

## INITIAL DEVELOPMENT OF A WEB-BASED TOOL TO INCREASE HUNTER HARVEST OF FEMALE UNGULATES

JAMES E. KNIGHT, Extension Wildlife Program, Montana State University, Bozeman, MT, USA

MARC KENYON, Extension Wildlife Program, Montana State University, Bozeman, MT, USA

LINDA KEDDINGTON, Extension Wildlife Program, Montana State University, Bozeman, MT, USA

**Abstract:** Landowners and agencies have expressed difficulty finding hunters willing to harvest the female portion of the ungulate populations, and likewise, hunters have expressed difficulty achieving access to private lands. Since 2003, the Montana "DoeCowHunt" website ([www.doecowhunt.montana.edu](http://www.doecowhunt.montana.edu)) has provided an avenue to improve hunter-landowner contact and wild ungulate population management. A product of Montana State University Extension Wildlife Program, this website provides a means for hunters and landowners in Montana to contact each other by listing contact information (email address, physical address, and telephone number) for the purpose of harvesting antlerless ungulates. In the first year over 10,000 users visited the site. Of those who actually registered, 11 were landowners and 1334 were hunters. An evaluation survey resulted in a 40% response rate. The survey indicated the average registered landowner had 20 hunter contacts. Many landowners contacted hunters through use of the website but did not register or list their contact information on the site.

**Key words:** antlerless, contact, DoeCowHunt, harvest, hunters, hunter-rancher, hunting, private land, relationships, website.

Proceedings of the 11<sup>th</sup> Wildlife Damage Management Conference. (D.L. Nolte, K.A. Fagerstone, Eds). 2005

---

### INTRODUCTION

As evidenced by the numbers of hunting licenses and permits sold across the United States, wildlife resource managers use hunting as a tool to control wildlife population levels. Hunting is still used today because it has been shown to be a primary mechanism to control wildlife population numbers at broad scales, a cost-effective tool, and able to increase landowner tolerance toward wildlife (Brown et al. 2000, Conover 2001).

However, private land access by hunters is decreasing because: 1) hunters have not always helped landowners and agencies achieve harvest goals because the

vast majority of hunters specifically target bulls and bucks, 2) wildlife enterprises tend to restrict access to private land to only a few hunters, and 3) there is a general lack of public appreciation for landowners' contributions to wildlife management and habitat improvement.

Wildlife administrators and land managers are frustrated at not being able to meet harvest objectives. This is evidenced in Montana, with the issuance of additional cow elk tags and liberalized deer and antelope harvest in certain districts. Harvest rates however, continue to be below target levels. Conover and Decker (1991), Lacey et al. (1993), Conover (1994, 1998), and

Wywialowski (1994) have made note of landowners' frustrations as well by describing high landowner perceptions of damage related to high ungulate densities. Landowners have expressed difficulty finding hunters willing to harvest the female portion of the ungulate populations, and likewise, hunters have expressed difficulty achieving access to private lands.

Although several states have programs to encourage private land access to hunters and therefore increase overall harvest, few of the hunters using these means for land access specifically harvest females. It is usually impossible to achieve harvest objectives on a statewide basis without the recreational harvest of female ungulates, which is the most effective practice for reducing population size in overpopulated areas (McCullough 1979, Wallmo 1981).

Since 2003, the Montana "DoeCowHunt" website ([www.doecowhunt.montana.edu](http://www.doecowhunt.montana.edu)) has provided another avenue to improve hunter-landowner contact and population management of white-tailed deer (*Odocoileus virginianus*), mule deer (*O. hemionus*), elk (*Cervus elaphus*) and pronghorn (*Antilocapra americana*). A product of Montana State University Extension Wildlife Program, this website provides a means for hunters and landowners in Montana to contact each other by listing contact information (email address, physical address, and telephone number).

## MATERIALS AND METHODS

The DoeCowHunt website is a tool to help achieve population harvest goals by increasing hunter-days on private lands and increase hunter-landowner interactions. Specifically, the objectives of the website are: 1) to provide an avenue for landowners to contact hunters willing to harvest antlerless ungulates, and 2) to provide an

avenue for hunters willing to harvest antlerless ungulates to contact landowners willing to provide private land access for such actions.

The site was designed so visitors can simply view the listings or they can register and list their contact information, the species (deer, elk and/or pronghorn antelope) and the hunting districts of interest.

To do an initial evaluation of the website, a survey was sent to all registered users. The survey included a cover letter identifying the program, the intent of the study and a self-response questionnaire (Dillman 2000). Because the site registration process generates email addresses for each user, email addresses were available for current site registrants. All questionnaires evaluating the current state of the website (evaluation surveys) were sent via email, in blocks of no more than two hundred to bypass mass-mailing blocking. The phrase 'DoeCowHunt' was included in the subject line of the email to circumvent the respondents' desire to delete 'junk-mail.' These evaluation surveys were sent out for 2004 users. Another survey will be made in 2005 and 2006, following the conclusion of the Montana big-game hunting season.

The evaluation survey provided baseline measurements consisting of the number of contacts between hunters and landowners and invitations to hunt via the use of the website.

Another survey, an improvement survey, was sent to voluntary respondents of the initial evaluation survey, who indicated they were willing to provide feedback to enhance the usability and functionality of the website (Avouris et al 2003, García et al. 2003). Changes to the site have been made based on suggestions from the improvement survey.

## RESULTS

In the first year over 10,000 users visited the site. Of those who actually registered, 11 were landowners and 1334 were hunters. The initial evaluation survey resulted in a 40% response rate. The survey indicated the average registered landowner had 20 hunter contacts.

Many landowners contacted hunters but did not register or list their contact information on the site.

The improvement survey indicated hunters were frustrated by the lack of landowner participation. Because of the low number of landowners listed, hunters also wanted a way to list all registered landowners rather than having to search district by district.

As a result of the input received, a "Frequently Asked Questions" page was added to the site. An option to list all landowners registered will be available on the site for the next hunting season. A prominent note now appears on the site advising hunters that many landowners do not register but still use the site to contact and invite hunters.

## DISCUSSION

The DoeCowHunt website appears to be a viable tool in facilitating contact between landowners seeking hunters to harvest antlerless ungulates and hunters who are willing to provide such harvest.

Improvements to the website for 2005 were primarily based on suggestions from 2004 site registrants. The most noteworthy challenge is to get more landowners to use the site. However, if a significant number of landowners use the site to contact hunters, even if they do not register, then the objectives of the website are still being met. Efforts are being made to increase landowner participation through direct contact with farm and ranch

organizations, news releases and presentations at landowner meetings.

A study is currently underway to do a more detailed analysis of use, user satisfaction and suggestions for improvement of the website. Additionally, information is being gathered on ultimate impacts of the website including hunter-days and animal harvest.

## MANAGEMENT IMPLICATIONS

Upon completion of this study, a template for the DoeCowHunt website will be made available to resource managers in other states. Determining how effective a web-based tool can be to increase hunter-landowner relations as well as ungulate harvest will help managers decide if such a tool will be beneficial to their situation(s). Identifying improvements to the existing website will ensure a more refined product for managers to use.

## LITERATURE CITED

- AVOURIS, N., N. TSELIOS, C. FIDAS, AND E. PAPACHRISTOS. 2003. Website evaluation: A usability-based perspective. *Lecture Notes in Computer Science* 2563:217-231.
- BROWN, T.L., D.J. DECKER, S.J. RILEY, J.W. ENCK, T.B. LAUBER, P.T. CURTIS, AND G.F. MATTFELD. 2000. The future of hunting as a mechanism to control white-tailed deer populations. *Wildlife Society Bulletin* 28:797-807.
- CONOVER, M.R. 1994. Perceptions of grass-roots leaders of the agricultural community about wildlife damage of their farms and ranches. *Wildlife Society Bulletin* 22:94-100.
- \_\_\_\_\_. 1998. Perceptions of American agricultural producers about wildlife on their farms and ranches. *Wildlife Society Bulletin* 26:597-604.
- \_\_\_\_\_. 2001. Effect of hunting and trapping on wildlife damage. *Wildlife Society Bulletin* 29:521-532.
- \_\_\_\_\_, AND D.J. DECKER. 1991. Wildlife damage to crops: Perceptions of

- agricultural and wildlife professionals in 1957 and 1987. *Wildlife Society Bulletin* 19:46-52.
- DILLMAN, D.A. 2000. *Mail and internet surveys: The tailored design method*. Second Edition. John Wiley & Sons, New York, NY, USA.
- GARCÍA, E., M.A. SICILIA, L.A. GONZÁLEZ, AND J.R. HILERA. 2003. A concept-based approach for the design of web usability evaluation questionnaires. *Lecture Notes in Computer Science* 2722:186-189.
- LACEY, J.R., K. JAMTGAARD, L. RIGGLE, AND T. HAYES. 1993. Impacts of big game on private lands in south-western Montana: Landowner perceptions. *Journal of Range Management* 46:31-37.
- MCCULLOUGH, D.R. 1979. *The George Reserve deer herd*. University of Michigan, Ann Arbor, MI, USA.
- WALLMO, O.C., editor. 1981. *Mule and black-tailed deer of North America*. University of Nebraska, Lincoln, NE, USA.
- WYWIALOWSKI, A.P. 1994. Agricultural producers' perceptions of wildlife-caused losses. *Wildlife Society Bulletin* 22:370-382.