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PERCEPTIONS OF WILDLIFE DAMAGE BY CONSERVATION RESERVE PROGRAM CONTRACT HOLDERS IN RILEY COUNTY, KANSAS

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ABSTRACT: Twenty-five Conservation Reserve Program (CRP) contract holders in Riley County, Kansas were surveyed by telephone to assess their perceptions of wildlife damage relative to CRP plantings. Sixty-four percent experienced wildlife damage on their farm or ranch. Respondents felt that five species causing damage on their farm or ranch had become more common due to enrollment of lands in the CRP. White-tailed deer (*Odocoileus virginianus*) accounted for 64.3% of these observations, followed by wild turkey (*Meleagris gallopavo*), eastern cottontail (*Sylvilagus floridanus*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis virginiana*), which accounted for 14.3%, 7.1%, 7.1%, and 7.1% of the damage observations, respectively. Only 12.5% of respondents attempted to control wildlife damage, and none felt that wildlife damage was severe enough to preclude future enrollment in programs such as the CRP. Most respondents allowed hunting or trapping by non-family members on their CRP lands (68.8%), but none felt that increased hunting or trapping would reduce the amount of wildlife damage they experienced. All respondents felt that the benefits of the CRP exceeded costs associated with wildlife damage and that the program was highly beneficial overall.

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INTRODUCTION

The Conservation Reserve Program (CRP) was created by the 1985 Food Security Act to reduce soil erosion and commodity surpluses. A secondary benefit of the CRP has been the creation of wildlife habitat (Blackburn et al. 1991). The results of several studies have indicated that the CRP has been beneficial to several wildlife species (Johnson and Schwartz 1993; Kantrud 1993; Rodenhouse et al. 1993). However, few studies have assessed either actual wildlife damage problems or perceived problems, encountered by agricultural producers as a result of the CRP.

Several authors have stressed the importance of agricultural producers in providing habitat to increase wildlife populations (Harmon 1981; McConnell 1981; Noonan and Zagata 1982), but relatively few have recognized the costs that may be incurred by producers as a result of increased wildlife populations (Wade 1987). Agricultural producers control over 45% of the total surface area of the United States, and their role in wildlife conservation activities is substantial (Conover 1994). Enrollment of farm acreages in the CRP may increase wildlife damage by providing relatively high-quality habitat which increases numbers of wild animals in close proximity to human habitation. To determine if such a situation existed on a local scale, CRP contract holders in Riley County, Kansas were surveyed to assess their perceptions of the relationship between enrolling lands in the CRP and wildlife damage on individual farms and ranches.

METHODS

The first author (Hughes) developed a telephone survey following the guidelines of Fillion (1980). A random sample of 25 CRP contract holders was selected from contract files located in the Riley County Agricultural Stabilization and Conservation Service

(ASCS) office, and telephone interviews with contract holders were conducted between the dates of 10 April and 24 April 1995. Respondents were asked the size of their farming or ranching operation, types of land use included in their operation, ownership and residency patterns relative to their CRP lands, types of wildlife damage experienced and their relation to CRP lands, hunting activities on CRP lands, and general perceptions of the CRP. Land use categories included CRP, cultivated, pasture/hayland, wooded, and domestic animal operations. Ownership and residency categories included owner and operator (respondent resided in the immediate vicinity of his or her CRP lands), absentee landowner, renter and operator, and none of the above. Respondents were asked if they had experienced any wildlife damage on their farm or ranch, which species were responsible for the damage, and if this damage had increased, decreased, or remained the same since enrollment in the CRP. If no damage had been experienced, the interview was concluded. If damage had been experienced, respondents were asked if they had attempted to control the damage either by themselves or with the aid of outside assistance. Respondents were then asked if wildlife damage by species that they felt had increased due to CRP was severe enough to preclude enrollment in similar programs in the future. If respondents answered yes to this question, they were asked if compensation would be required for future participation and the amount of compensation in dollars per acre that would be needed.

All respondents who had experienced wildlife damage on their farm or ranch were asked if they allowed hunting or trapping on their CRP lands by individuals other than immediate family members. If the answer was yes, respondents were then asked if they leased any of their CRP lands for hunting or trapping. All respondents experiencing wildlife damage were asked if increased hunting or trapping would reduce the amount of damage

occurring on their farm or ranch. Lastly, respondents experiencing damage were asked if the CRP was a beneficial program and if the benefits derived from the program (if any) exceeded costs involved with wildlife damage. The age of each respondent was also recorded. Differences in responses to yes-no questions were tested using chi-square goodness-of-fit tests. Differences were considered significant at $P < 0.05$.

RESULTS

Total farm or ranch area averaged 263.5 ha, while area of individual CRP contracts averaged 31.8 ha

(Table 1). Mean, maximum, and minimum areas for the land use categories listed above are found in Table 1.

The mean age of contract holders was 56, and most of these individuals (80%) classified themselves as owner and operator of their farm or ranch (Table 2). Significant differences did not exist in the number of individuals experiencing wildlife damage (64%) and those not experiencing damage (36%) ($X^2 = 1.96$, 1 df, $P > 0.05$). Respondents experiencing damage mentioned white-tailed deer as the most frequently encountered damaging species (43.3%) followed by beaver (*Castor canadensis*) (13.3%). Damaging species are listed in Table 3.

Table 1. Land use categories and areas in hectares on farms and ranches surveyed.

Cover Type	Mean	Minimum	Maximum
Total area	263.5	8.5	849.9
CRP	31.8	1.6	113.3
Cultivated	80.0	0.0	404.7
Pasture/Hayland	133.1	0.0	453.7
Wooded area	8.6	0.0	60.7
Feedlots	0.9	0.0	8.1

Table 2. Ownership and residency patterns of Riley County CRP contract holders.

Type of Ownership	N	Percent
Owner/operator	20	80.0
Absentee	3	12.0
Renter/operator	2	8.0

Table 3. Species that CRP contract holders felt were responsible for damage on their farm or ranch.

Species	Number of Complaints
White-tailed deer	13
Beaver	4
Wild turkey	3
Eastern cottontail	2
Opossum	2
Striped skunk	2
Eastern woodrat	1
Raccoon	1
Red-headed woodpecker	1
Tree squirrel	1

Damaging species which respondents felt had become more common since enrollment in the CRP included white-tailed deer (64.3% of all responses), wild turkey (14.3%), eastern cottontail (7.1%), striped skunk (7.1%), and Virginia opossum (7.1%) (Table 4). Only two respondents (12.5%) had attempted to control wildlife damage, and none of the respondents sought outside assistance for their wildlife damage problems. In addition, none of the respondents experiencing damage felt that the damage was severe enough to preclude future enrollment in programs such as the CRP, and none felt that compensation for damage received was necessary.

The majority of respondents (68.8%) allowed hunting or trapping by individuals other than immediate family members on their land, but this number did not differ

significantly from the number of individuals who did not allow hunting ($X^2 = 2.25$, 1 df, $P > 0.05$). The proportion of individuals who did not lease their CRP lands for hunting or trapping purposes (87.5%) was significantly greater than the proportion who did lease their lands for these purposes ($X^2 = 9$, 1 df, $P < 0.05$). None of the respondents surveyed felt that increased hunting or trapping on their CRP lands would reduce the amount of wildlife damage that they experienced.

Respondents who had experienced wildlife damage were still very satisfied with the CRP. All respondents felt that the benefits provided by the CRP exceeded the costs associated with wildlife damage. Additionally, all respondents (including those who had not experienced wildlife damage) felt that the CRP was a beneficial program.

Table 4. Damaging species that CRP contract holders believed to be more common due to enrollment in the CRP.

Species	Number of Complaints
White-tailed deer	9
Wild turkey	2
Eastern cottontail	1
Opossum	1
Striped skunk	1

DISCUSSION

Results of this survey indicate that CRP contract holders in Riley County, Kansas, experience relatively low levels of wildlife damage. Although the sample size was small, damage complaints were much lower than those recorded in other studies (Conover 1994; Diebel et al. 1993), where up to 89% of the respondents surveyed reported wildlife damage and 53% stated that losses due to wildlife exceeded their tolerance (Conover 1994).

Results from this study closely parallel the statewide survey of CRP contract holders conducted by Diebel et al. (1993). Diebel et al. (1993) reported that in the northeast Kansas crop reporting district (which includes Riley County), 62.5% of all respondents reported that white-tailed deer had increased due to CRP, which is very close to the 64.2% recorded in this study. Diebel et al. (1993) reported that statewide 70.8% of all respondents were owner and operator of their farm, while this study found that 80% of all respondents were in this category. This difference may simply be due to regional differences in ownership patterns, as ownership patterns by crop reporting district were not reported by Diebel et al. Evidence that owner/operators were less tolerant of wildlife damage than absentee landowners or renter/operators, as noted by Kellert (1981) and Conover (1994), was not apparent in this study.

Although slightly more than half of the respondents reported damage by wild animals, this damage was not severe enough to initiate damage control efforts by the

majority of respondents (87.5%). Interestingly, none of the respondents who experienced damage from wild animals and felt that damage had increased as a result of the CRP felt that increased hunting would reduce the amount of damage. This is in contrast to the findings of McIvor and Conover (1994), where 54.5% of farmers and 45.9% of non-farmers in Wyoming and Utah felt that hunting helped reduce damage by wild animals. Although white-tailed deer were the most frequently mentioned damaging species (43.3% of all complaints) and most respondents (64.2%) felt that they had become more common due to the CRP, the species appeared to be much less of a problem than in other studies (Conover 1994; Conover and Decker 1991). Somewhat surprisingly, coyotes (*Canis latrans*), a frequently-cited damaging species in Kansas in the past (Gier 1968), were not mentioned by any of the respondents in this study. This finding may be due to changes in the agricultural landscape in northeastern Kansas which has altered coyote food habits in the region (Gipson and Brillhart 1995).

While wildlife management plans on private lands should address the possibility of increased wildlife damage (Berryman 1983; Conover 1994; Wade 1987), in some instances the creation of additional wildlife habitat has not greatly increased wildlife damage on private lands. This appears to be the case in this study. Future acceptance of land set-aside programs such as the CRP that create additional wildlife habitat depends on many factors, including the amount of wildlife damage that

agricultural producers are willing to tolerate. While in localized situations wildlife damage attributable to such programs may be relatively minor, wildlife managers must take into consideration costs incurred by individuals whose losses may exceed the average losses of a community at large (Wade 1987). Without such consideration, wildlife management decisions may generate controversy when agricultural producers feel that their needs are not being met (Conover and Decker 1991). Agricultural producers remain a vital component of wildlife conservation in the United States, and their input must be appreciated if habitat improvement programs on private lands such as the CRP are to be successful.

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