

BOWHUNTING AS AN URBAN DEER POPULATION MANAGEMENT TOOL

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Abstract: Over the past 20 years, many states have experienced an increase in bowhunter numbers. Some have attributed the change to the technological developments of archery equipment such as the advent of the compound bow (Gladfelter et al. 1983) while others have cited the growth of deer populations and liberalization of hunting seasons and limits as causative factors (Samuel et al. 1991). Regardless of the reasons for the trend, several states have reported an increased role of bowhunters in controlling deer populations, particularly in urban and agricultural situations (Samuel et al. 1991).

The Case for Bowhunting in Urban Management Areas

In Minnesota many municipalities have experienced significant growth in deer populations which has lead to increased damage to landscape plantings and gardens, deer-vehicle collisions, browsing on native vegetation in parks and refuges, and concerns about the potential for increased risk for contracting Lyme disease (Iker 1983, Schneider and Kuser 1989, McAninch and Parker 1991). In most communities, the growth of deer populations has coincided with increased intensification of land use which, in turn, has resulted in a decline in gun hunting activity. In fact, with increasing human population densities and limited open space, many cities have passed ordinances prohibiting the discharge of firearms (Kuser and Applegate 1985). The motivation for banning firearms has been to insure the safety of residents, particularly those who recreate in urban open space that might be hunted, and to reduce the anxiety of individuals who live near areas that could be hunted.

In the absence of gun hunting, many cities have debated the use of alternative methods for managing deer populations (McAninch and Parker 1991). Although controlled gun hunts have been occasionally permitted, few other methods have been implemented with success. Proposals advocating the use of bowhunting have been opposed by animal protection groups because of concerns that the number of deer that are wounded, die and left in the field by bowhunters is nearly as high as the number of deer successfully retrieved (Benke 1989, Pacelle 1990). Alternatively, support for the implementation of bowhunting to control local deer populations has been based on evidence that unretrieved deer numbers may be closer to 10% (Herron 1984, Lohfield 1979).

The Minnesota Department of Natural Resources (MN-DNR) has considered bowhunting in urban and suburban areas to have significant management potential for a variety of reasons. Bowhunting is safe both for participants and nonparticipants (Hunter Education Association 1989). Arrows fired by bows are projectiles that have a typical range of less than 50 m which is compatible with the limited open space in urban areas. Missed shots are not a safety hazard as bowhunters commonly hunt from elevated stands causing most shots to be taken at an angle toward the ground which nearly eliminates the possibility that arrows will be lost. Further, bowhunters will typically not shoot arrows at deer that are more than 30 m away.

Bowhunting is an unobtrusive form of hunting which is compatible with the limited space and high numbers of residents found in urban areas. A distinct asset of bowhunting is the firing of arrows does not create any sound. Thus, the concerns associated with the sounds of hunting are not likely to develop among local residents. In addition, bowhunters typically hunt alone, hunt from a single location and remain stationary during their hunting efforts. In essence, access to very small parcels of land is ideally suited to the habits of bowhunters who typically wait for deer to come to them. Thus, the activities and movements of bowhunters to and from hunting areas and while hunting would be less conspicuous to urban residents.

Bowhunting can be an effective method for killing problem deer. The situation where a particular deer or group of deer are creating problems in a specific location is common in urban communities. The limited range of archery equipment and the utility of hunting from stationary stands allows deer to be hunted in relatively small areas. As with most animal damage control programs, managers or control

agents are interested in removing the offending deer as efficiently as possible. Many cities have allowed hunting on a reserve some distance away from the problem area which typically does not eliminate deer using the problem area and, worse, likely results in deer being removed that are enjoyed by users of the reserve.

Bowhunters can also be asked to kill specific deer or deer of a particular sex and age group. Although all hunters can be selective in shooting deer, bowhunters typically must take shots at standing deer and must have a clear path for the arrow to travel to the deer. In addition, the awareness associated with hunting in urban areas where the likelihood of interactions with people is high would enhance the selectiveness of bowhunters in the deer they shoot. Because of these factors, organized bowhunting should allow for a more predictable deer kill effort.

Urban Bowhunting Programs in Minnesota

By the mid-1980's, wildlife management staff in the 7-county metropolitan region that includes Minneapolis and St. Paul decided to create a Metro Bonus Bow Hunt to enhance population control opportunities. This hunt was the first occasion in which bowhunters were allowed to take a second deer in the state. The program was popular with bowhunters as it allowed them to hunt with their any-sex license and to have the opportunity to tag a deer with an antlerless license.

The archery deer kill in the Metro area has increased in recent years and has become a significant deer mortality factor in most deer management permit areas (Figure 1). In the communities with the highest density of residential dwellings, the archery kill represents nearly all of the hunting mortality. While the Metro Bonus Bow season has not been focused on hunting in any particular community, it has provided a framework for increasing the deer kill which has slowed the rate of growth of deer populations in several areas.

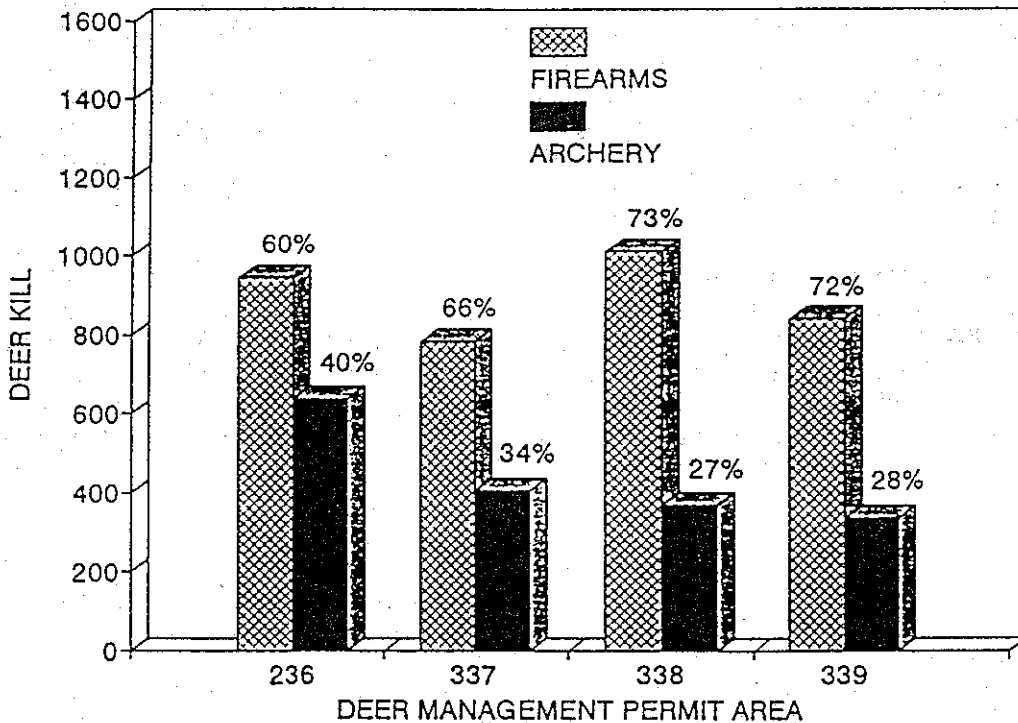


Figure 1. Comparison of the 1992 firearms and archery deer kill for the 4 Metro Deer Management Permit Areas.

As important as the number of deer killed has been the distribution of the deer removed by bowhunters. In many cities specific concerns about deer have developed in and around recreation areas including parks and golf courses, natural features such as lakes and rivers, urban open spaces and developed areas where zoning has created habitat among dwellings. These "hotspots" are often the locations where citizens find deer problems unacceptable and want deer removed.

In cities where residents have demanded lower deer populations, special bowhunts have been organized to focus efforts on deer removals to satisfy the tolerance of urban residents. In 1992 in Minnetrista, where a city ordinance had prohibited all hunting for 5 years, bowhunters coordinated the development of a hunt with city and state wildlife officials (Gillette 1993). Hunters were required to take the Minnesota Bow Hunters Education course, attend an orientation, hunt in teams on designated areas and pay an administrative fee. Hunters also kept daily hunting diaries and provided a summary of their activities at the end of the season. During the 7-week hunt, 50 bowhunters killed 29 deer and reported hitting and not retrieving 4 deer. Hunters did not create any safety, property damage or trespass problems that were reported by landowners (who were surveyed after the hunt) or city officials. Future hunts are being planned based on the notion that bowhunters and local authorities can mold deer control efforts to fit each particular situation.

In 1992 in Red Wing, Minnesota, 25 bowhunters were allowed to hunt in a city park in an effort to reduce deer damage in the park and the surrounding residential area (Heather personal communication). An area within the park was restricted to bowhunting from October 15 through December 31 which allowed bowhunters to work at achieving the goals of the program while still providing park users with access. City staff and council members have plans to expand the hunting zones in 1993 and to increase the number of antlerless deer permits allocated to bowhunters.

The city of New Ulm responded to citizen complaints about damage to gardens and ornamentals by approving a bowhunt for deer for a 3-year period beginning in 1992. The hunt was operated by the city police department and occurred during the regular archery season. Prospective bowhunters were required to pass a shooting test, attend an orientation session and pay a fee before being issued a permit to hunt within the city limits. Each bowhunter was assigned an elevated stand which was located in neighborhoods where homeowners were supportive of the deer hunt. The acceptance of the hunt has led to increased numbers of antlerless permits being offered to qualified hunters and an expanded number of stands available to archers in 1993.

Conclusion

In recent years, deer kills in urban and suburban areas during archery hunting seasons have increased and, in Minnesota, have contributed significantly to controlling deer at levels tolerated by residents. The increased kills have resulted not only from higher deer population numbers, but from the development of innovative bowhunting programs. These programs are beginning to achieve success due, in large part, to bowhunter cooperation and the understanding and support of citizens and municipal officials. The management of urban deer to control deer problems while maintaining deer in areas where many benefit from their presence is the challenge wildlife managers must meet if they are to keep deer as valuable urban resource.

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