Factors Affecting Bowhunter Access in Suburban Areas

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ABSTRACT Access to private lands for hunting has been implicated as one factor affecting management of white-tailed deer (Odocoileus virginianus) populations, especially in urban–suburban communities. Our objective was to identify factors influencing suburban landowner decisions to allow hunting and bowhunter willingness to comply with additional requirements imposed by landowners. We surveyed bowhunters to assess bowhunting skills, challenges of hunting in residential areas, and hunter perspectives on shooting proficiency. We also surveyed landowners to assess opinions about hunting and factors influencing their willingness to allow hunting. Both bowhunters and landowners were divided on the value of demonstrated shooting proficiency as a factor influencing landowner willingness to allow hunting. Ability to restrict hunting activity on their property and completion of a state-certified bowhunter safety course were important factors for all landowner groups. To maximize cooperation with landowners, hunters and hunt managers should assess and accommodate landowner needs.

KEY WORDS bowhunters, Connecticut, landowner perceptions, Odocoileus virginianus, shooting proficiency, survey, white-tailed deer.

Successful management of white-tailed deer (Odocoileus virginianus) populations in suburban areas often requires access to private land. Deer management programs in suburban areas that have good access to deer habitat on private land have used hunting to successfully reduce suburban deer populations (Deblinger et al. 1995, Kilpatrick et al. 2002). As landscapes progress from rural to urban, the amount of land open to hunting decreases (Kilpatrick et al. 2007). Obtaining good hunter access to deer habitat in suburban communities is increasingly more difficult due to fragmented landownership patterns and small parcel size. These fragmented landscapes with small patches of dense cover may provide refuge for deer during the hunting season (Kilpatrick et al. 2002). Hunting opportunities in suburban areas often are limited to archery hunting due to public safety concerns, state hunting laws, and local ordinances that restrict the discharge of firearms (Jones and Witham 1995, Kuser 1995, Mayer et al. 1995, Kilpatrick et al. 1997).

Lauber and Brown (2000) in New York, USA, found that only 15% of residents surveyed would allow strangers to hunt on their property. Miller et al. (2002) in Illinois, USA, concluded that hunters were most concerned about difficulties in accessing land for hunting and that denied access to land was the greatest factor contributing to declining hunter participation. Decker and Gavin (1987) indicated that lack of familiarity with hunting was a primary reason that landowners did not support hunting. Kilpatrick and LaBonte (2003) found that landowner acceptance of hunting increased after residents were exposed to a deer-hunting program in their community. To increase landowner acceptability of hunting, particularly in suburban areas, it is important to determine what factors influence landowner willingness to allow hunting. Equally important is to assess hunter willingness to comply with restrictions imposed by landowners.

No studies have evaluated opinions of landowners and bowhunters in a suburban community about factors that may influence landowner acceptability of archery hunting. Archery hunting may be the only legal method of hunting in several communities due to firearms discharge laws. Our objectives were to identify factors that may affect landowner decisions to allow bowhunting and hunter willingness to comply with landowner-imposed restrictions in a suburban community with high deer densities. Factors we evaluated included hunter completion of a hunter safety course, level of hunting experience, shooting proficiency testing, and landowner ability to restrict how, where, and when hunting is conducted on their property.

STUDY AREA

The study site was the Town of Greenwich, Connecticut, USA. Greenwich was a 124-km² township located in Fairfield County in the southwest corner of Connecticut, about 48 km from New York City. Greenwich was bounded on the south by Long Island Sound, on the east by the city of Stamford, and on the north and west by Westchester County, New York. The human population was about 58,000 (Planning and Zoning Commission 1998). The town was primarily residential development, with 0.8-ha and 1.6-ha minimum zoning restrictions in two-thirds of the town. Only 17 parcels of farmland totaling 147 ha remain (Planning and Zoning Commission 1998). Greenwich was 36% forestland, 29% turf or nursery, 23% commercial or residential, 8% fields or pastureland, and 4% other.

The estimated mean annual archery deer harvest was 421 (Kilpatrick et al. 2004). Only 11% of the town potentially could be open to firearms hunting because of a state law that prohibits hunting within 152 m of a dwelling. However, homeowners may sign a written waiver to allow firearms hunting within 152 m of a dwelling. No minimum property...
size or distance from a dwelling is required for archery hunters. Using the 2002–2003 deer-hunting season framework, bowhunters in Greenwich could harvest 3 antlered deer and unlimited antlerless deer (no cost for additional antlerless deer tags) in any order during a 120-day archery deer-hunting season (15 Sep–31 Jan). Deer hunters were required to obtain written permission from landowners to hunt on private land.

METHODS

We used a Connecticut Wildlife Division mail survey to assess bowhunting skills and experience (d hunted, d target shooting, yr of bowhunting experience), challenges of hunting in residential areas (landowner-imposed restrictions), and hunter perspectives on shooting proficiency testing as a tool to increase hunter access to private land. The Connecticut Wildlife Division mailed surveys to bowhunters who reported harvesting ≥1 deer over a 3-year period (1999–2001) in Greenwich (n = 99). They also mailed surveys to all Greenwich residents who purchased an archery deer permit in 2001 (n = 83). Both lists were cross-referenced to prevent duplicate mailings. Surveys were mailed to bowhunters (n = 159) in February 2002, and follow-up surveys were mailed to nonrespondents every 4–5 weeks. To maximize response rate, nonrespondents were contacted by phone after 4 unsuccessful mailings and requested that surveys be completed and returned (Dillman 1978).

We mailed surveys to assess landowner opinions about methods of hunting, willingness to allow hunting on their property, and factors influencing landowner willingness to allow hunting. We obtained a Geographic Information System database containing all landowners in Greenwich from the Greenwich Information Technology Department. From this list, we selected all homeowners that resided in the Town of Greenwich. We mailed surveys to 390 randomly selected homeowners in September 2002, followed by a reminder postcard and 2 follow-up surveys to nonrespondents about 4–8 weeks apart. After 4 attempts to contact landowners by mail, we conducted follow-up phone surveys of nonrespondents to assess nonresponse bias. We compared number of deer–vehicle accidents homeowners were involved in, number of cases of Lyme disease, observations of deer, and support for lethal removal between respondents and nonrespondents. We assessed differences between respondents and nonrespondents using the Pearson chi-square test at a significance level of P = 0.05.

We examined bowhunter responses based on how often respondents practiced shooting before the hunting season (≤1 month, >1 month and ≤4 months, yr-round) to assess the impact of target practice on bowhunter attitudes. We partitioned landowners into 4 groups (i.e., supported lethal control, supported nonlethal control, allowed hunting, allowed no hunting) to evaluate landowner responses relative to perspectives on deer population management. We calculated standard error for all comparisons (Ebdon 1985). The study protocol and surveys were reviewed and approved by the Connecticut Wildlife Division. We conducted surveys in accordance to federal guidelines as we excluded minors, results were not identifiable to individuals, and surveys involved no risks to individuals.

RESULTS

Bowhunter Survey

Of 159 surveys mailed, 110 were completed, 3 were undeliverable, and 1 was unusable, resulting in a response rate of 71%. We were unable to contact the remaining 45 hunters. We did not assess nonresponse bias due to limited sample size of outstanding surveys. Percentage of bowhunters that practiced target shooting ≤1 month, >1 month and ≤4 months, and year-round was 26% (SE = 4.2), 50% (SE = 4.8), and 24% (SE = 4.1), respectively. Years of bowhunting experience were ≤5 for 38% (SE = 4.6), 6–10 for 26% (SE = 4.2), and ≥10 for 36% (SE = 4.6) of respondents.

Half of respondents (51%, SE = 4.7) believed shooting proficiency testing would increase landowner acceptability of hunting, and half (49%, SE = 4.7) believed it would have no effect on landowner acceptability. Percentage of bowhunters who believed a shooting proficiency test would increase landowner acceptability of hunting was 44% (SE = 4.7) for bowhunters that practiced shooting ≤4 months during the year and 65% (SE = 4.5) for bowhunters that practiced shooting year-round. If hunters were requested by landowners to take a shooting proficiency test, 95% (SE = 2.1) of hunters indicated they would comply. Hunters that practiced shooting year-round were more likely to comply with landowner requests to demonstrate shooting proficiency (100%, SE = 0) than hunters that practice shooting ≤1 month (89%, SE = 3.0) during the year.

Bowhunters reported that many sanctions were imposed on them by landowners, including archery hunting only (42.9%); no field dressing deer on property (34.3%); hunting restricted to specific areas (29.1%), times of day (25.5%), and days of week (22.1%); and specified type of deer to shoot (no antlered [1.9%], no antlerless [1%], no juvenile [10.6%], must shoot all deer [1%]). Other restrictions included parking (1.9%), no visibility to children (1.9%) or neighbors (1.9%), and no permanent tree stands (1%). Landowner restrictions least acceptable to bowhunters included no shooting antlered deer (62.1%), restricted hunting times (31.4%) or days (25.2%), no shooting juvenile deer (24.0%), no field dressing deer (21.9%), and restricted access to a portion of property (15.5%).

Of 294 properties listed that bowhunters acquired access to, 26% (SE = 2.1) included no shooting antlered deer (62.1%), restricted hunting times (31.4%) or days (25.2%), no shooting juvenile deer (24.0%), no field dressing deer (21.9%), and restricted access to a portion of property (15.5%).

Landowner Survey

Surveys were returned from 236 of 372 homeowners (63%). To assess nonresponse bias we contacted 31 nonrespondents by phone. No difference existed between respondents and
DISCUSSION

Bowhunters and landowners were divided in their opinion on the value of shooting proficiency testing to increase landowner acceptability of hunting. If requested by the landowner, most hunters were willing to demonstrate proficiency. Hunters that spent more time target shooting believed shooting proficiency was more important and were more willing to comply with landowner request. Of landowners that did not allow hunting, shooting proficiency would increase willingness to allow hunting for 1 in 3 landowners.

The primary restrictions imposed on hunters by landowners included no use of firearms, no field dressing deer, and limited times and locations where hunting could occur on their property. Most private lands in Greenwich were legally closed to firearms hunting due to existing hunting laws, unless homeowners signed a written waiver. Restrictions most unacceptable to bowhunters was no shooting antlered deer; however, this was requested by few landowners.

All factors examined influenced landowner willingness to allow hunting. Completion of a hunter safety course was the most important credential hunters could demonstrate to gain access to deer-hunting opportunities in suburban areas. Hunters may increase opportunities to gain access to private land if they assess landowner concerns and propose restrictions to meet landowner needs.

Connecticut law required hunters to obtain written landowner permission to deer hunt on private land. Since 1981, all new bowhunters were required to complete a state-certified bowhunter safety course before purchasing an archery deer-hunting permit in Connecticut. In 2002, Connecticut law required all bowhunters to complete the state-certified bowhunter safety course before purchasing an archery deer-hunting permit. These laws already provided landowners the ability to restrict hunting activity on their property and required that all hunters complete the hunter safety course. The 2 most important factors influencing landowner willingness to allow hunting already existed, but landowners likely were not aware of these requirements.

MANAGEMENT IMPLICATIONS

Increasing deer hunter access to private lands in urban–suburban communities is necessary to implement effective deer management strategies. To increase access to private lands, hunters should complete a state-certified bowhunter safety course and use that credential to increase landowner willingness to allow hunting. Hunters should be proactive by identifying hunting-related concerns or issues of landowners and suggest restrictions or compromises to address landowner concerns. Offering to field dress deer off the property and expressing a willingness to accommodate landowners concerns relative to where, when, and how hunting may occur on their property should improve hunter access. Natural resource managers should consider developing an informational brochure (e.g., hard copy and downloadable portable document format file) for hunters suggesting ways to increase hunter access and for landowners informing them about hunter credentials and landowner ability to further restrict who, when, where, and how hunting may occur on their property.
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