HUNTERS' PERSPECTIVES ON SATISFYING AND DISSATISFYING ASPECTS OF THE DEER-HUNTING EXPERIENCE IN NEW YORK:
An Executive Summary

by

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EXECUTIVE SUMMARY

The goal of deer management in New York is "...perpetuation of the white-tailed deer resource, maintaining populations at levels that insure optimal recreational opportunities commensurate with range carrying capacity and tolerable conflicts with other land uses" (Dickinson, No date). This goal reflects the desire to balance habitat concerns, recreation, and other societal interests in deer. To achieve this goal, deer managers require information about deer habitat, deer population biology, and human values relative to deer. One of the human values that the New York State Department of Environmental Conservation (DEC) considers is hunters' satisfaction with recreational deer hunting.

In the summer of 1989, DEC asked the Human Dimensions Research Unit (HDRU) in the Department of Natural Resources at Cornell University to develop a study to determine deer hunters' perspectives on the satisfying and dissatisfying aspects of recreational deer hunting in the State. The objectives of the study we designed were to:

1. Identify the important aspects of overall deer hunting satisfactions and dissatisfactions for hunters in New York;
2. Determine how hunters develop preseason expectations about important satisfactions;
3. Determine whether hunters experience what they expect during the deer season; and
4. Identify possible program actions to increase deer hunter satisfactions and decrease dissatisfactions.

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1This report is a summary of a much larger report which describes in detail the information gained through this study of deer hunters.
CONCEPTUAL FRAMEWORK

Deer hunter satisfaction is a complex concept to measure. Since the 1970's, researchers have recognized that participants derive many different types of satisfactions from deer hunting (Hendee 1974, Decker et al. 1980). Management to enhance these satisfying aspects of deer hunting depends on knowing which experiences or aspects of deer hunting are important to deer hunters.

Previous research (e.g., Decker et al. 1984) has suggested that the importance hunters place on specific aspects of deer hunting is related to 1 of 3 types of motivations for hunting deer: (1) achievement (hunting primarily to meet a self-determined standard of performance such as bagging a deer or a certain size or sex); (2) affiliation (hunting primarily for the camaraderie and to strengthen personal relationships); and (3) appreciation (hunting primarily to relax and escape from everyday concerns). In addition, Clawson (1963) and Langenau and Peyton (1982) described a model in which satisfaction relates to experiences occurring during 3 stages of the hunting experience: (1) planning and preparation during which the hunter "gets ready" for a hunting trip, (2) field experience which includes the time hunting, and (3) recollection which reinforces and adds to satisfactions gained during the other stages. We believe the referent for this model can be an entire hunting season, not just 1 hunting trip. Combining the Decker et al. (1984) motivational theory with our application of the theory on hunting experiences (Clawson 1963, Langenau and Peyton 1982) provides a conceptual framework for examining deer-hunting satisfactions which account for all combinations of the motivational and temporal aspects described above.
Another influence on overall satisfaction is the degree of correspondence between an individual's experiences and his/her expectations (Snowden 1976). Meeting 1 expectation likely does not guarantee satisfaction when considered in light of the multiple-satisfactions theory described earlier. Some aspects of the hunting experience are "absolutely necessary" for a hunter to be satisfied, but they are not sufficient by themselves. Conversely, some aspects of a hunting experience may be "absolutely dissatisfying," resulting in a dissatisfying hunting season regardless of whatever else is experienced during the season. Information is needed on the importance of the various aspects of deer hunting satisfaction, and how hunters' expectations for the aspects is related to satisfaction. Understanding the relationships between expectations and satisfactions also depends on understanding how expectations are developed. This development process has not been studied relative to deer-hunting satisfactions.

This conceptual framework led us to examine the following questions:

1. What levels of importance do hunters place on various aspects of their deer-hunting experiences (both satisfying and dissatisfying aspects)?

2. Do the most important aspects of deer hunting encompass each of 3 time periods relative to the deer season (i.e., preseason, during the season, and postseason), and encompass each of 3 motivational orientations (i.e., achievement, affiliation, and appreciation)?

3. How do hunters form expectations about what they will experience during the upcoming deer season.

4. Are hunters always satisfied if their expectations are met for all aspects they identify as "absolutely necessary" (i.e., critical)?

5. Are hunters always dissatisfied if their expectations are not met for all aspects they identify as "absolutely necessary"?
METHODS

A sample of 5,965 big game license holders was selected from the approximately 770,000 big game licenses sold in New York in 1989. The sample was selected to provide information about hunters on a statewide basis as well as in 7 specific groups (i.e., sampling strata): (1) Adirondack residents, (2) Catskill residents, (3) Central/Western New York residents, (4) New York City/Long Island Metropolitan residents, (5) Nonresidents, (6) Muzzleloader hunters, and (7) Bowhunters.

A mail questionnaire was developed based on a review of the literature on hunting satisfactions and group interviews with deer hunters and deer managers throughout the State. The survey was implemented on 7-8 May 1990; up to 3 reminder letters were sent to nonrespondents at 10- to 14-day intervals after the initial mailing. An assessment of nonresponse bias was made via telephone interviews with 50-60 nonrespondents from each group for which we experienced a response rate <65%. Because nonrespondents did not provide new information about increasing hunters' satisfaction with deer hunting, we did not adjust the overall response to reflect the attitudes and behaviors of this group, except in special cases where noted.

The margin of error associated with the responses reported herein varies according to the size of the sample for the group of interest and the percentage of respondents giving a particular answer to each question. The maximum expected margin of error at the 95% confidence level for this study is ± 5.7%.
RESULTS AND DISCUSSION

The initial sample of 5,965 big game license holders resulted in 137 undeliverable questionnaires and 3,539 codable returns (61% of the deliverables). Response rates for the various strata were: 55% Metro; 61% Catskills; 55% Adirondacks; 63% Central/Western; 74% Nonresidents; and 70% Muzzleloader hunter. Bowhunters were identified from other groups and were not sampled separately.

Characteristics of Deer Hunters and Their Hunting Experiences

In New York during 1989, deer hunters across the State had the following characteristics:

- Most hunters were male (93.5%). The Adirondack group had the highest percentage of female hunters (10%) of any group.
- Respondents averaged 41 years of age with relatively few young hunters 16-25 years old in the hunting population.
- Respondents averaged 20 years of deer-hunting experience in New York or elsewhere.
- Respondents had bagged an average of 9.7 deer in their lifetime in New York or elsewhere.
- All parts of the rural-urban continuum were represented with 45% of the respondents living in rural areas, 35% living in villages and small cities, and 20% living in cities with >25,000 inhabitants. The obvious exceptions were that a greater percentage of Adirondack residents lived in rural areas, and a greater percentage of Metro residents lived in urban areas.
- Respondents hunted primarily in the geographic region in which they lived, with the exception of the Metro residents, a larger percentage of whom hunted in the Catskills.
- Most resident deer hunters who responded hunted "every year" (59%) since they first started deer hunting, or they hunted "most years" (30%). Adirondack residents had the lowest percentage (54%) who hunted "every year" whereas almost three-quarters of Nonresidents (71%), Bowhunters (74%), and Muzzleloader hunters (75%) hunted "every year."
• Respondents hunted approximately 6 hours out of 10 hours of legal shooting time per day.

• Overall, respondents averaged about 9 days hunting during the regular firearms season. However, a wide distribution of hunting effort existed. About one-third of the respondents hunted less than a week, one-third hunted a week to 2 weeks, and almost one-third hunted more than 2 weeks.

• On average, fewer days were spent afield during the early archery season (about 5 days), the late archery season (about 1 day), and the muzzleloader season (about 1 day) than during the regular firearms season.

• Adirondack residents hunted relatively few days during the early archery season (about 3 days). They also hunted relatively many days during the regular gun season (about 14 days). This probably reflects the greater opportunity provided by the longer Northern Zone season, which is about twice as long as the Southern Zone season.

• Respondents saw about 4 deer per day during the regular firearms season. About 8% of the respondents saw no deer, most respondents (73%) saw 1-5 deer per day, 14% saw 6-10 deer per day, and 5% saw >11 deer per day.

• Respondents saw about 4 deer per day during the early archery season, 2 deer per day during the late archery season, and 3 deer per day during the muzzleloader season.

• Respondents averaged about 1 shot during the regular firearms season although only 43% took shots then. Bowhunters and Muzzleloader hunters averaged less than 1 shot during their respective seasons. Metro residents took the fewest shots, averaging about 1 shot for every 2 hunters.

• About 16% of the respondents bagged a buck during the regular firearms season, 29% bagged a deer on a deer management permit (DMP) during the regular firearms season, about 14% bagged a deer during the early archery season, less than 1% bagged a deer in the late archery season, and about 7% bagged a deer during the muzzleloader season.

• Regional differences were found in the buck harvest rate. For example, Adirondack hunters reported one of the highest buck harvest rates of any group (about 25%). Nonresidents also reported a high buck harvest rate (about 30%). Metro residents reported the lowest buck harvest rate of any group (about 10%).
Overall Satisfaction With Deer-Hunting Experiences

- Overall, about two-thirds (68%) of the resident hunters were satisfied with their deer-hunting experiences during 1989. Only 18% indicated some level of dissatisfaction. About 14% said they were neither measurably satisfied nor dissatisfied.

- Some regional differences in satisfaction were found. More Nonresidents (77%) and Bowhunters (75%) than any other groups said they were satisfied. Approximately 70% of the respondents from the Adirondack, Central/Western, Metro, and Muzzleloader hunter groups were satisfied. A somewhat lower percentage of respondents from the Catskill group were satisfied (62%), and a concomitantly higher percentage (25%) were dissatisfied.

- Respondents placed different levels of importance on 35 satisfactions and 35 dissatisfactions examined. Sixteen of the satisfactions were of primary importance (i.e., "very important" or "absolutely necessary"), and 11 of the dissatisfactions were identified as being primary (i.e., "tends to make me dissatisfied" or "absolutely makes me dissatisfied").

Primary Satisfaction and Dissatisfaction Aspects of Deer Hunting in New York

- The concept of multiple satisfactions was reinforced in that 16 of the satisfactions and 11 of the dissatisfactions examined were of primary importance for respondents.

- Primary satisfactions and dissatisfactions grouped into 5 main categories: (1) "preparation" for the season, (2) "visual evidence" of deer in an area, allowing hunters to perceive they have a chance to bag a deer; (3) "relaxation and escape" from everyday worries, (4) "interaction" with other hunters, and (5) "access to private land" for deer hunting.

- "Preparation" likely increased the respondents' perceived chances of seeing and bagging deer, and may have provided respondents with a better opportunity to "make a clean kill," which was also identified as being important.

- "Visual evidence" of deer gave respondents first-hand knowledge that deer were in an area, and thus gave respondents a perceived chance to bag a deer.

- Deer hunting gave respondents an opportunity to relax and escape from everyday worries, but dissatisfactions like unwanted interactions with other hunters prevented many respondents from achieving this satisfaction.

- Respondents desired limited contact with other hunters outside of their group, and when those contacts occurred, respondents wanted to encounter safe, ethical hunters.
• Dissatisfying interactions with other hunters were major reasons why most respondents (75%) preferred to hunt on "private land for free" where access to other hunters was controlled. Fourteen percent of resident respondents preferred to hunt on "public land" because they "did not have to ask permission" or because they believed the "deer habitat was better." About 8% preferred to hunt on "leased land," and 3% had no preference.

• Although most respondents preferred to hunt on "private land for free," we estimate from the study that about 100,000 hunters statewide did not or could not hunt on that type of land for reasons mostly relating to problems in gaining access.

Temporal-Motivational Aspects of Satisfaction

• Our hypothesis that all temporal-motivational dimensions of the hunting experience would be represented by the primary satisfactions and dissatisfactions was not supported; only a few dimensions were represented by primary satisfactions and dissatisfactions.

• Primary satisfactions pertained mostly to the time period during the deer season, and to a lesser extent, the preseason. Achievement-oriented and appreciative-oriented motivations were represented whereas affiliative-oriented motivations were not.

• Primary dissatisfactions generally occurred during the deer season, and pertained to inhibiting the respondents' appreciation of hunting and nature.

"Single Greatest" Satisfactions and Dissatisfactions

• The "single greatest" satisfactions listed by the largest percentages of respondents pertained to "relaxation," "visual evidence" of deer, "bagging deer," and the "affiliative" aspects of hunting.

• The "single greatest" dissatisfactions listed by the largest percentages of respondents pertained to "poor hunter behavior," not seeing "visual evidence" of deer, "not bagging deer," "bad weather," and "encountering posted land."

• Respondents suggested 3 kinds of solutions for overcoming their "single greatest" dissatisfactions: (1) changes in management actions (e.g., reduce deer management permits, more Conservation officers, stiffer penalties for violators, start the hunting season earlier); (2) enhancement of the Sportsmen's Education Courses (SEC's) (e.g., more ethics in SEC, teach hunting skills in SEC, more safety in SEC's, mandatory safety school for violators); and (3) actions that can be taken by sportsmen (e.g., peer pressure, hunt somewhere else, hunt more hours/days, scout/plan more).
Development of Preseason Expectations

- Most respondents relied on multiple types and sources of information to develop their preseason expectations about the number of deer they would see during the hunting season. The most important sources of information were personal reconnaissance or the personal experience of friends. "Secondary sources" of information such as reading magazines or newspapers, or obtaining information from DEC were used by relatively few respondents overall.

- Metro and Nonresident respondents were more likely than respondents from other groups to use "secondary sources" of information to develop preseason expectations about the number of deer they would see during the hunting season. This may have been due to the fact that many Metro and Nonresident respondents live long distances from their hunting areas, and have less opportunity to scout personally.

Expectations vs. Actual Experiences

- Generally, when respondents saw only 1 or 2 deer per day, their expectations were not met. When they saw 5 or more deer per day, their expectations were met, thus contributing to their satisfaction.

- Catskill hunters reported seeing about the same number of deer per day as respondents from other groups (about 4), yet they had the lowest percentage of satisfied hunters (62%). Clearly, their expectations for seeing deer were higher than for any other group. This is especially interesting because Catskill and Metro respondents hunted in the same geographic area, and Metro respondents had a lower expectation for the number of deer they would see during the hunting season.

- A set of conditional relationships exist between satisfying and dissatisfying aspects of deer hunting. These relationships describe many, but not all, respondents. The foundation for the relationships is whether a hunter's preseason expectations are met during the hunting season:
  
  - If a hunter's expectations are met for all aspects that are identified as "absolutely necessary" for the hunter to be satisfied, and no aspects exist to make the hunter "absolutely dissatisfied," then the hunter will be satisfied.

  - If a hunter's expectations are not met for all aspects that are identified as "absolutely necessary" for the hunter to be satisfied, then the hunter will be dissatisfied even if no aspects exist to make the hunter "absolutely dissatisfied."

  - If a hunter's expectations are met for all aspects that are identified as "absolutely necessary" for the hunter to be
satisfied, but at least 1 aspect exists to make the hunter "absolutely dissatisfied," then the hunter will be dissatisfied. (For these hunters, dissatisfactions override satisfactions.)

- Not all hunters can be described using the conditions above. Some hunters are satisfied even when their expectations were not all met. This likely happens as the context of their hunting experiences change. Something occurs that is so satisfying (e.g., a child bagging a first deer) that other expectations are no longer important. For these hunters, satisfactions override dissatisfactions.

Deer Management Permits (DMP's)

- Among all resident respondents, 45% were "generally satisfied" with the deer management system DEC uses in the Southern Zone, 16% were "generally dissatisfied," 27% had "mixed feelings," and 12% had "no opinion."

- Reasons for being "generally satisfied" included confidence in DEC staff (28%) and seeing plenty of deer (8%). Many satisfied respondents (43%) gave no reason. Reasons for being "generally dissatisfied" included a perception that too many deer management permits were issued (33%), disagreement about the accuracy of DEC deer population estimates (11%), and not seeing enough deer (10%).

- A higher percentage of Catskill respondents than respondents from other groups were dissatisfied with the deer management system used in the Southern Zone. This regional difference is important considering most Central/Western, Metro, and Nonresident respondents also hunted in the Southern Zone, and Metro respondents hunted in the same part of the Southern Zone as Catskill respondents. Reasons for dissatisfaction given by Catskill respondents were the same as reasons given by the relatively few dissatisfied respondents from other regions. The higher percentage of Catskill respondents who were dissatisfied likely relates to their higher expectations for seeing deer.

- Overall, 81% of the resident respondents wanted to apply for a DMP although only 59% actually did so.

- About 86% of the respondents who applied for a DMP received one.

- The most important reasons for applying for a DMP included "to increase chances of bagging a deer" (55%), "to hunt legally after filling buck tag" (13%), and "to help manage deer herd" (12%).

- The most important reasons for not applying for a DMP included "too many does are shot in my area" (22%) and "did not get around to it" (20%).
Regional differences occurred with respect to the use of DMP's:

- Relatively few Adirondack respondents (41%) applied for a DMP, and only 67% said they wanted to apply, probably because DMP's cannot be used in the Northern Zone.

- Only 50% of Catskill respondents applied for a DMP although 74% said they wanted to apply. Catskill respondents were split with respect to their feelings about DMP's. Compared with other groups, a high percentage of Catskill respondents wanted to apply for a DMP so they could take an extra deer whereas others believed the DMP program was responsible for an undesirable decrease in the deer population.

- The Central/Western group had the highest percentage of respondents (87%) who wanted to apply for a DMP, and a relatively high 66% did so.

- Most Metro respondents (83%) wanted to apply for a DMP, and 64% did apply.

- Nonresidents were less likely than other groups to apply for a DMP (only 48% did) although 73% said they wanted to apply. An important reason why Nonresidents did not apply was that they "didn't think their chances of getting a DMP were very good." This reason does not reflect the undersubscription of DMP's in many management units in the last few years; Nonresidents actually have a high likelihood of receiving a DMP in many units.

- Most Muzzleloader hunters (78%) wanted to apply for a DMP, and many did so (63%).

- A very high percentage of Bowhunters wanted to apply for a DMP, and a higher percentage of Bowhunters than any other group did apply (72%). A relatively high percentage of Bowhunters (18%) compared with other groups said the most important reason they applied was "to hunt legally after bagging a buck," presumably as extra insurance that they could hunt during the regular season.

MANAGEMENT IMPLICATIONS

The results of this study support the multiple satisfactions concept of deer hunting (e.g., Hendee 1974, Decker et al. 1980). Whether deer hunters in New York are satisfied with their hunting experiences depends on more than a single aspect such as seeing deer or bagging a buck. Satisfaction depends on a range of hunting experiences being either realized or not realized. The
range of satisfactions and dissatisfactions that are important, and the degree to which each aspect is important, differs among hunters.

Most deer hunters were satisfied with their deer-hunting experiences and expressed support for DEC's deer management program. Continued support depends in part on helping hunters (1) establish realistic expectations for what they will experience during the hunting season and why they will have those experiences (i.e., understanding management), (2) meet their expectations for the most important satisfactions associated with deer hunting, and (3) avoid or overcome the most important dissatisfactions.

Management efforts will be most beneficial if they concentrate on helping hunters establish realistic expectations. However, establishing realistic expectations can only be accomplished by understanding that hunters place more value in personal reconnaissance or information from other hunters than in secondary sources of information such as newspapers, magazines, or even DEC. Perhaps local networks of sportsmen could be developed who would collect information and provide forecasts for the upcoming deer season. Such individuals would have to be trained to take into account the observability of deer at different times of the year and under different conditions (Sage et al. 1983) so they could provide the most accurate forecasts.

In helping hunters develop realistic expectations, managers also can help hunters understand why those expectations should be realistic. For example, if hunters "don't see enough deer," they need to understand that managers consider a broad range of societal needs when making decisions about the level the deer population should be in a given management unit, and that that level might be lower than the hunters would like it to be. Helping hunters understand why certain expectations should be realistic may not be an
easy task for managers because many hunters do not "perceive or value their role in management," but focus more on the achievement of personal satisfactions (Decker and Connelly 1990:450). Accomplishing this task will require strong communication and education efforts on the part of managers.

Changes in the use of DMP's also may help hunters' actual experiences match more closely with their expectations. Many hunters whose expectations for seeing deer were not met, especially in the Catskill residence group, believed "too many DMP's were issued." "Too many DMP's" may not have been issued, but their use early in the deer season decreased opportunities to observe deer later in the season (e.g., about 40% of the DMP's are filled during the first 3 days of the season in the Catskill region and only about 25% are filled during the last 4 days [NYSDEC, unpublished data]). One way for deer to be observable longer into the season would be to delay or spread out the use of DMP's.

Such a change in the use of DMP's would require simultaneous actions to overcome other dissatisfactions such as hunters' concerns about deer being pushed onto posted land during the hunting season. Whether deer actually move onto private land or not, many hunters perceive this behavior occurs and that it limits their opportunities to see and bag deer. If this deer behavior does occur, delaying or spreading out the use of DMP's could reduce the effectiveness of DMP's as a management tool. This indicates the importance of addressing access issues.

Many respondents could not, or did not, gain access to private lands to hunt deer and instead hunted on public land where "access was easier." Previous studies have indicated that landowners post their land because of concern about poor hunter behavior (Brown and Thompson 1976). This study
found that hunters shared this recognition that poor hunter behavior is a problem.

Poor hunter behavior was identified as a primary dissatisfaction by most hunters, and many hunters witnessed such behavior. DEC can help hunters overcome this dissatisfaction by building on the hunters' own recognition that poor behavior must be improved. Respondents suggested changes in the Sportsmen's Education Courses (SEC's) as a way to accomplish this. Suggested changes included additional training for new hunters, and mandatory renewal of SEC training by all hunters. Additional support for such actions may be gained if training can be used to obtain access to private lands for hunting. For example, hunters could be issued re-certification cards as proof to landowners that they have participated recently in a refresher course on hunting safety and ethics.
LITERATURE CITED


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