.00	296.9
Kanabec	0 0.00	0 0.00	245 92.45	0 0.00	0 0.00	20 7.55	0 0.00	265
Kittson	0 0.00	1370.2 26.73	1308.2 25.52	2447.1 47.74	0 0.00	0 0.00	0 0.00	5125.5
Koochiching	0 0.00	0 0.00	1390.3 100.00	0 0.00	0 0.00	0 0.00	0 0.00	1390.3
Lac qui Parle	0 0.00	347.7 13.03	2255.5 84.53	65.1 2.44	0 0.00	0 0.00	0 0.00	2668.3
Lake of the Woods	0 0.00	182 54.44	112.3 33.59	40 11.97	0 0.00	0 0.00	0 0.00	334.3
Le Sueur	0 0.00	235.6 18.92	927.5 74.47	82.4 6.62	0 0.00	0 0.00	0 0.00	1245.5
Lincoln	0 0.00	1446.2 74.18	427.8 21.94	75.6 3.88	0 0.00	0 0.00	0 0.00	1949.6
Lyon	0 0.00	0 0.00	2707.2 100.00	0 0.00	0 0.00	0 0.00	0 0.00	2707.2
Mahnomen	0 0.00	243.9 53.51	211.9 46.49	0 0.00	0 0.00	0 0.00	0 0.00	455.8
Marshall	0 0.00	3098.9 21.66	9854.4 68.88	1353.4 9.46	0 0.00	0 0.00	0 0.00	14307
Martin	0 0.00	5.5 1.93	198.9 69.62	81.3 28.46	0 0.00	0 0.00	0 0.00	285.7
McLeod	0 0.00	15.1 13.63	95.7 86.37	0 0.00	0 0.00	0 0.00	0 0.00	110.8
Meeker	0 0.00	337.5 26.80	750 59.56	164.7 13.08	0 0.00	7 0.56	0 0.00	1259.2
Mille Lacs	0 0.00	0 0.00	138.2 100.00	0 0.00	0 0.00	0 0.00	0 0.00	138.2
Mower	0 0.00	2148.7 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	2148.7
Murray	0 0.00	403.4 30.29	870.3 65.35	32.6 2.45	0 0.00	0 0.00	25.4 1.91	1331.7
Nicollet	0 0.00	15.6 10.45	48.7 32.62	15 10.05	0 0.00	70 46.89	0 0.00	149.3
Nobles	0 0.00	0 0.00	721.3 100.00	0 0.00	0 0.00	0 0.00	0 0.00	721.3
Norman	0 0.00	491.3 19.82	138 5.57	1639.5 66.12	0 0.00	210.6 8.49	0 0.00	2479.4
Olmsted	0 0.00	0 0.00	1524.4 97.19	44.1 2.81	0 0.00	0 0.00	0 0.00	1568.5
Otter Tail	0 0.00	0 0.00	917.6 39.75	1391 60.25	0 0.00	0 0.00	0 0.00	2308.6
Pine	0 0.00	0 0.00	6 100.00	0 0.00	0 0.00	0 0.00	0 0.00	6

Table C3 (continued): Enrolled Acres by Capability Class by County: Seventh Round

County	Capability Class							County Total
	I	II	III	IV	V	VI	VII	
Polk	0 0.00	72.5 1.32	2877.1 52.32	2549.7 46.36	0 0.00	0 0.00	0 0.00	5499.3
Pope	0 0.00	580 15.79	2667.7 72.64	424.6 11.56	0 0.00	0 0.00	0 0.00	3672.3
Red Lake	0 0.00	285.8 12.59	1674.1 73.74	310.5 13.68	0 0.00	0 0.00	0 0.00	2270.4
Redwood	0 0.00	0 0.00	2077.1 100.00	0 0.00	0 0.00	0 0.00	0 0.00	2077.1
Rice	0 0.00	0 0.00	914.6 100.00	0 0.00	0 0.00	0 0.00	0 0.00	914.6
Roseau	0 0.00	0 0.00	16902 100.00	0 0.00	0 0.00	0 0.00	0 0.00	16902
Scott	0 0.00	0 0.00	82.1 87.25	0 0.00	0 0.00	12 12.75	0 0.00	94.1
Sherburne	0 0.00	60.6 57.93	0 0.00	44 42.07	0 0.00	0 0.00	0 0.00	104.6
Sibley	0 0.00	0 0.00	90.6 100.00	0 0.00	0 0.00	0 0.00	0 0.00	90.6
Stearns	0 0.00	453.3 17.19	1369.9 51.96	750.7 28.47	0 0.00	62.6 2.37	0 0.00	2636.5
Steele	0 0.00	525.2 43.21	653.6 53.78	36.6 3.01	0 0.00	0 0.00	0 0.00	1215.4
Stevens	0 0.00	889.8 51.89	599.5 34.96	225.4 13.15	0 0.00	0 0.00	0 0.00	1714.7
Swift	0 0.00	422.6 25.65	844.9 51.29	379.8 23.06	0 0.00	0 0.00	0 0.00	1647.3
Traverse	0 0.00	331.9 71.67	104 22.46	27.2 5.87	0 0.00	0 0.00	0 0.00	463.1
Wabasha	0 0.00	0 0.00	216.6 90.78	0 0.00	0 0.00	22 9.22	0 0.00	238.6
Wadena	0 0.00	95.4 17.81	414.1 77.29	26.3 4.91	0 0.00	0 0.00	0 0.00	535.8
Waseca	0 0.00	45.1 11.92	281.2 74.33	52 13.75	0 0.00	0 0.00	0 0.00	376.3
Washington	0 0.00	0 0.00	101.9 36.92	168.6 61.09	0 0.00	5.5 1.99	0 0.00	276
Watsonwan	0 0.00	74.5 12.84	245.5 42.33	260 44.83	0 0.00	0 0.00	0 0.00	560
Wilkin	0 0.00	1153.6 72.34	418.8 26.26	22.2 1.39	0 0.00	0 0.00	0 0.00	1594.6
Winona	0 0.00	0 0.00	456.4 100.00	0 0.00	0 0.00	0 0.00	0 0.00	456.4
Wright	0 0.00	0 0.00	490.4 100.00	0 0.00	0 0.00	0 0.00	0 0.00	490.4
Yellow Medicine	0 0.00	709.4 71.76	243.5 24.63	35.7 3.61	0 0.00	0 0.00	0 0.00	988.6
STATE TOTAL	770.5	23598.3	71157.2	16721.4	8	862.3	44.2	113162

Source: From USDA ASCS data, compiled or calculated by author.

Table C4: Reduced Commodity Acreage Bases by County: Seventh Round

County	Number of Contracts	Reduced Base (Acres)				
		Corn	Wheat	Oats	Barley	Sorghum
Anoka	1	.	8.6	.	.	.
Becker	23	243.8	279.7	.	97.3	.
Beltrami	15	126.1	284.7	.	32.6	.
Benton	8	52.8	103.5	.	14.8	.
Big Stone	28	550.2	1427.5	.	39.5	.
Blue Earth	13	37.5	219.8	.	1.9	.
Brown	6	26.7	45.5	.	.	.
Carver	6	42.6	83.6	.	.	.
Cass	7	.	4.9	.	.	.
Chippewa	43	187.4	925.7	.	41.0	.
Chisago	4	4.5	74.8	.	.	.
Clay	32	423.0	1834.6	.	413.8	.
Clearwater	21	296.9	391.2	.	252.3	.
Cottonwood	16	36.3	147.3	.	.	.
Crow Wing	6	.	.	.	.	.
Dakota	25	117.4	286.8	.	10.7	.
Dodge	21	59.1	170.3	.	13.9	.
Douglas	8	68.9	110.3	.	18.7	.
Faribault	5	8.0	34.3	.	.	.
Fillmore	39	249.2	1272.2	.	17.2	.
Freeborn	32	436.5	359.0	.	3.2	.
Goodhue	29	392.2	515.2	.	22.7	.
Grant	18	137.8	541.0	.	25.8	.
Hennepin	7	35.6	75.3	.	10.0	.
Houston	35	289.1	715.0	.	6.4	.
Hubbard	14	47.5	372.9	.	57.9	.
Isanti	6	4.8	114.9	.	.	.
Jackson	15	22.4	125.8	.	11.2	.
Kanabec	9	7.8	36.5	.	.	.
Kittson	38	613.0	3040.3	.	120.5	.
Koochiching	8	287.3	322.3	.	8.1	.
Lac qui Parle	46	611.0	1077.0	.	102.0	.
Lake of the Woods	5	42.4	171.2	.	31.7	.
Le Sueur	40	264.1	417.9	.	48.5	.
Lincoln	37	534.8	609.6	.	111.8	.
Lyon	54	641.5	1070.0	.	151.1	.
McLeod	6	.	61.6	.	.	.
Mahnomen	6	171.6	121.1	.	124.1	.
Marshall	110	2721.9	7239.5	.	1404.5	.
Martin	9	1.8	165.1	.	.	.
Meeker	30	251.3	573.0	.	48.5	.

Table C4 (continued): Reduced Commodity Acreage Bases by County: Seventh Round

County	Number of Contracts	Reduced Base (Acres)				
		Corn	Wheat	Oats	Barley	Sorghum
Millie Lacs	4	13.8	42.8	.	.	.
Mower	43	452.2	539.9	.	75.3	.
Murray	28	297.4	532.7	.	16.4	.
Nicollet	8	9.5	67.2	.	.	.
Nobles	16	139.4	261.8	.	24.4	.
Norman	27	459.5	1227.4	.	265.4	.
Olmsted	37	241.7	584.7	.	33.1	.
Otter Tail (East)	34	239.0	223.1	.	37.3	.
Otter Tail (West)	14	131.1	225.3	.	66.0	.
Pine	1	.	1.4	.	.	.
Polk (East)	34	555.0	1401.0	.	335.6	.
Polk (West)	16	516.6	1114.2	.	143.8	.
Pope	48	590.1	1417.0	.	233.9	.
Red Lake	26	383.7	1252.1	.	30.9	.
Redwood	48	390.3	668.6	.	12.5	.
Rice	33	216.8	241.1	.	25.5	.
Roseau	126	2682.0	8218.7	.	1160.1	.
Scott	5	11.2	38.3	.	13.6	.
Sherburne	3	10.0	22.2	.	.	.
Sibley	4	14.9	40.4	.	.	.
Stearns	57	363.9	849.4	.	189.2	.
Steele	34	159.4	557.6	.	12.8	.
Stevens	21	433.2	776.1	.	109.8	.
Swift	27	363.0	660.3	.	93.1	.
Traverse	6	53.0	273.3	.	21.4	.
Wabasha	15	20.5	98.5	.	.	.
Wadena	7	78.7	98.2	.	86.5	.
Waseca	16	119.4	146.4	.	10.6	.
Washington	9	68.4	74.2	.	.	.
Watonwan	18	134.9	174.3	.	20.5	.
Wilkin	12	262.9	715.6	.	187.5	.
Winona	15	.	206.0	.	.	.
Wright	7	56.8	62.2	.	13.4	.
Yellow Medicine	34	151.3	464.2	.	25.9	.
STATE TOTAL	1,619	19,644	48,706	0	6,488	0

Source: From USDA ASCS data, compiled or calculated by author.

Table C5: Reduced Annual Commodity Base Productive Capacity by County: Seventh Round

County	Contracts	Reduced Base Production (bushels)				
		Corn	Oats	Wheat	Barley	Sorghum
Anoka	1	.	.	619.2	.	.
Becker	23	11185.4	.	8756.7	3190.5	.
Beltrami	15	4836.1	.	8670.8	1414.6	.
Benton	8	2574.9	.	8365.5	873.2	.
Big Stone	28	43934.4	.	49959.5	2400.4	.
Blue Earth	13	3476.2	.	19749.8	127.3	.
Brown	6	1484.1	.	2094.6	.	.
Carver	6	3162.8	.	3884.4	.	.
Cass	7	.	.	191.1	.	.
Chippewa	43	13195.1	.	36711.4	2661.6	.
Chisago	4	179.7	.	5761.1	.	.
Clay	32	24885.3	.	75454.3	21576.0	.
Clearwater	21	18071.5	.	12548.2	12674.3	.
Cottonwood	16	2212.2	.	8721.6	.	.
Crow Wing	6	.	.	.	.	.
Dakota	25	11056.9	.	23541.4	573.9	.
Dodge	21	5149.0	.	14213.6	879.0	.
Douglas	8	4462.9	.	6170.1	972.4	.
Faribault	5	560.0	.	3576.8	.	.
Fillmore	39	16235.5	.	138925.1	1049.2	.
Freeborn	32	46559.3	.	35012.0	162.5	.
Goodhue	29	35332.2	.	41334.8	1286.6	.
Grant	18	8195.9	.	24254.6	1224.6	.
Hennepin	7	3103.2	.	5987.0	606.0	.
Houston	35	21089.7	.	79299.1	326.4	.
Hubbard	14	2185.1	.	18294.9	2244.8	.
Isanti	6	263.2	.	8433.5	.	.
Jackson	15	2367.1	.	12884.5	801.8	.
Kanabec	9	397.2	.	2628.3	.	.
Kittson	38	28191.2	.	113457.4	5446.2	.
Koochiching	8	13549.3	.	12228.8	340.2	.
Lac qui Parle	46	50179.0	.	41901.7	5869.4	.
Lake of the Woods	5	1951.6	.	7651.3	1680.1	.
Le Sueur	40	28240.5	.	28053.1	2995.0	.
Lincoln	37	38998.8	.	28947.0	6114.2	.
Lyon	54	53298.0	.	48475.2	7641.2	.
McLeod	6	.	.	6315.4	.	.
Mahnomen	6	8552.1	.	4180.3	5737.4	.
Marshall	110	132035.7	.	270260.0	70095.7	.
Martin	9	129.6	.	18623.5	.	.
Meeker	30	21144.4	.	45764.0	3072.0	.
Mille Lacs	4	693.6	.	3106.4	.	.

Table C5 (continued): Reduced Annual Commodity Base Productive Capacity by County: Seventh Round

County	Contracts	Reduced Base Production (bushels)				
		Corn	Oats	Wheat	Barley	Sorghum
Mower	43	47735.6	.	52691.9	4772.5	.
Murray	28	23362.5	.	26500.3	1050.0	.
Nicollet	8	707.4	.	3161.1	.	.
Nobles	16	12211.4	.	17300.6	1500.8	.
Norman	27	26522.2	.	52185.0	13290.7	.
Olmsted	37	16928.1	.	62098.1	1942.0	.
Otter Tail (East)	34	13627.1	.	10192.5	1633.3	.
Otter Tail (West)	14	7950.0	.	9777.4	3275.8	.
Pine	1	.	.	71.4	.	.
Polk (East)	34	31483.8	.	52962.4	17500.4	.
Polk (West)	16	28112.2	.	42882.4	7785.9	.
Pope	48	45001.5	.	76343.4	12403.6	.
Red Lake	26	20123.0	.	49366.6	1381.4	.
Redwood	48	32564.5	.	36626.2	812.5	.
Rice	33	19486.3	.	22406.3	1474.8	.
Roseau	126	141434.3	.	308051.5	62468.1	.
Scott	5	637.2	.	3931.0	884.0	.
Sherburne	3	420.5	.	1099.0	.	.
Sibley	4	1371.0	.	2717.7	.	.
Stearns	57	19890.9	.	56606.9	8308.7	.
Steele	34	12327.3	.	57605.9	676.4	.
Stevens	21	37186.7	.	38932.6	5848.6	.
Swift	27	28155.3	.	26217.9	5187.8	.
Traverse	6	3852.0	.	10673.6	1158.2	.
Wabasha	15	1418.7	.	10679.5	.	.
Wadena	7	5044.8	.	5772.7	4411.5	.
Waseca	16	12305.2	.	11538.8	682.2	.
Washington	9	7267.2	.	3637.4	.	.
Watonwan	18	14742.5	.	12828.9	1500.5	.
Wilkin	12	14850.4	.	26907.7	9425.5	.
Winona	15	.	.	20734.0	.	.
Wright	17	3663.6	.	2350.3	713.8	.
Yellow Medicine	34	12401.0	.	20421.5	1696.0	.
STATE TOTAL	1,619	1,305,903	0	2,420,281	335,824	0

Source: From USDA ASCS data, compiled or calculated by author.

Table C6: CRP Summary: State: Eighth Round

Variable	N	Minimum	Maximum	Sum	Mean	Standard Deviation
BID	1607	20.0000000	110.0000000	100847.60	62.7551960	16.5060877
ACRES	1607	0.6000000	1876.50	84234.10	52.4169882	92.2744374
CROPLAND	1607	1.3000000	4337.80	431350.10	268.4194773	338.8232113
EROSIONB	1552	0	99.0000000	23859.00	15.3730670	7.5445376
EROSIONA	1607	0	8.0000000	2206.00	1.3727442	0.8527029
TOLER	1607	1.0000000	5.0000000	7227.00	4.4971998	0.8512453
WHACRE	712	0.1000000	1432.50	23642.10	33.2051966	80.7715853
WHYIELD	712	14.0000000	53.0000000	24840.00	34.8876404	4.7483821
CNACRE	798	0.1000000	260.0000000	14567.70	18.2552632	24.0690353
CNYIELD	798	33.0000000	137.0000000	72791.00	91.2167920	20.1254377
BYACRE	303	0.1000000	343.3000000	10017.90	33.0623762	52.4739781
BYIELD	303	28.0000000	80.0000000	14541.00	47.9900990	6.7020236
SGACRE	4	0.2000000	5.1000000	6.7000000	1.6750000	2.3084988
SGYIELD	4	2.0000000	3.0000000	11.0000000	2.7500000	0.5000000
OTACRE	854	0.1000000	245.3000000	8093.00	9.4765808	16.6607869
OTYIELD	854	20.0000000	85.0000000	51228.00	59.9859485	8.5473532
BASREDUC	1534	0.2000000	1706.00	56327.40	36.7192960	80.6674538
CNSAVE	798	5.2000000	26520.00	1307897.40	1638.97	2219.12
BYSAVE	303	3.1000000	23687.70	495111.70	1634.03	2772.81
OTSAVE	854	4.9000000	14718.00	472731.40	553.5496487	961.4421813
WHSAVE	712	3.6000000	58732.50	830867.70	1166.95	3097.52
SGSAVE	4	0.6000000	15.3000000	19.1000000	4.7750000	7.0400639
SOILSAVE	1552	0	26271.00	1262139.10	813.2339562	1546.54
PAYMENT	1607	45.3000000	82566.00	4683754.93	2914.60	4369.24
FARMBASE	1534	0.4000000	3686.24	281612.34	183.5804017	255.1711591
BASRATIO	1534	0.0157895	1.3653846	948.5562253	0.6183548	0.2203941
REDUCED	1534	0	1678.95	34232.42	22.3157875	74.9025103
CRPSIZE	1607	0.0017089	1.0000000	572.4161502	0.3562017	0.3566444

Source: From USDA ASCS data, compiled or calculated by author.

Table C7: Final Contract Summary by County: Eighth Round

County	Number of Contracts	Acres Enrolled	Annual Payments (Dollars)	Reduced Erosion (Tons per Year)
Aitkin	1	399.0	11770.50	4788.0
Becker	23	1154.9	51337.60	13810.1
Beltrami	6	530.4	15903.08	7519.8
Benton	3	72.0	3240.00	201.7
Big Stone	17	869.6	46968.05	12751.2
Blue Earth	17	338.9	28676.27	5649.9
Brown	7	79.0	6066.35	1083.9
Carver	11	276.1	18791.97	3589.3
Cass	1	15.5	465.00	682.0
Chippewa	29	845.7	59199.00	9922.8
Clay	18	1483.2	76610.83	42498.5
Clearwater	6	649.4	19482.00	10747.4
Cottonwood	44	1401.9	105905.55	8119.0
Crow Wing	5	216.9	6507.00	2236.0
Dakota	21	655.0	52221.30	7075.2
Dodge	17	545.0	45403.93	5975.2
Douglas	27	1724.4	83780.45	26025.5
Faribault	7	82.2	6987.00	823.9
Fillmore	19	963.7	76250.53	16382.9
Freeborn	33	823.9	65899.70	10323.5
Goodhue	20	664.8	52539.80	3700.9
Grant	8	459.8	24960.50	7278.0
Hennepin	3	134.0	6700.00	2161.4
Houston	28	1096.2	87290.80	13848.6
Hubbard	6	296.1	8286.60	4671.1
Isanti	5	135.3	5854.40	3056.2
Jackson	16	254.1	21376.87	5730.8
Kanabec	4	75.5	2957.50	402.0
Kandiyohi	41	1272.1	82616.83	15902.5
Kittson	11	1690.9	73191.44	39963.4
Lac qui Parle	69	3422.1	221216.30	51736.5
Lake of the Woods	7	547.0	16618.69	8416.3
Le Sueur	33	904.9	76718.54	10736.8
Lincoln	38	2749.3	177765.74	36595.2
Lyon	43	1647.4	114016.20	28005.8
McLeod	13	178.4	12151.50	1125.5
Mahnomen	2	266.1	11748.85	3239.5
Marshall	79	8270.0	357435.48	135696.3
Martin	16	268.6	22768.40	4459.7
Meeker	27	1260.0	79564.06	18347.2
Mille Lacs	5	93.5	4049.78	374.0

Table C7 (continued): Final Contract Summary by County: Eighth Round

County	Number of Contracts	Acres Enrolled	Annual Payments (Dollars)	Reduced Erosion (Tons per Year)
Morrison	24	737.4	32410.80	9173.2
Mower	12	326.9	27404.40	4130.9
Murray	28	912.9	63888.00	8565.7
Nicollet	1	14.0	1190.00	238.0
Nobles	19	540.4	37669.05	2702.0
Norman	18	1343.6	71904.00	27226.1
Olmsted	32	850.2	67689.90	11704.7
Otter Tail (East)	11	537.6	21456.56	7922.3
Otter Tail (West)	14	830.0	37181.70	17346.2
Pipestone	12	348.6	24389.50	3833.3
Polk (East)	36	4143.7	180714.70	73191.4
Polk (West)	18	2839.9	155078.59	55313.2
Pope	29	1907.9	82274.29	24998.9
Redwood	60	1727.2	141296.75	23570.1
Renville	19	824.1	65269.60	12232.2
Rice	29	724.2	58922.84	13759.8
Rock	6	186.8	12762.00	1478.0
Roseau	57	11972.3	519536.08	167612.2
St. Louis (South)	1	20.0	600.00	240.0
Scott	10	152.2	10248.00	3913.8
Sherburne	7	249.8	10606.00	499.6
Sibley	4	61.7	4859.50	76.6
Stearns	76	2597.9	126335.37	34771.6
Steele	23	502.9	41983.39	5048.7
Stevens	13	852.4	46141.73	16752.2
Swift	21	1003.9	53348.80	13705.1
Todd	49	2594.5	114788.34	31397.0
Traverse	17	1223.4	67244.00	19283.5
Wabasha	14	438.2	34939.15	5695.4
Wadena	3	211.0	6199.00	2321.0
Waseca	21	425.3	36150.50	6270.9
Washington	3	56.7	2835.00	381.6
Watsonwan	21	642.9	53626.70	9358.5
Wilkin	10	871.2	47873.50	21298.7
Winona	21	531.0	42428.35	9507.2
Wright	24	460.5	20987.45	5149.6
Yellow Medicine	58	1758.1	118227.00	25795.6
STATE TOTAL	1,607	84,234	4,683,755	1,262,139

Source: From USDA ASCS data, compiled or calculated by author.

Table C8: Enrolled Acres by Land Capability Class by County: Eighth Round

County	(Acres/Row Percent)								County Total
	Capability Class								
	I	II	III	IV	V	VI	VII	VIII	
Aitkin	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	399 100.00	0 0.00	0 0.00	399
Becker	0 0.00	62.3 5.39	1026.7 88.90	65.9 5.71	0 0.00	0 0.00	0 0.00	0 0.00	1154.9
Beltrami	0 0.00	89.2 16.82	359.8 67.84	81.4 15.35	0 0.00	0 0.00	0 0.00	0 0.00	530.4
Benton	0 0.00	17.7 24.58	0 0.00	54.3 75.42	0 0.00	0 0.00	0 0.00	0 0.00	72
Big Stone	0 0.00	362.4 41.67	507.2 58.33	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	869.6
Blue Earth	0 0.00	30.7 9.06	178.1 52.55	110.3 32.55	0 0.00	0 0.00	0 0.00	19.8 5.84	338.9
Brown	0 0.00	32.1 40.63	20.1 25.44	17 21.52	0 0.00	9.8 12.41	0 0.00	0 0.00	79
Carver	0 0.00	276.1 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	276.1
Cass	0 0.00	0 0.00	0 0.00	15.5 100.00	0 0.00	0 0.00	0 0.00	0 0.00	15.5
Chippewa	0 0.00	515.4 60.94	282.2 33.37	46.1 5.68	0 0.00	0 0.00	0 0.00	0 0.00	845.7
Clay	0 0.00	294 19.82	622.9 42.00	493.9 33.30	72.4 4.88	0 0.00	0 0.00	0 0.00	1483.2
Clearwater	0 0.00	45.7 7.04	0 0.00	603.7 92.96	0 0.00	0 0.00	0 0.00	0 0.00	649.4
Cottonwood	0 0.00	196.6 14.02	879.6 62.74	298.7 21.31	0 0.00	27 1.93	0 0.00	0 0.00	1401.9
Crow Wing	0 0.00	96 44.26	75.9 34.98	0 0.00	0 0.00	45 20.75	0 0.00	0 0.00	216.9
Dakota	0 0.00	192 29.31	246.6 37.65	57.7 8.81	158.7 24.23	0 0.00	0 0.00	0 0.00	655
Dodge	0 0.00	249.6 45.80	204.2 37.47	91.2 16.73	0 0.00	0 0.00	0 0.00	0 0.00	545
Douglas	0 0.00	732.5 42.48	737.4 42.76	238.5 13.83	0 0.00	0 0.00	16 0.93	0 0.00	1724.4
Faribault	0 0.00	49.3 59.98	22.9 27.86	10 12.17	0 0.00	0 0.00	0 0.00	0 0.00	82.2
Fillmore	0 0.00	0 0.00	963.7 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	963.7
Freeborn	0 0.00	84.7 10.28	714.4 86.71	20.3 2.46	0 0.00	4.5 0.55	0 0.00	0 0.00	823.9
Goodhue	0 0.00	2 0.30	441.8 66.46	0 0.00	0 0.00	49.2 7.40	171.8 25.84	0 0.00	664.8
Grant	0 0.00	142.1 30.90	15 3.26	277.5 60.35	0 0.00	25.2 5.48	0 0.00	0 0.00	459.8
Hennepin	0 0.00	0 0.00	134 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	134
Houston	0 0.00	0 0.00	792 72.25	293.8 26.80	0 0.00	10.4 0.95	0 0.00	0 0.00	1096.2
Hubbard	0 0.00	83.9 28.34	26.6 8.98	166.5 56.23	0 0.00	19.1 6.45	0 0.00	0 0.00	296.1
Isanti	0 0.00	0 0.00	3.8 2.81	131.5 97.19	0 0.00	0 0.00	0 0.00	0 0.00	135.3

Table C8 (continued): Enrolled Acres by Land Capability Class by County: Eighth Round

County	Capability Class								County Total
	I	II	III	IV	V	VI	VII	VIII	
Jackson	0 0.00	21.1 8.30	168.2 66.19	64.8 25.50	0 0.00	0 0.00	0 0.00	0 0.00	254.1
Kanabec	0 0.00	0 0.00	75.5 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	75.5
Kandiyohi	19.2 1.51	428.6 33.69	557.1 43.79	267.2 21.00	0 0.00	0 0.00	0 0.00	0 0.00	1272.1
Kittson	0 0.00	241.1 14.26	811.9 48.02	637.9 37.73	0 0.00	0 0.00	0 0.00	0 0.00	1690.9
Lac qui Parle	0 0.00	2603.6 76.08	818.5 23.92	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	3422.1
Lake of the Woods	0 0.00	120.9 22.10	54.3 9.93	371.8 67.97	0 0.00	0 0.00	0 0.00	0 0.00	547
Le Sueur	0 0.00	324.4 35.85	517.3 57.17	63.2 6.98	0 0.00	0 0.00	0 0.00	0 0.00	904.9
Lincoln	0 0.00	2511.8 91.36	237.5 8.64	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	2749.3
Lyon	0 0.00	0 0.00	1647.4 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	1647.4
Mahnomen	0 0.00	266.1 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	266.1
Marshall	0 0.00	1943.5 23.50	6103.4 73.80	223.1 2.70	0 0.00	0 0.00	0 0.00	0 0.00	8270
Martin	0 0.00	0 0.00	268.6 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	268.6
McLeod	0 0.00	79.4 44.51	99 55.49	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	178.4
Meeker	0 0.00	741.9 58.88	222.9 17.69	284.7 22.60	0 0.00	10.5 0.83	0 0.00	0 0.00	1260
Mille Lacs	0 0.00	0 0.00	93.5 100.0	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	93.5
Morrison	0 0.00	80.8 10.96	321 43.53	335.6 45.51	0 0.00	0 0.00	0 0.00	0 0.00	737.4
Mower	0 0.00	137.2 41.97	186.6 57.08	3.1 0.95	0 0.00	0 0.00	0 0.00	0 0.00	326.9
Murray	0 0.00	115 12.60	299.5 32.81	326.7 35.79	142.4 15.60	10 1.10	19.3 2.11	0 0.00	912.9
Nicollet	0 0.00	0 0.00	14 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	14
Nobles	0 0.00	0 0.00	540.4 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	540.4
Norman	0 0.00	772 57.46	32.5 2.42	532.9 39.66	0 0.00	6.2 0.46	0 0.00	0 0.00	1343.6
Olmsted	29.2 3.43	43.5 5.12	770.2 90.59	0 0.00	7.3 0.86	0 0.00	0 0.00	0 0.00	850.2
Otter Tail	0 0.00	103.9 7.60	802.5 58.68	447.5 32.72	0 0.00	13.7 1.00	0 0.00	0 0.00	1367.6
Pipestone	0 0.00	248.5 71.29	0 0.00	100.1 28.71	0 0.00	0 0.00	0 0.00	0 0.00	348.6
Polk	0 0.00	2950 42.24	2530.2 36.23	1503.4 21.53	0 0.00	0 0.00	0 0.00	0 0.00	6983.6
Pope	0 0.00	210.4 11.03	1496 78.41	162.5 8.52	0 0.00	39 2.04	0 0.00	0 0.00	1907.9

Table C8 (continued): Enrolled Acres by Land Capability Class by County: Eighth Round

County	Capability Class								County Total
	I	II	III	IV	V	VI	VII	VIII	
Redwood	0 0.00	73.3 4.24	1638.9 94.89	0 0.00	0 0.00	15 0.87	0 0.00	0 0.00	1727.2
Renville	0 0.00	190.2 23.08	615.3 74.66	18.6 2.26	0 0.00	0 0.00	0 0.00	0 0.00	824.1
Rice	0 0.00	0 0.00	724.2 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	724.2
Rock	0 0.00	16.5 8.83	61.4 32.87	0 0.00	18 9.64	90.9 48.66	0 0.00	0 0.00	186.8
Roseau	0 0.00	0 0.00	11972 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	11972
St. Louis	0 0.00	0 0.00	0 0.00	20 100.00	0 0.00	0 0.00	0 0.00	0 0.00	20.0
Scott	0 0.00	0 0.00	87.4 57.42	64.8 42.58	0 0.00	0 0.00	0 0.00	0 0.00	152.2
Sherburne	0 0.00	0 0.00	249.8 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	249.8
Sibley	0 0.00	61.7 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	61.7
Stearns	0 0.00	794.9 30.60	800.6 30.82	838.4 32.27	0 0.00	164 6.31	0 0.00	0 0.00	2597.9
Steele	0 0.00	287.2 57.11	181.9 36.17	33.8 6.72	0 0.00	0 0.00	0 0.00	0 0.00	502.9
Stevens	0 0.00	445 57.11	407.4 36.17	0 6.72	0 0.00	0 0.00	0 0.00	0 0.00	852.4
Swift	0 0.00	177.6 57.11	637.6 36.17	188.7 6.72	0 0.00	0 0.00	0 0.00	0 0.00	1003.9
Todd	0 0.00	1129 43.52	866 33.38	577 22.24	0 0.00	22.5 0.90	0 0.00	0 0.00	2594.5
Traverse	0 0.00	886.4 72.45	337 27.55	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	1223.4
Wabasha	0 0.00	37.2 8.49	296 67.55	105 23.96	0 0.00	0 0.00	0 0.00	0 0.00	438.2
Wadena	0 0.00	0 0.00	211 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	211
Waseca	0 0.00	137.2 32.26	285.1 67.04	0 0.00	0 0.00	3 0.71	0 0.00	0 0.00	425.3
Washington	0 0.00	8.4 14.81	42.3 74.60	6 10.58	0 0.00	0 0.00	0 0.00	0 0.00	56.7
Watonwan	0 0.00	48.1 7.48	530.5 82.52	64.3 10.00	0 0.00	0 0.00	0 0.00	0 0.00	642.9
Wilkin	0 0.00	347.9 39.93	213.1 24.46	101.1 11.60	0 0.00	209.1 24.00	0 0.00	0 0.00	871.2
Winona	0 0.00	0 0.00	531 100.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	531
Wright	0 0.00	34.9 7.58	295.8 64.23	99.4 21.59	0 0.00	30.4 6.60	0 0.00	0 0.00	460.5
Yellow Medicine	0 0.00	914.3 52.01	796.5 45.30	20.3 1.15	27 1.54	0 0.00	0 0.00	0 0.00	1758.1
STATE TOTAL	425.8	1203.5	207.1	19.8	425.8	1203.5	207.1	19.8	84234.1

Source: From USDA ASCS data, compiled or calculated by author.

Table C9: Reduced Commodity Acreage Bases by County: Eighth Round

County	Number of Contracts	Reduced Base (Acres)				
		Corn	Wheat	Oats	Barley	Sorghum
Aitkin	1	.	17.5	112.7	.	.
Becker	23	58.3	176.9	132.9	162.4	.
Beltrami	6	.	189.3	70.5	80.5	.
Benton	3	.	.	16.2	.	.
Big Stone	17	146.5	358.3	67.5	57.0	.
Blue Earth	17	110.3	38.9	25.6	.	.
Brown	7	13.4	7.0	15.1	.	.
Carver	11	71.2	33.6	26.1	.	.
Cass	1	.	.	.	.	.
Chippewa	29	65.3	452.5	48.2	15.4	.
Clay	18	215.9	405.3	141.5	355.1	.
Clearwater	6	.	.	5.1	323.3	.
Cottonwood	44	478.9	200.9	119.5	.	.
Crow Wing	5	81.7	.	69.1	.	.
Dakota	21	86.3	71.6	34.0	.	.
Dodge	17	166.3	16.7	65.8	19.1	.
Douglas	27	487.2	190.6	174.0	70.3	.
Faribault	7	26.8	2.7	8.1	.	.
Fillmore	19	400.3	.	179.0	8.3	.
Freeborn	33	429.8	31.5	49.7	.	.
Goodhue	20	201.9	53.1	83.9	4.3	.
Grant	8	64.3	81.8	35.6	168.4	.
Hennepin	3	58.9	.	4.9	.	.
Houston	28	522.7	15.1	164.3	13.9	.
Hubbard	6	.	.	55.4	86.3	.
Isanti	5	31.0	0.7	2.2	.	.
Jackson	16	76.9	18.0	44.2	.	.
Kanabec	4	22.9	.	1.9	.	.
Kandiyohi	41	250.3	425.5	157.1	13.2	.
Kittson	11	.	1355.6	68.7	105.0	.
Lac qui Parle	69	552.6	1612.3	156.6	.	.
Lake of the Woods	7	17.5	205.6	34.8	29.1	.
Le Sueur	33	337.9	61.9	58.1	.	.
Lincoln	38	959.0	659.1	254.3	19.1	0.4
Lyon	43	402.0	395.2	144.7	40.7	.
Mahnomen	2	23.0	54.0	7.6	10.8	.
Marshall	79	248.0	3576.1	510.4	2307.7	1.0
Martin	16	79.6	.	63.0	.	.
McLeod	13	24.9	23.0	38.4	.	.
Meeker	27	795.1	175.4	57.4	5.9	.
Mille Lacs	5	9.5	.	60.7	.	.

Table C9 (continued): Reduced Commodity Acreage Bases by County: Eighth Round

County	Number of Contracts	Reduced Base (Acres)				
		Corn	Wheat	Oats	Barley	Sorghum
Morrison	24	218.8	.	52.1	.	.
Mower	12	149.6	10.1	66.9	2.0	.
Murray	28	316.6	135.6	84.1	.	.
Nicollet	1	.	.	8.3	.	.
Nobles	19	189.7	59.6	39.0	1.3	.
Norman	18	67.9	806.1	26.3	219.9	.
Olmsted	32	401.1	1.8	107.5	0.1	.
Otter Tail	25	183.1	158.7	285.5	121.4	.
Pipestone	12	92.0	69.1	55.7	.	.
Polk	54	468.4	2665.4	165.5	2006.5	.
Pope	29	450.5	226.0	483.3	117.3	.
Redwood	60	356.3	339.6	212.2	.	.
Renville	19	28.1	337.7	98.9	2.2	.
Rice	29	230.5	64.9	93.8	.	.
Rock	6	28.8	.	102.2	.	.
Roseau	57	213.5	5339.1	1026.0	2975.8	.
St. Louis	1	.	.	9.4	.	.
Scott	10	9.6	58.8	10.2	.	.
Sherburne	7	33.6	.	37.2	.	.
Sibley	4	12.5	2.3	5.1	.	.
Stearns	76	763.2	156.6	523.9	88.0	0.2
Steele	23	220.6	19.4	21.4	.	.
Stevens	13	36.0	272.5	145.9	109.6	.
Swift	21	82.8	474.0	68.5	12.0	.
Todd	49	650.1	58.7	369.6	96.2	5.1
Traverse	17	206.1	437.9	17.3	195.2	.
Wabasha	14	174.5	4.4	90.1	.	.
Wadena	3	150.8	.	5.4	.	.
Waseca	21	221.5	33.5	25.4	.	.
Washington	3	21.0	13.1	1.8	0.6	.
Watsonwan	21	194.2	90.6	74.8	.	.
Wilkin	10	58.4	342.0	131.8	165.7	.
Winona	21	154.3	.	79.4	.	.
Wright	24	52.1	16.7	43.5	.	.
Yellow Medicine	58	413.3	542.2	160.2	8.3	.
STATE TOTAL	1,607	14,567	23,642	8,093	10,018	7

Source: From USDA ASCS data, compiled or calculated by author.

Table C10 : Reduced Annual Commodity Base Productive Capacity by County: Eighth Round

County	Number of Contracts	Reduce Base Production (bushels)				
		Corn	Wheat	Oats	Barley	Sorghum
Aitkin	1	.	577.5	5635.0	.	.
Becker	23	3439.3	5390.7	6323.1	6718.8	.
Beltrami	6	.	5868.3	3102.0	3159.0	.
Benton	3	.	.	905.3	.	.
Big Stone	17	11512.4	11453.0	4329.8	2694.4	.
Blue Earth	17	11716.5	1402.3	1841.1	.	.
Brown	7	1527.6	228.6	1009.8	.	.
Carver	11	7671.0	1340.1	1758.0	.	.
Cass	1	.	.	.	.	.
Chippewa	29	5906.3	16282.3	3187.7	753.2	.
Clay	18	16172.6	13739.5	8498.2	17454.7	.
Clearwater	6	.	.	254.4	13741.2	.
Cottonwood	44	48901.5	7025.8	7120.7	.	.
Crow Wing	5	5086.2	.	3321.4	.	.
Dakota	21	29221.3	2673.6	1974.8	.	.
Dodge	17	18732.3	645.3	4171.9	910.3	.
Douglas	27	34655.4	5745.1	8957.4	2887.9	.
Faribault	7	3166.0	110.7	576.6	.	.
Fillmore	19	41956.1	.	10676.7	456.5	.
Freeborn	33	46244.7	1229.1	2655.6	.	.
Goodhue	20	22259.0	1763.9	5424.5	40.8	.
Grant	8	5555.3	2863.0	2164.2	8017.9	.
Hennepin	3	5713.3	.	303.0	.	.
Houston	28	61913.3	538.5	9967.6	732.0	.
Hubbard	6	.	.	2437.6	4401.3	.
Isanti	5	2623.2	20.3	121.8	.	.
Jackson	16	8947.3	724.6	3247.5	.	.
Kanabec	4	1492.2	.	81.7	.	.
Kandiyohi	41	21632.5	15041.3	10452.3	633.6	.
Kittson	11	.	46485.8	3540.9	4639.5	.
Lac qui Parle	69	45719.7	55131.3	9367.0	.	.
Lake of the Woods	7	948.0	6874.6	1958.6	1290.5	.
Le Sueur	33	35782.5	2441.5	3940.1	.	.
Lincoln	38	76028.7	20773.9	14536.7	797.1	1.2
Lyon	43	36895.4	14477.1	8472.1	1815.7	.
Mahnomen	2	1449.0	1649.7	395.2	561.6	.
Marshall	79	13321.3	116839.7	28145.2	108262.3	2.0
Martin	16	9502.9	.	4440.8	.	.
McLeod	13	2634.1	942.0	2694.4	.	.
Meeker	27	74846.9	6189.7	3777.6	231.2	.
Mille Lacs	5	751.7	.	4065.6	.	.
Morrison	24	15749.2	.	2672.6	.	.

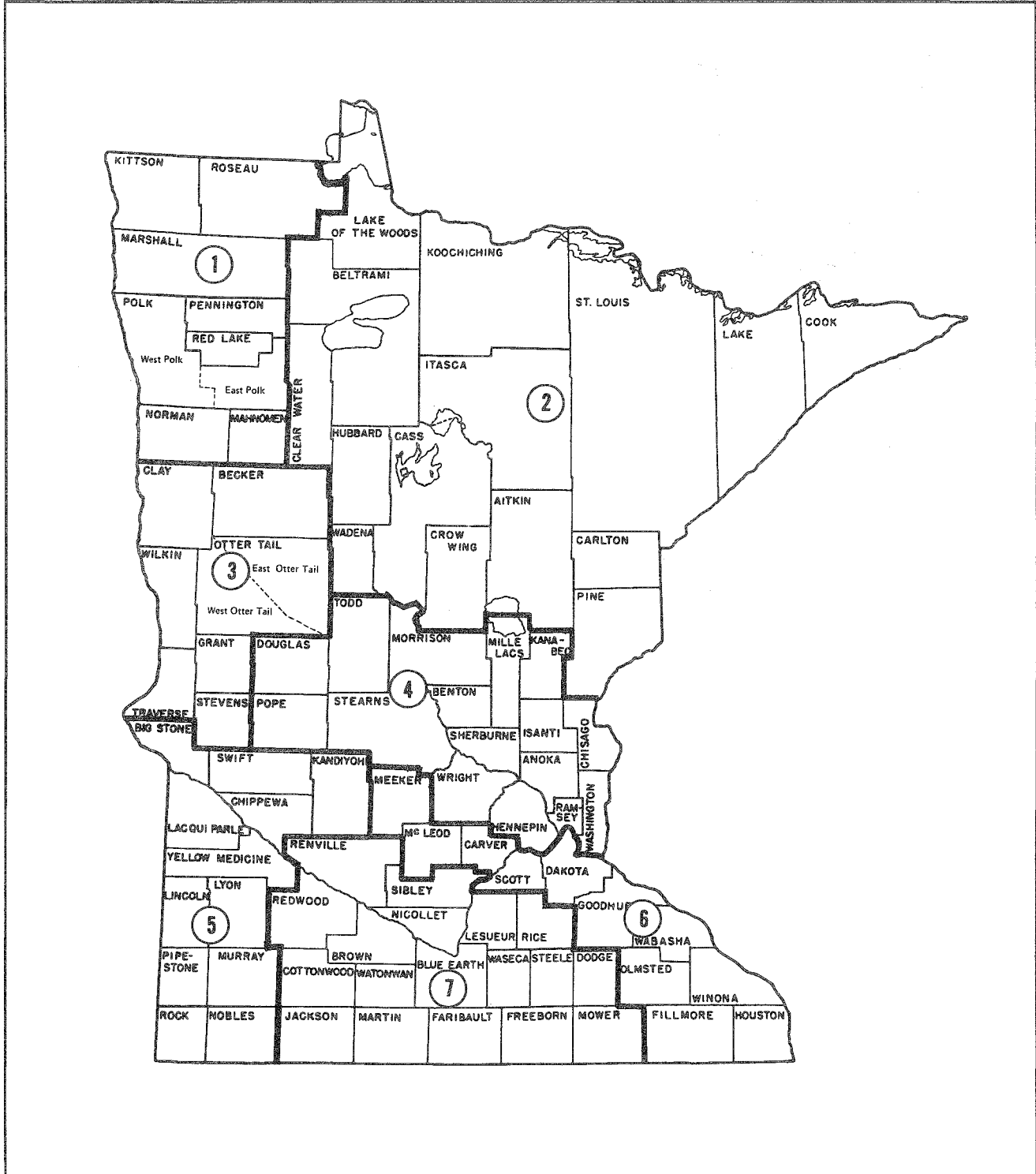
Table C10 (continued): Reduced Annual Commodity Base Productive Capacity by County: Eighth Round

County	Number of Contracts	Reduce Base Production (bushels)				
		Corn	Wheat	Oats	Barley	Sorghum
Mower	12	16153.1	391.2	4167.0	100.0	.
Murray	28	29471.0	4658.4	5081.3	.	.
Nicollet	1	.	.	597.6	.	.
Nobles	19	17163.1	2134.7	2414.3	54.6	.
Norman	18	3641.5	28829.8	1500.3	12516.2	.
Olmsted	32	45073.8	62.9	6706.8	5.0	.
Otter Tail	25	12451.8	5056.4	14875.2	5577.7	.
Pipestone	12	7143.9	2250.2	2937.6	.	.
Polk	54	29974.8	106180.3	9704.6	117034.6	.
Pope	29	37060.1	7207.3	27214.0	5236.8	.
Redwood	60	35828.6	11934.0	14051.7	.	.
Renville	19	3006.3	13906.7	6994.2	110.6	.
Rice	29	24656.3	2419.1	6415.8	.	.
Rock	6	2754.3	.	5933.6	.	.
Roseau	57	12044.9	191536.5	60789.0	142993.5	.
St. Louis	1	.	.	385.4	.	.
Scott	10	966.8	2223.6	651.3	.	.
Sherburne	7	2409.0	.	1670.0	.	.
Sibley	4	1425.0	87.4	339.9	.	.
Stearns	76	58664.2	4652.4	28758.3	3500.9	0.8
Steele	23	24954.7	746.0	1445.2	.	.
Stevens	13	3063.9	9896.3	9501.4	5341.3	.
Swift	21	7084.3	16619.8	4000.3	576.0	.
Todd	49	45145.3	1530.8	19350.3	3765.4	15.3
Traverse	17	15218.8	14713.7	1039.1	9222.4	.
Wabasha	14	19421.7	152.8	5537.5	.	.
Wadena	3	9227.2	.	135.0	.	.
Waseca	21	25837.2	1404.4	1745.0	.	.
Washington	3	1972.2	515.6	97.8	24.6	.
Watonwan	21	22961.6	3063.5	5309.1	.	.
Wilkin	10	4242.6	12051.9	7508.1	8227.6	.
Winona	21	17281.9	.	5061.2	.	.
Wright	24	4564.2	508.2	2348.3	.	.
Yellow Medicine	58	37358.6	19665.0	9958.7	405.0	.
STATE TOTAL	1,607	1,307,897	830,868	472,731	495,112	19

Source: From USDA ASCS data, compiled or calculated by author.

Appendix D: Maps (CRP Bidding Pools)

Map 1: CRP Bidding Pools—First Round



Map 2: CRP Bidding Pools—Rounds Two Through Eight

