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FOR SUSTAINABLE AGRICULTURE

Integrating hunting and grazing— a southern Iowa investigation into management issues

Abstract: Land resources in southern Iowa are limited, yet there is increased interest in both improved wildlife habitat and hunter access to these lands. The study looks at ways to achieve these goals without shortchanging area farmers.

Question & Answer

Q: Can cattle graze wildlife habitat (warm season grasses, CRP) without hurting bird populations and, vice versa, can pastures be managed to improve habitat and birds? Why?

A: If successful, land owners that want the habitat can rent the land to cattle producers (increasing access to pasture) without sacrificing their objective (good hunting), and cattle producers can provide good hunting without sacrificing their objective (good pastures). This dual purpose use for land can increase access income for both parties. The key is that the management of such lands must be timed carefully, and managed with both the birds and the cattle in mind. It takes more management skill, but it means the two can be compatible.

- Can cattle and birds successfully coexist on the same land, or does pasture land productivity have to suffer in order to create improved bird habitat?
- Can cattle producers and hunters coexist?
- What are the interests and concerns land owners have about improved habitat and increased access for hunters?

Approach and methods

Part 1. Bird use of rotationally grazed pastures. A controlled grazing research project at the ISU McNay Research Farm in Lucas County evaluated the impact of grazing systems on upland bird hatching and population. The goal was to determine if pastures would be dramatically reduced in productive capacity if bird habitat were increased.

Background

Marginal land in southern Iowa is in high demand for hunting, hiking, weekend retreats, etc. People interested in recreation are buying this land for their pursuits, leading to a decrease in land available to producers for grazing and pasture land.

Two complementary but separate research projects evaluated the potential for improved wildlife habitat and hunter access to land in southern Iowa. The studies sought to answer several key questions:



Cattle in south cool season grass pasture

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Budget:
\$8,250 for year one
\$6,300 for year two
\$1,071 for year three

Three types of information were gathered: observations of non-game and game birds using the grasses during the prime nesting season (mid-May through the end of June), vegetation height in each of the pastures on a week-by-week basis, and actual nests of non-game and game birds in both cool season (CSGs) and warm season grasses (WSGs).

The grazing system used a combination of cool and warm season grasses, forbs, and rotational grazing. The cool season grasses were grazed in a rotational system through early summer while birds nested in the warm season grasses. In mid-summer when the cool season grasses typically declined in productivity and the birds had completed their nesting, the cattle were moved to the warm season grasses. The pastures were more productive for grazing at this time of year, and the birds could move to cool season pastures.

Part 2. Southern Iowa hunting habitat study. A survey was conducted among the farm landowners in Montgomery, Decatur, Van Buren, and Lucas counties. The pool of names was randomly selected from government mailing records for recipients of Conservation Reserve Program (CRP) payments or Transition payments during fall 2002. Questionnaires were mailed to 992 addresses, and there were 284 usable replies for a response rate of 30.7 percent.

Results and discussion

Part 1. Bird use of rotationally grazed pastures. Thirty-six bird species were identified as using these pastures. An additional six species used adjacent woody shrubs and trees. Preliminary analysis indicates that both CSGs and

WSGs that were unused by cattle were attractive to grassland birds. CSG pastures, in fact, tended to attract the same number of species but greater numbers of birds than the WSG pastures. When cattle were rotated into the pastures, species numbers and numbers of individuals dropped rapidly. Both trampling disturbance and change in plant height and structure accounted for this abandonment. When cattle were rotated to other pastures, CSGs tended to recover rather quickly, since they were not grazed down too far, and birds did re-colonize the recovering pastures.

Plant growth measurements showed that WSG pastures reached greater mean heights by the end of the sampling period and were continuing to grow while CSG pasture growth had leveled off or declined. Nest searches, while they were inconclusive, found some nests of game and non-game bird species in both CSGs and WSGs, but only in those not in cattle rotation.

Part 2. Southern Iowa hunting habitat study.

Demographics for the survey sample were:

- Average age, 58.1 years; average time living on the farm, 23.5 years.
- Farm owners averaged 393.3 acres of land owned and rented an average of 285.1 acres.
- Gross revenue for 155 landowners was less than \$50K/year and greater than \$50K/year for 67 landowners.
- Sixty-two landowners said their primary reason for owning land was for investment purposes. Seven landowners indicated they own land for hunting.
- There were 77 retired and 146 non-retired persons in the sample. In 2001, 147 of them worked off-farm for pay while 113 did not.

Of the farmers surveyed, 76 percent hunt or have family members who hunt. As for allowing hunting on their land, 84 percent hunt personally and/or allow family and associates to hunt. Nearly 45 percent allow unknown persons to hunt on their land without charge. Of the remainder (55 percent), only 4.5 percent allow hunters on their land for a fee, and the other 50.5 percent do not currently allow outside hunters on their property. If farmers do not trust strangers on their land, even the payment of a fee is not sufficient to make them willing to share the land. However, only 18.5 percent of the 55 percent that do not allow unknown hunters on their land



Cool and warm season grasses meet at corner

responded that they would never be willing to allow hunting.

Roughly 65 percent of those surveyed currently have land in the Conservation Reserve Program (CRP). Only 22.3 percent of the respondents would be willing to consider selling hunting permits on their land after expiration of the CRP contract. Sixty-three percent of the respondents said they are currently planting food plots for wildlife on CRP land or would be willing to do so.

Farmers were asked about the current environmental practices on their farms and how interested they were in implementing measures to improve wildlife habitat. Currently, 37 percent of 190 respondents to this particular question said that they seeded grains as food plots on an average of 17 percent of their land holdings. A total of 174 respondents delay hay harvest to encourage growth of wildlife population on an average of 20 percent of the area of their land holdings. Only 25 percent of 177 respondents currently have protected wildlife habitat on their farms.

Seventy-three percent of respondents strongly favored increased support for conservation practices in the U.S. farm bills and 59 percent strongly favored expansion of CRP acres, even with beneficial habitat provisions. There is strong support from 53 percent of the respondents regarding the need for support (outside payments) for habitat development on private land.

Respondents were questioned about their attitudes toward various policies and programs that have been suggested to benefit both farmers and hunters in the region. These policies suggest ways that hunting rights might be made available more readily in southern Iowa and how farmers who have ownership or usage rights to the land might be compensated for granting these rights.

Only 29 percent said they would support funds for the Iowa Department of Natural Resources to purchase land for hunting purposes. Meanwhile, 42 percent felt this sort of funding would be completely unacceptable. Another possible plan would be to publicly fund the purchase of hunting rights from farmers, who would then retain ownership and usage rights to the land. Support for this measure was higher (56 percent) and opposition (34 percent) was lower.

Method of compensation for greater hunting access and greater wildlife habitat development was another question. Nearly 60 percent supported allowing selective haying or grazing of CRP land, although slightly more than 25 percent found that method of compensation completely unacceptable.

The survey collected information about farmers' preferences regarding the institutional structure behind the organization of the private lands hunting program. Twenty-two percent supported the involvement of federal agencies in the program, while 42 percent strongly opposed such involvement. State agencies were looked upon with more favor; 43 percent supported their involvement, and county agencies were the most highly favored with 64 percent supporting them. Farmers seemed to trust that the programs would be better managed at the local level. And only



45 percent of the respondents were in favor of private firms being involved, while 56 percent would consider nonprofit organization involvement acceptable.

Respondents were queried about the level of compensation they would require for participating in the suggested programs. The cost of habitat establishment was \$102/acre/year, maintenance costs amounted to \$60/acre/year, and a management cost of \$89 per hunter was suggested.

Conclusions

Part 1. Bird use of rotationally grazed pastures. It appears that a longer term pasture rotational scheme that leaves

some pastures ungrazed during the important ground bird nesting season of May and June would make grazing compatible with bird nesting in southern Iowa. Warm season grass and forb pastures, if carefully managed, can provide important nesting cover for birds during the growing season and valuable forage for cattle later in the summer. Cool season grass and forb pastures provide similar value to birds, but only if grazing can be delayed until late June or early July. Variations in weather, plant species composition, and management are important variables that demand further investigation.

Part 2. Southern Iowa hunting habitat study. Policy makers need to consider landowner characteristics when framing policies to encourage multiple uses of farmland. Certain types of landowners seem more willing to invest in habitat development, while others seem more inclined to sell hunting rights.

Regarding habitat development:

- Farmers who work off-farm seem to respond better to government strategies that reward habitat development.
- Landowners who do not own CRP land seem more responsive to schemes that compensate them for undertaking habitat development.
- Non-resident owners seem more responsive to government incentives for habitat development activities.
- Owners with high shares of pastureland (mainly cattle farmers) seem more willing to undertake habitat development activities.



Parasitized nest.

- Non-retired owners are more willing to undertake conservation activities.

Regarding selling of hunting rights:

- Landowners who work off-farm are more amenable to the idea of selling hunting rights. However, it is not easy to determine whether farm owners differ on this issue solely based on the characteristic of off-farm work.
- A high percentage of CRP landowners are open to the idea of selling hunting permits in lieu of non-renewal of their CRP contracts upon expiration.
- There was no way to distinguish between the preferences of resident and non-resident landowners on this issue.
- Pastureland owners (mostly cattle farmers) seem more willing to sell hunting permits.
- Non-retired owners seem more open to the idea of selling hunting easements.

Impact of results

Based on the results of the survey, the investigators concluded that policies aimed at promoting conservation activities should be specially targeted toward landowners who work off-farm, do not own CRP land, own pastureland (are cattle farmers), are not retired, and are non-residents. This is not to say that landowners not possessing these characteristics should be excluded from government programs, but that such programs should be formulated while keeping these specific distinctions in mind. A blanket program covering all categories might not prove successful in achieving the desired results.

Findings from this survey had particular relevance to the sale of hunting rights in the context of CRP programs. Income-constrained landowners in the CRP program are more willing to participate in the wildlife programs when their CRP contracts are expiring. Further, cattle farmers and non-retired owners seem more open to the idea of selling hunting easements. Policy makers might want to target these specific groups while formulating incentive schemes to encourage the sale of hunting rights.

Based on the results of the survey, it is clear that all categories of landowners prefer dealing with local county agencies rather than state or federal agencies. They also seem to trust nonprofit organizations to a great extent. It

seems important that the landowners accept government programs to encourage multiple uses of farmland if such programs are to be successful. This study suggests that these programs are likely to be more successful if they are framed and implemented at the county level. If the infrastructure at the county level is not sufficient to implement the programs, organizers may want to seek help from nonprofit organizations. While the broad direction of these programs may be framed at the state level, the various details are best worked out by the county agencies in close cooperation with the local landowners. Modifying the programs to suit the needs of landowners in a particular locality appears to be important.



Education and outreach

The preliminary results of both segments of this project were presented at the Iowa Grassland Alliance meeting in July 2003 and at the Iowa Forage and Grassland Council Annual Conference in November 2003. More detailed analysis of the surveys is found in the ISU M.S. thesis prepared by Rupayan Gupta.

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