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LANDOWNER CONSERVATION ATTITUDES AND BEHAVIORS:
A FOCUS ON THE CONSERVATION RESERVE PROGRAM

CHERYL J. WACHENHEIM

Department of Agribusiness and Applied Economics
North Dakota State University
Fargo, ND 58108-6050

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Abstract

Today, the most widely-implemented land retirement program is the Conservation Reserve Program (CRP), initiated with the passage of the Food Security Act of 1985 and reauthorized in all subsequent farm bills. It is a voluntary, long-term cropland diversion program under management of the United States Department of Agriculture (USDA). Under contract, environmentally-sensitive land is voluntarily set aside in exchange for financial and technical assistance for ten or fifteen years. This paper investigates attitudes among Prairie Pothole Region landowners regarding conservation programs including the Conservation Reserve Program, factors important in conservation practice adoption and program participation decision making, and awareness of and participation in conservation programs. A strong majority of respondents supported landowner decision making on the use of private lands and compensation for choices benefiting the environment, and two-thirds agreed that current conservation programs are effective. Program-specific factors most important in the choice of conservation program participation included payment level and income guarantee. Maintenance requirements, ease of administration process, contract length and cost of converting land use were also considered important. Less important overall was land use flexibility, although this was important to those raising grazing livestock. Non-contract factors were also reported to be important including program effect on soil quality and erosion control, water quality, consistency with landowner views on land use, wildlife population, air quality, and weed pressure. Most respondents reported being satisfied with the CRP as it is currently employed, particularly the ease of administration, contract length, how rules are enforced, cost share, and maintenance requirements. Two-thirds reported being satisfied with permitted land-use options and 57% with the payment rate. Sixty-two percent of landowners agreed that practices required under the terms of CRP are a good fit for their land in the long run, although agreement was lower among livestock owners. Approximately half agreed that technical assistance provided by NRCS is adequate and that USDA requirements to enhance CRP covers to maintain long-term benefits to wildlife are reasonable. Only one-quarter of respondents agree that CRP rules are consistently enforced and that penalties for violations of CRP contract terms are excessive. Factors influencing attitudes include ownership of grazing livestock, participation in a conservation organization, CRP history, previous rejection of CRP contract bid, and working off farm. Thirteen percent of respondents with current CRP contracts would not re-enroll their land. Sixty-four percent would re-enroll all of their land or more. Among those that would not reenroll all land, the most common explanation for this was that they could earn better profits by growing crops. Thirty-eight percent of respondents have hayed or grazed their CRP-enrolled land during the last ten years. For the average respondent, the appropriate percentage reduction in annual payment if farmers were allowed to regularly graze or hay their CRP acres was 21.1%. Forty-two percent indicated a zero payment reduction was appropriate; 77% indicated a reduction of 25% or less.

Key Words: Conservation Reserve Program; conservation; Prairie Pothole Region

LANDOWNER CONSERVATION ATTITUDES AND BEHAVIORS: A FOCUS ON THE CONSERVATION RESERVE PROGRAM

Cheryl J. Wachenheim¹

1. Introduction

Design of land retirement programs has evolved since their inception in the early 1930s. Today, the most widely-implemented is the Conservation Reserve Program (CRP), initiated with the passage of the Food Security Act of 1985 and reauthorized in all subsequent farm bills. It is a voluntary, long-term cropland diversion program under management of the United States Department of Agriculture (USDA). Under contract, environmentally-sensitive land is voluntarily set aside in exchange for financial and technical assistance for ten or fifteen years.

While the program's initial primary objective was to reduce soil erosion, the objectives and implementation of the program have evolved over time. Notably, the Food and Agricultural Conservation and Trade Act (1990) broadened eligibility of CRP to include more environmentally-sensitive land and expanded its goals to explicitly include improving wildlife habitat and water quality (Jacobs, Thurman and Marra, 2011). In 1991, the Environmental Benefits Index (EBI) was introduced to rank bids, and a maximum rental rate was determined for each bid based on comparable cropland (Soil and Water Conservation Foundation and Environmental Defense Fund, 2008). The Federal Agriculture Improvement and Reform Act of 1996 added wildlife habitat to the EBI. It allowed early termination of contracts except for filter-strips, waterways, strips adjacent to riparian areas, and highly-sensitive or highly-erodible land (O'Brien, 2003). In 1997, the USDA established the Conservation Reserve Enhancement Program (CREP), a partnership between producers and state and federal governments.

Under the 2002 Farm Bill, the cropping history requirement for land eligibility for CRP enrollment was increased and changes were made related to contract extension and re-enrollment. A requirement was added that there is an equitable balance between program objectives. The eligibility requirement was once again changed in the 2008 Farm Bill. Other changes included a reduced enrollment cap and the addition of a local preference criterion. The Agriculture Act of 2014 reduced the maximum allowable CRP enrollment from 32 to 24 million acres over the five-year life of the bill. The target cap was raised to 27 million acres under the 2018 farm bill.

2. Review of Literature

A comprehensive review of literature including determinants of farmer adoption of conservation practices and programs, producer preferences for conservation programs, and producers' attitudes and perceptions, and their influence on conservation, can be found in Lesch and Wachenheim (2014). In general, the literature demonstrates that financial incentives are not always the sole reported or even main motivator for the adoption of conservation programs or practices. Farm size, education, gender, age, capital, income, availability of programs providing financial incentives, participation cost, farmer awareness and understanding of programs, access to information, conservation attitudes, presence of a

¹ cheryl.wachenheim@ndsu.edu, 701-231-7452

succession plan, and experience managing wetlands have also been identified as factors influencing adoption. The literature in general supports the notion that farmers prefer conservation programs that have a high level of biodiversity, provide research, education and training opportunities, and allow farmers to maintain and manage activities on their farm land, even when compensation is lower. Also, shorter contract lengths are generally preferred while longer contract lengths, in general, must have higher financial incentives. Contracts are preferred that are flexible and allow farmers to decide areas of their land to include in the program.

Several studies have specifically investigated farm and personal characteristics, motivations, beliefs, and attitudes of CRP contract holders (for example, see Gustafson and Hill 1993; Kalaitzandonakes and Monson 1994; McLean-Meynsse, Hui, and Joseph 1994; McLeod, Miller and Perry 1998-1999; Hatley, Ervin, and Davis 1989; Onianwa, Wheelock, and Hendrix 1999; Hodur, Leistritz, and Bangsund 2002; and Allen and Vandever 2003). These studies in general conclude that the range in effect of factors on the enrollment decision regarding CRP is broad. Lambert and Sullivan (2006) and subsequent papers investigated factors contributing to CRP participation by subjecting respondents to trade-offs. They found the presence of a land retirement program to be directly related to land ownership and the presence of highly erodible land and indirectly related to production of high value crops. The percentage of land enrolled in a land retirement program was found to be negatively related to the presence of a grain crop and positively related to farm ownership, participation in other government programs, and female gender. Although most of the literature considering CRP enrollment response to changing economic conditions is dated and not reflective of current conditions, the currency of the message that landowners respond to financial incentives remains important. The literature is less helpful regarding the influence of non-financial factors on CRP enrollment, including contract design.

Wachenheim, et al. (2018) expanded the literature to consider the effect of other factors on the probability landowners in the Prairie Pothole Region will enroll in CRP. The also considered trade-off rates between CRP payment rate and other contract attributes. The sample size was limited to 76 farmers as extensive in-person interviews were conducted with each participant. Participants were asked to rank choice sets including two CRP contracts and an opt-out choice. Higher rental payment and stand establishment cost increased likelihood of program enrollment. Additional restrictions on land use had a negative effect, and this was particularly true for farmers with livestock. Likelihood of enrollment increased with age, and older farmers were less responsive to payment and restrictions on land use. Expressed concerns regarding CRP affected degree of responsiveness to changes in program attributes. Farmers with livestock operations were less likely to enroll. The study identified trade-offs between rental payments and other program attributes, but qualified them as not-robust. Farmers were willing to take a lower rental payment under program conditions they considered more favorable including an increased government share for stand establishment and a flexible land-use policy. Wachenheim et al. suggested introducing CRP contracts with flexible attributes, especially land-use constraints, is warranted.

The current study refines and expands on Wachenheim, et al. (2018). The overall goal remains to understand how landowners view conservation, including that specifically targeted towards the CRP, and what influences their decision regarding program participation. The survey consisted of six parts. The first part contained questions about the farm and farm operations. The second part asked about landowner conservation practices and attitudes about conservation. Landowners were asked about the level of importance of different program-specific and program-effect factors on their decisions regarding participation in conservation programs, to identify the conservation practices used on their farms, and whether they were aware of and had participated in different conservation programs. The third part

asked landowners their thoughts about the CRP. The fourth part focused on the landowner's own participation in the CRP. The fifth set of questions elicited socio-demographic characteristics of the farmers and the last part consisted of choice set questions, modified from those presented in Wachenheim, et al. 2018. Information from the choice experiment is excluded in this report.

3. Respondent Information

The study was conducted in the Prairie Pothole Region (PPR) of the United States. Nearly half of its original prairie potholes and surrounding grasslands have been converted for agricultural production, raising alarm among the conservation community. In spite of this changing landscape, the region continues to be the most important waterfowl production area in North America and includes 185,000 square miles of wetlands. This role has been enhanced by CRP. In 2016, the PPR contained approximately 4.5 million acres of CRP, representing 18.8% of the total (USDA 2018).

Surveys were mailed to 5,000 landowners in 187 counties in the five-state Prairie Pothole Region. Surveys were sent to landowners in 35 counties in Iowa, 54 counties in Minnesota, 15 counties in Montana, 39 counties in North Dakota, and 44 counties in South Dakota. Surveys were mailed in August 2015. Surveys were mailed to a random sample of farm payment recipients obtained through a Freedom of Information Request to the Kansas City Farm Services Agency. There were 360 total responses for a response rate of 7.2%. The relatively low response rate was expected because the surveys were mailed during harvest season. Ninety-one percent (90.6%) completed the survey on paper; the remainder (9.4%) completed it online. Surveys were returned from 307 unique zip codes and 177 unique counties. Nearly all respondents reported living in the five states comprising the Prairie Pothole Region with 39.0% in Minnesota (compared to 32.4% of mailed sample), 21.5% in North Dakota (18.1), 17.8% in South Dakota (22.6), 16.1% in Iowa (17.6), and 4.5% in Montana (9.2).

Respondent Landowners

Eighty-three percent of respondents were male. This compares to 88% of principal farm operators in the U.S. as identified in the 2012 Agricultural Census (USDA ERS). The average respondent was 66 years old, compared to the average age of principal farm operators in the U.S. of 58.3. Over 90% of respondents were 50 years of age or older; half age 65 and older, as compared to the more than 31% of farmers nationwide that were this age category in 2012. Twenty-two percent indicated they would retire within five years; 18% within 6 to 10 years; 20% within 10-20 years; and 12% after more than 20 years. All but two respondents identified as white. Eighty-six percent of responding participants reported being married.

Sixty-four percent of respondents reported working only on the farm. One-quarter (24%) reported working full-time off the farm, ten percent part-time off the farm, and two percent working seasonally off the farm. Spouses of operators worked more often off the farm. Nearly half (48%) of spouses were reported to work off the farm with 33.7% of spouses working full-time off the farm, 12.8% working part-time off the farm, and 1.2% working seasonally off the farm.

Sixty-two percent of respondents reported having obtained an Associate's Degree or higher with 30% having obtained a Bachelor's Degree, 6.1% having attended some graduate school, and 17% having completed a graduate degree. Only 2.6% had not graduated high school.

A slight majority of respondents reported living on the farm (54.8%). Others reported living in a town or

city (38.0%) or in a rural area outside of town (7.3%). Respondents were asked which best describes their relationship to the farm or ranch with the instructions that more than one category may apply. Slightly over half (55.1%) identified as an owner, actively involved in operations, and nearly all identified themselves in this category or as either an owner actively involved in decision making but not operations (26.5%) or owner not actively involved in decision making (16%). This is expected as the survey was sent to the landowner receiving farm payments from the Farm Services Agency.

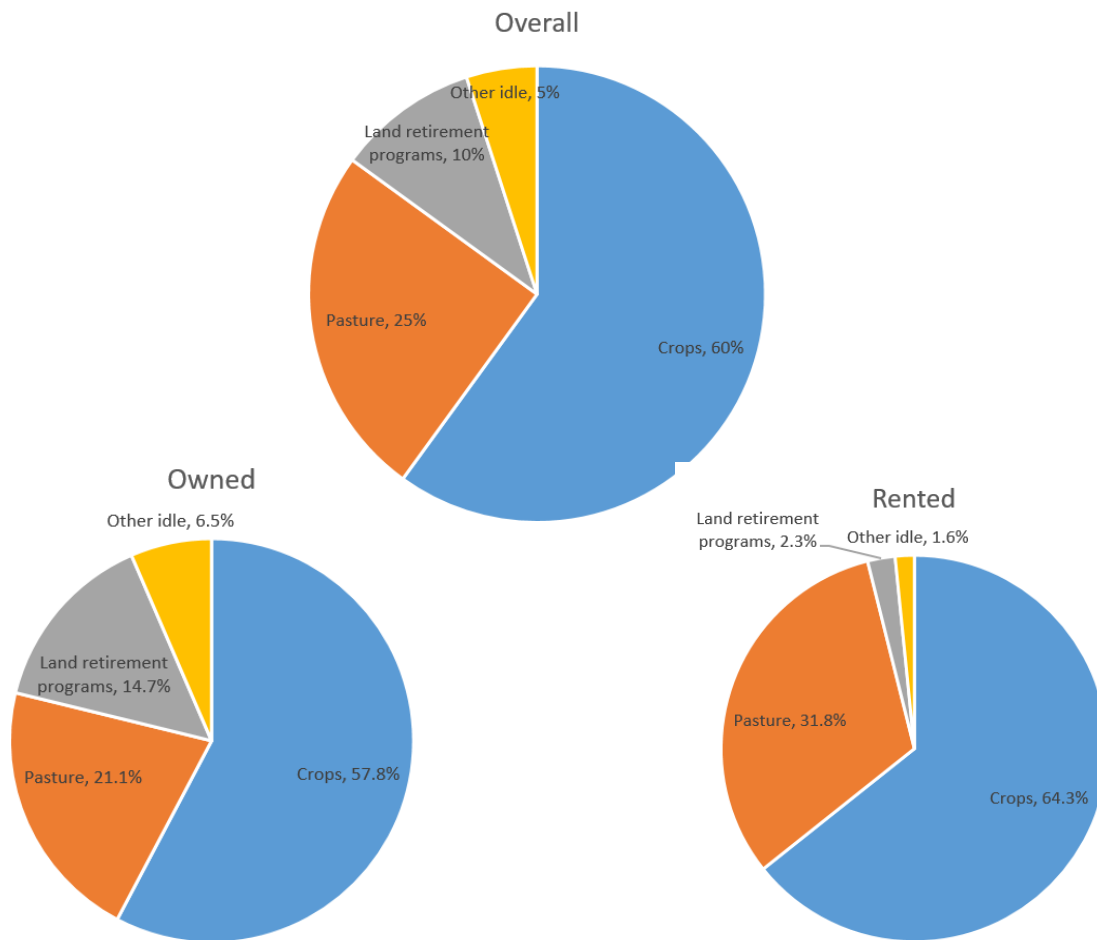
Operation

Twenty-seven percent of respondents reported having livestock. The majority of livestock owners raised beef cows (17.2%) or beef cattle (18.3%). Respondents also raised poultry, ewes, lambs or goats, and dairy cows. The average livestock owner reported net income from the farm originating with the livestock operation to be 38.7%.

The average respondent reported 886 owned and 513 rented acres. A majority of both owned and rented acres are used for crop production, with 60% of total acres used in this productive capacity (figure 1). A greater percentage of rented acres were devoted to crop production (64.3) than of owned acres (57.8). Pasture comprised 25% of acres with a greater percentage of rented acres (31.8) devoted to pasture than of owned (21.1). Ten percent of acres were in a land retirement program with program acres comprising 14.7% of owned acres and 2.3% of rented acres. The vast majority of program acres were in CRP, and there were no non-CRP land retirement acres reported on rented land. Eighty-one percent of respondents reported having had CRP on owned land, and 11.8% on rented land. A total of 83.9% of respondents have CRP on owned or rented land.

Landowners were asked what they intend to do with their operation when they retire. Landowners were asked to indicate the approximate percentage of the land they intend for each disposition. The highest average amount at 55% was intended for family, followed by renting the land out (24.9%), conservation uses (8.8%), and selling the land (7%). Eighty-two percent of respondents indicated they would at least place some of their land in conservation upon retirement. Of them, 25.4% indicated an intent to do so with all of their land.

Figure 1. Disposition of Respondent Land



4. Landowner Attitudes

Attitudes Regarding Conservation Programs

Landowners were asked about their level of agreement with statements regarding conservation programs. A strong majority of landowners agreed that farmers should be compensated when their land use choices benefit the environment (83%, only 5.2% disagreed) and that the decision of how to use the land is their right as a landowner or farmer/rancher (86.5% agreed, only 5.2% disagreed) (table 1). There was a relatively strong correlation between the statements farmers should be compensated and land use is the farmer's right (Pearson's $r = .431$, $p = .000$). Almost two thirds (63.8%) agreed that current conservation programs are effective; 13.6% disagreed. Those raising grazing animals less strongly agreed that current conservation programs are effective (average of 3.37 versus 3.71 for those without, $p = .000$). Those reporting membership in the Stockman's Association were more likely to agree that the decision of land-use is their right (4.61) than others (4.21) ($p = 0.000$).

Table 1. Attitudes Regarding Conservation Programs

Statement	Average	Percentage		
		Disagree	Neutral	Agree
Current conservation programs are effective.	3.63	13.6%	22.6%	63.8%
Farmers should be compensated when their land use choices benefit the environment.	4.13	5.2%	11.8%	83.0%
The decision of how to use my land is my right as a landowner or farmer/rancher.	4.27	5.2%	8.3%	86.5%

A five-point Likert scale was used where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. As listed in table 2, disagree = 1, 2, neutral = 3, and agree = 4, 5.

Landowners were asked to indicate the importance of several factors when deciding whether to participate in conservation programs. The most important program-specific factors were that the payment is guaranteed and the level of payment received (table 2). Eighty-nine percent of respondents considered these factors important or very important, and less than three percent identified them as not important. The average respondent also found important other noted attributes including maintenance requirements, ease of the administration process, contract length, and cost of converting land use. The average respondent considered moderately important land use flexibility (e.g., grazing). When compared to other program-specific factors, a greater percentage found land use flexibility not important (11.9%) or somewhat important (20.9%). This was the only program specific factor where the level of importance differed between livestock owners (3.32) and non-livestock owners (2.68, $p=.000$) (table 3). The difference is even greater between those with grazing livestock (3.43) and those not (2.67). Eighty-eight percent of those grazing livestock identified land use flexibility as important or very important compared to 40.3% of those without grazing livestock. Land use flexibility was also more important to those residing on the farm (3.01) than those not (2.67).

Table 2. Level of Importance of Factors When Deciding Whether to Participate in a Conservation Program

		Not Important	Somewhat Important	(Very) Important	Average
Program Specific	That payment is guaranteed	2.9%	8.1%	89.0%	3.34
	Level of payment received	2.6%	8.1%	89.2%	3.32
	Maintenance requirements	1.2%	17.3%	81.6%	3.11
	Ease of administrative process	3.2%	15.6%	81.2%	3.07
	Contract length	3.5%	17.3%	79.2%	3.05
	Cost of converting land use	4.1%	18.3%	77.6%	3.00
	Land use flexibility (e.g., grazing)	11.9%	20.9%	67.2%	2.86
Farm Specific	Machinery and equipment availability	14.3%	25.8%	59.9%	2.61
	Preparation for transition out of farming	19.6%	30.4%	50.0%	2.43
External impact Effect on:	Soil quality, erosion control	1.2%	5.8%	93.0%	3.47
	Water quality	1.5%	9.6%	89.0%	3.34
	Consistent with your views on land use	2.4%	8.3%	89.3%	3.33
	Wildlife population	3.5%	15.4%	81.1%	3.18
	Air quality	4.7%	17.7%	77.6%	3.10
	Weed pressure	3.8%	19.4%	76.8%	3.04
	Farm aesthetics	7.5%	25.1%	67.5%	2.84
	Hunting opportunities	15.8%	20.5%	63.7%	2.76
Viability of local area	9.3%	28.9%	61.7%	2.72	
	Neighbors	13.9%	31.2%	54.9%	2.55

A four-point Likert scale was used where not important = 1, somewhat important = 2, important = 3 and very important = 4.

Table 3. Difference in Level of Importance of Different Factors to Conservation Program Decision between Respondents with Livestock and Others

	Livestock			Reside on farm		
	Yes	No	p	Yes	No	p
Land use	3.32	2.68	.000	3.01	2.67	.002
Wildlife	2.88	3.29	.000	3.02	3.38	.000
Hunting	2.46	2.87	.001	2.58	2.98	.000

A four-point Likert scale was used where not important = 1, somewhat important = 2, important = 3 and very important = 4.

Average level of importance in the decision to participate in conservation programs was lower for farm specific factors including machinery and equipment availability (2.61) and preparation for transition out of farming (2.43). Percentage of respondents identifying these as important or very important was 59.9 and 50.0, respectively.

External impacts were reported to be important to somewhat important including soil quality and

erosion control, water quality, consistency with landowner views on land use, wildlife population, air quality, and weed pressure. Less important are effects on farm aesthetics, hunting opportunities, viability of the local area, and neighbors. Those without livestock and who resided on the farm found the impact on the wildlife population and hunting opportunities to be more important than those with livestock (table 3).

Conservation Practices and Awareness

Farmers were asked what conservation practices they use on the farm. Shelterbelts (48%), grass waterways (47%) and minimum till (46%) were used by nearly half of respondents. Other practices used were wildlife food plots (38.6%), no-till (37.2%), nutrient management (32.6%), cover crops (25.7%), and grass terraces (13.5%). Thirty-two percent had a conservation easement on their farm. Most (72.9%) with a conservation easement reported that this had not changed the value of their land; 26.2% indicated it had decreased the assessed farm value.

Landowners were asked about their awareness of and participation in conservation programs, and to indicate those programs about which they are generally aware as well as those they have been enrolled in during past five years (including currently). Nearly all respondents were aware of the Conservation Reserve Program (CRP) competitive general signup (95%) with 73% participating in CRP competitive general signup during the last five years. Awareness was also relatively high for CRP under continuous signup (75%), and 37% reported having participated during the past five years. Reported awareness was lower for CRP-CREP (47%), CRP-FWP (48%), and CRP-SAWE (41%). Between 40% and 50% of respondents were aware of the other programs listed (GRP, EQIP, CSP, and WRP) except for the Water Bank Program with only a 30% awareness rate.

Producers were asked to estimate the number of acres they control which are specifically eligible for CRP. The average number of acres was 413. Most reported 300 acres or less as eligible. Seventeen percent of respondents reported having had an application rejected for the CRP.

Attitudes about the Conservation Reserve Program

Landowners were asked what they would like to stay the same and what would they like to see changed about the CRP. Most respondents were satisfied with the program as it is currently employed. Eighty-four percent were satisfied with the ease of the administration process, 80% with contract length and with how rules are enforced. Seventy-seven percent were satisfied with cost share for stand establishment, 75% for maintenance requirements; 66% with permitted land-use options, and 57% with the payment rate.

Administration process suggestions included reducing and simplifying paperwork, reducing government involvement, improved communication, removing interest group involvement, and creating an online system. Suggestions for changes in *eligibility criteria* for CRP included reconsideration of what is targeted, increased acres, less restrictive in consideration, and limiting acreage for each farm. Among those that suggested a change in *payment*, most often noted is that it should be higher. Other suggestions were that it better reflect land value, be variable, and be appraised locally.

The most frequently mentioned suggestion regarding the government's *cost share* for stand establishment was that it should be higher. *Maintenance* suggestions included that it should be increased in general as well as that cost share should be increased for maintenance. Suggestions

regarding *land use criteria* included allowing grazing and haying, increasing flexibility of use, and adding non-farming options. Other suggestions were that grazing or haying not be allowed or use be otherwise reduced. Suggestions related to *contract length* included shorter, more flexible, and longer contracts. Suggestions related to *rule enforcement* included flexibility and better and more uniform enforcement.

There were notable differences in the percentage that provided the response “okay as is” to various components of the CRP between those with grazing livestock and those without; between those with membership in a conservation agency and those without; and between those who had experienced a rejected CRP application and those who had not.

A lower percentage of those with grazing livestock were satisfied with program administration (76.3) than those without (86.4) (Pearson’s chi square = 0.030) and with permitted land use options (52.2 versus 71.1 for those without) ($p = 0.002$). A smaller percentage of members of a conservation organization were satisfied with maintenance requirements (60.9) than non-members (77.0, $p=0.011$), and with rule enforcement (71.0, compared to 83.6% for non-members). A lower percentage of those previously rejected from a CRP application were satisfied with payment rate (45.6 versus 61.1, $p=0.031$), maintenance requirements (63.2 versus 78.4, $p= 0.015$), permitted land use options (54.4 versus 70.7, $p = 0.017$), and ease of administration (73.7 versus 86.4, $p = 0.017$) than those who had not. Seventeen percent of respondents reported having had their application rejected for the CRP.

Landowner perceptions about the Conservation Reserve Program

Landowners were asked to indicate their level of agreement with statements regarding the CRP. Sixty-two percent of landowners agreed that practices required under the terms of CRP are a good fit for their land in the long run; only 13% disagreed (table 4). Approximately half of producers agreed that technical assistance provided by NRCS is adequate (50.5%) and that USDA requirements to enhance CRP covers to maintain long-term benefits to wildlife are reasonable (48.9%). Seventeen percent disagreed with the latter. Approximately one-quarter agreed that the cost or availability of specialty grass mixtures required had influenced their willingness to bid land into CRP (24.2% agreed, 29.1% disagreed) or that CRP is an important source of forage for their operation (16.4% agreed, 53.3% disagreed). For the latter, a larger component of those who disagreed, strongly disagreed (29.3% of overall landowner population as compared to 24.0% who disagreed). There was also not strong agreement that CRP rules are consistently enforced (26.1% agreed, 16.4% disagreed) or that penalties for violations of CRP contract terms are excessive (23.3% agreed, 19.6% disagreed). For all statements, the portion of those who agreed that indicated they strongly agree was small.

Table 4. Level of Agreement with Statements Regarding the Conservation Reserve Program

Statement	Average	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Practices required under the terms of CRP are a good fit for my land in the long run.	3.52	4.9%	7.7%	25.5%	54.3%	7.7%
Technical assistance provided by the Natural Resources Conservation Service is adequate.	3.39	3.7%	7.7%	38.2%	46.5%	4.0%
USDA requirements to enhance CRP covers to maintain long-term benefits to wildlife are reasonable.	3.32	5.8%	11.0%	34.3%	42.8%	6.1%
CRP rules are consistently enforced.	3.05	5.3%	11.0%	57.5%	25.2%	0.9%
Penalties for violations of CRP contract terms are excessive.	3.03	4.7%	14.8%	57.1%	19.6%	3.8%
The cost or availability of specialty grass mixtures required has influenced my willingness to bid land into CRP.	2.91	8.3%	20.8%	46.8%	19.9%	4.3%
CRP is an important source of forage for my operation.	2.38	29.3%	24.0%	30.3%	12.6%	3.8%

Average is calculated on a scale where strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, and strongly agree = 5.

Those with grazing livestock agreed less strongly that practices required under CRP are a good fit for their land in the long run (3.17 versus 3.64 for others, $p = .000$) and more strongly that CRP is an important source of forage for their operation (2.74) than those without (2.25, $p = .001$).

Those that work off the farm full-time agreed more strongly that required CRP practices are a good fit for their land, and less strongly that CRP rules are consistently enforced and that technical assistance provided is adequate than those who do not work off the farm or work off the farm only part-time or seasonally (table 5).

Table 5. Contrast in Level of Agreement with Statements Regarding the Conservation Reserve Program: Respondents Working off Farm Versus Not

Statement	Work off farm		
	Yes	No	Sign. F
Practices required under the terms of CRP are a good fit for my land in the long run.	3.72	3.44	.014
Technical assistance provided by the Natural Resources Conservation Service is adequate.	3.20	3.49	.004
CRP rules are consistently enforced.	2.90	3.12	.027

Average is calculated on a scale where strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, and strongly agree = 5.

Those who are members of a conservation organization agreed more strongly that practices required under CRP are a good fit for their land (3.66) than others (3.32) ($p=.015$), although members of the Stockman’s Association (2.97) agree less strongly than non-members (3.51) ($p=.002$). Stockman’s Association members agree more strongly (3.33) than non-members (2.88) that USDA requirements to enhance CRP covers are reasonable ($p=0.014$).

Only agreement about whether practices required under the terms of CRP are a good fit for my land in the long run differed between those with (3.63) and those without (2.96) current CRP contracts

($p=.000$). Ninety percent of respondents have or have previously held a CRP contract. When the CRP population is expanded to include those who have had CRP in the past, the margin in average level of agreement increases (table 6). Those who have or had held a CRP contract, and those who had never had a CRP contract rejected were more positive about the program with regards to NRCS provision of technical assistance, reasonableness of USDA requirements to enhance CRP covers for wildlife and consistency of rule enforcement, than others. Those who have or have had a CRP contract agreed more strongly that practices required under the terms of CRP are a good fit for their land in the long run than those who have never held a CRP contract.

Table 6. Contrast in Level of Agreement with Statements Regarding the Conservation Reserve Program: Respondents History with CRP Program

Statement	Have had CRP			Had CRP Contract Rejected		
	Yes	No	Sign. F	No	Yes	Sign. F
Practices required under the terms of CRP are a good fit for my land in the long run.	3.61	2.59	.000	3.55	3.46	.491
Technical assistance provided by the Natural Resources Conservation Service is adequate.	3.43	3.00	.010	3.45	3.16	.016
USDA requirements to enhance CRP covers to maintain long-term benefits to wildlife are reasonable.	3.35	3.04	.112	3.44	2.79	.000
CRP rules are consistently enforced.	3.08	2.72	.026	3.09	2.84	.027

Average is calculated on a scale where strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, and strongly agree = 5.

Table 7. Contrast in Level of Agreement with Statements Regarding the Conservation Reserve Program: Respondents Who Would Re-enroll All Acres and Those Who Would Not

Statement	Would re-enroll all acres		
	Yes	No	Sign. F
Practices required under terms of CRP are a good fit for my land in the long run.	3.79	3.41	.000
Technical assistance provided by the NRCS is adequate.	3.52	3.29	.024
USDA requirements to enhance CRP covers to maintain long-term benefits to wildlife are reasonable.	3.50	3.21	.009

Average is calculated on a scale where strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, and strongly agree = 5.

After the respondents completed the choice experiment (information not included in this report), they were asked to explain their selection process with the questions “Which contract attributes were most important to you?” and “Which were not important?” A majority of those responding to this query indicated that contract length was the most important factor (61.0%), closely followed by payment (59.7%). Other factors include land use flexibility (right to graze or hay land) (37.7%), cost share (32.5%), and terms (22.1%). Factors that were identified as not important were land use flexibility (right to graze or hay land) (51%), cost share (29.8%), contract length (17%), and terms (12.8%).

Landowners were asked what percentage of their land currently-enrolled would they re-enroll if eligible and market prices remained at current levels. They were advised that more than 100% indicates they would increase CRP acres. Thirteen percent of respondents would not re-enroll their land. Sixty-four percent would re-enroll all of their land (51%) or more (13%). The maximum percentage indicated was 400. The average amount was 79%.

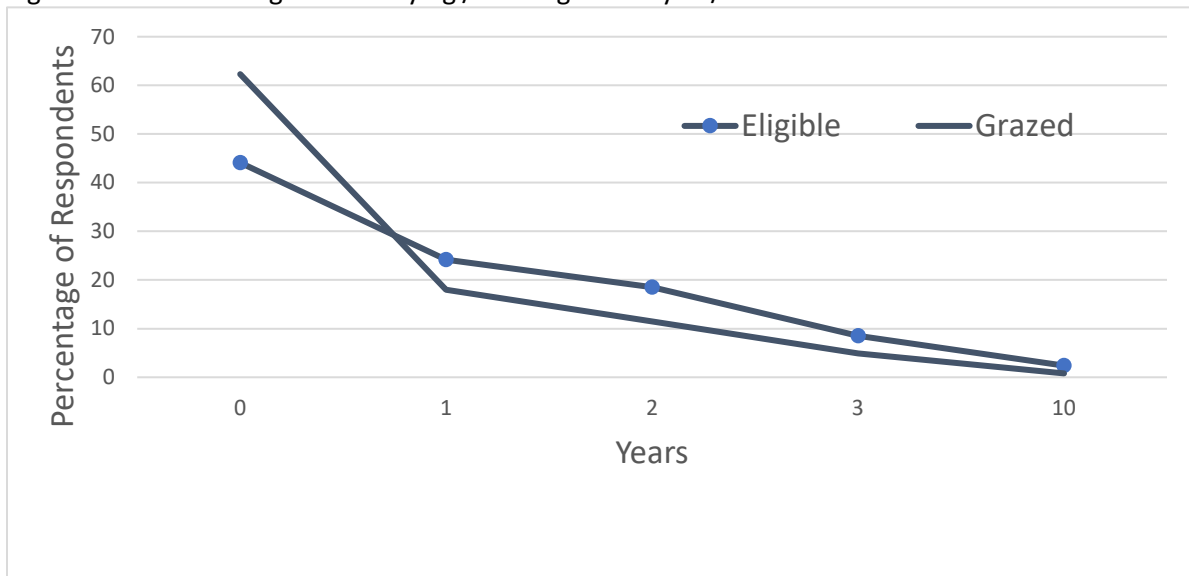
As expected, those who would re-enroll all their current acres were more positive about the program. They had a higher level of agreement with regards to NRCS provision of technical assistance, reasonableness of USDA requirements to enhance CRP covers for wildlife, and that practices required under CRP are a good fit for their land in the long run.

Landowners were asked to estimate the percentage of the land they have currently enrolled in CRP that would require **no or few** changes to put in use for grazing (e.g., fencing, water sources). Just over half (51%) indicated none of their CRP is set up for grazing; 28.3% indicated 100%. The average was 36%.

The nearly half of landowners who indicated they did not or will not reenroll all land were asked why. They were provided a list of potential reasons. The most common reason reported was that they can earn better profits by growing crops (indicated by 52% of those providing a reason). Twenty percent indicated they were not eligible; 12% that they needed the pasture; and 3.6% that they were going to leave the land idle. Other explanations included that the decision was contract-dependent, they were denied or their land was determined not eligible, a need or desire to control weeds or trees, and a desire to maintain other wildlife habitat and flexibility in land use.

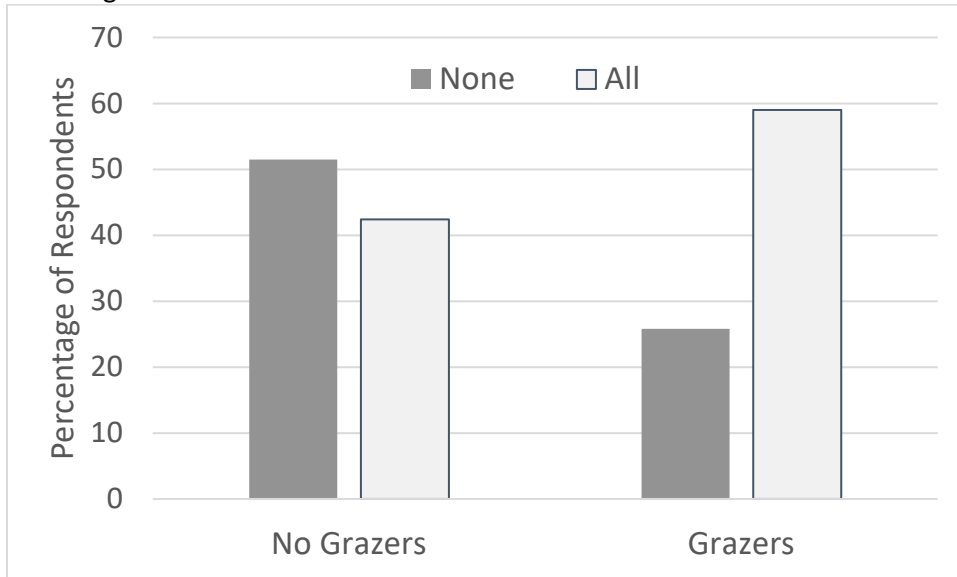
Landowners were asked in how many of the last ten years has their CRP land been eligible for haying or grazing under emergency provisions; and in how many of the last ten years have they hayed or grazed their CRP acres. Overall, 55.9% of respondents said that their CRP-enrolled land has been eligible for emergency use for at least one year in the last 10 with 2.4% being eligible all 10 years (figure 2). Only 38% of respondents said that they hayed or grazed their CRP-enrolled land during the last 10 years.

Figure 2. Years CRP Eligible for Haying / Grazing and Hayed / Grazed



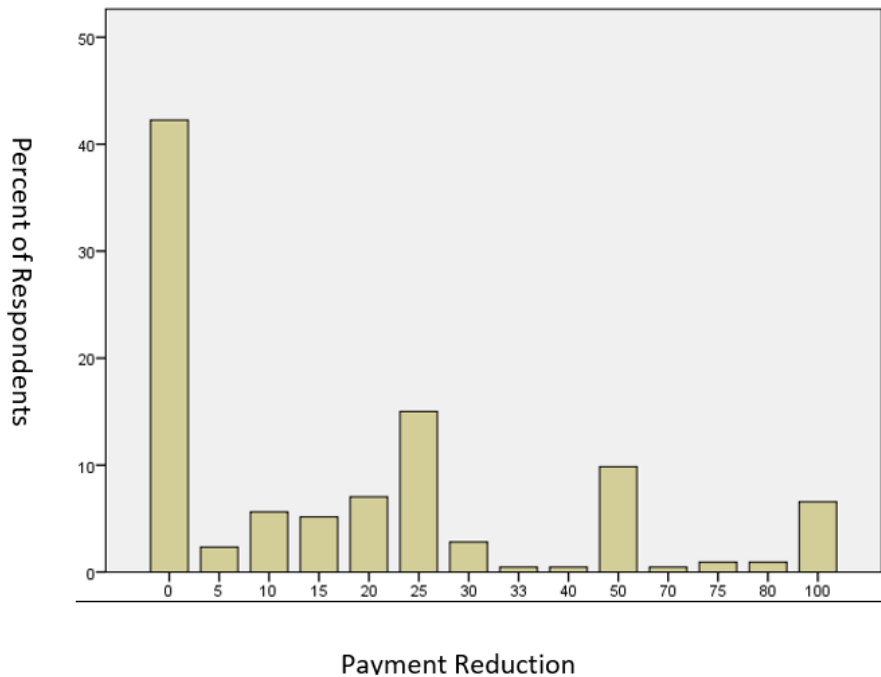
Forty-four percent of valid responses indicate landowners who did not graze during any of the eligible years; and another forty-seven percent grazed each year available. As would be expected, this differed between those who raised and who did not raise grazing livestock. Among those raising grazing livestock, 60.5% grazed or hayed their CRP in each year eligible, and only 25.6% did not do so in any years eligible (figure 3). Just over half of those without grazing livestock did not utilize their CRP acres in any years (51.5%), even when eligible, and 42.4% grazed or hayed their CRP ground whenever eligible.

Figure 3. Percentage of those with and without Grazing Livestock using CRP land for grazing in None or All of Eligible Years.



Landowners were asked what percentage reduction in payment would be appropriate for CRP land that they could regularly graze anytime or hay after July 15th. Overall, the average percentage reduction was 21.1%. The top response was no payment reduction, indicated by 42.3% of respondents (figure 4). Seventy-seven percent indicated a percentage no greater than 25. Fifteen percent indicated 25% and 10% indicated a 50% reduction. Just under 7% (6.6) indicated a 100% payment reduction was appropriate. There was no difference in the average between those who raised grazing livestock and those who did not, or between those who have grazed CRP acres in at least one of the past ten years were compared to those who have not.

Figure 4. Histogram of Percentage of Respondents Indicating Particular Percentage Payment Reduction when Haying / Grazing is Allowed



5. Summary

Today, the CRP is the most widely-implemented land retirement program. It was initiated with the passage of the Food Security Act of 1985 and reauthorized in all subsequent farm bills. It is a voluntary, long-term cropland diversion program under management of the United States Department of Agriculture (USDA). Under contract, environmentally-sensitive land is voluntarily set aside in exchange for financial and technical assistance for ten or fifteen years.

This paper investigates attitudes among PPR landowners regarding conservation programs including the CRP, factors important in conservation practice adoption and program participation decision making, and awareness of and participation in conservation programs. A survey was conducted including 197 counties in Montana, North Dakota, South Dakota, Minnesota and Iowa within the Prairie Pothole Region of the United States, an area which held 18.8% of total CRP acres in the U.S. in 2016 (USDA 2018).

Landowners were in general supportive of private land rights, compensation for creating positive environmental externalities, and current conservation programs. It is particularly telling that over 86% of farmers outright agreed that the decision on how to use their land is their right and 83% that farmers should be compensated for the positive environmental externalities they produce. Almost two-thirds agreed that current conservation programs are effective, and only 13.6% disagreed.

Landowners reported those factors most important when deciding whether to participate in conservation programs to be the payment and that it is guaranteed (89% of respondents indicated each as important). Other attributes also considered important include maintenance requirements, ease of the administration process, contract length, and cost of converting land use. There are differences between groups. For example, land use flexibility was considered only moderately important in general, but 88% of those with grazing livestock identified land-use flexibility as important or very important.

Land use flexibility was also more important to those who reside on the farm.

Average level of importance was somewhat lower for farm specific factors including machinery and equipment availability and preparation for transition out of farming. External impacts were reported to be important to somewhat important including soil quality and erosion control, water quality, consistency with landowner views on land use, wildlife population, air quality, and weed pressure. Less important are farm aesthetics, hunting opportunities, viability of the local area, and neighbors.

Seventy-three percent of respondents reported having participated in the competitive CRP during the previous five years; 37% in the continuous signup. Seventeen percent of respondents reported having had their application rejected for the CRP. Most respondents reported being satisfied with the CRP as it is currently employed, particularly the ease of administration, contract length, how rules are enforced, cost share, and maintenance requirements. Two-thirds reported being satisfied with permitted land-use options and 57% with the payment rate. Level of satisfaction with attributes of the CRP program differed when those with grazing livestock, members of a conservation organization, and who had experienced a CRP bid rejection, and those not so defined. Sixty-two percent of landowners agreed that practices required under the terms of CRP are a good fit for their land in the long run. Approximately half agreed that technical assistance provided by NRCS is adequate and that USDA requirements to enhance CRP covers to maintain long-term benefits to wildlife are reasonable. Only approximately one-quarter agreed that the cost or availability of specialty grass mixtures required had influenced their willingness to bid land into CRP; that CRP rules are consistently enforced; or that penalties for violations of CRP contract terms are excessive. Attitudes differed between those with grazing livestock, those working off the farm full-time, those with current CRP contracts, and those who would reenroll all CRP acres, and others. Among those that indicated they did not or will not reenroll all land, opportunity to earn higher profits by growing crops was the primary reason.

Over half (56%) of respondents indicated that their CRP land had been eligible at least once during the past ten years, but only 38% reported having hayed or grazed their CRP-enrolled land. When asked what percentage reduction in payment would be appropriate for CRP land that they could regularly graze anytime or hay them after July 15th, the average percentage reduction was 21.1%. It is interesting that this identified payment reduction did not differ between those who raised grazing livestock and those who did not. It did also not differ between those who had grazed land in a CRP contract during the past ten years and those who had not. Overall, 42% of respondents indicated a zero payment reduction was appropriate. Seventy-seven percent indicated no greater than 25%.

6. Literature

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