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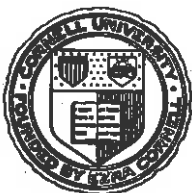
SUMMARY:

1978 HUNTER TRAINING COURSE PARTICIPANT STUDY

BY

TOMMY L. BROWN, DANIEL J. DECKER AND DEBORAH L. HUSTIN

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Outdoor Recreation Research Unit
Department of Natural Resources
New York State College of Agriculture and Life Sciences
A Statutory College of the State University
Cornell University, Ithaca, N. Y.



SUMMARY

New York State Department of Environmental Conservation (DEC) staff responsible for the Hunter Training Program in New York State have suspected that a significant proportion of those people taking a hunter training course (HTC) are not actually going on to hunt or are dropping out of hunting soon after initiation. DEC was interested in determining the incidence and reasons for this lack of commitment to hunting, including the degree to which the course itself affects continuation or desertion in hunting activity. Additionally, DEC desired basic demographic information about program participants, information on why these people want to hunt, what experiences they have before attending the courses, and what satisfactions they are looking for from the courses and from hunting in general. This information could be used in evaluating the current hunter training program and other DEC hunter management programs and policies for new hunters.

Procedures

The survey design used county HTC (firearms) registration lists for calendar year 1978 as the sampling frame. Four regions of the state were identified for analysis purposes with approximately equal sample sizes drawn from each, totaling 1992, as follows: region I-New York City-Long Island area (n=482); region II-Southeastern New York (n=493); region III-Northern New York (n=507); region IV-Central and Western New York (n=510).

A mail questionnaire was developed and the mail survey was implemented in early May, 1980. Up to three follow-ups were sent to nonrespondents. A telephone interview follow-up survey was conducted with a sample of nonrespondents to the mail survey to assess major differences between respondents and nonrespondents for a few key variables.

Findings and Analysis

Survey Response

An initial sample size of 1992 resulted in 264 (13%) nondeliverable and 1095 returned questionnaires (63.4% of deliverable). There were 1085 codeable

questionnaires, resulting in a 62.8% useable return from the adjusted sample size of 1728. The high rate of nondeliverable questionnaires was expected since the mailing list was two years old.

The nonrespondent follow-up had an initial sample size of 201, reduced to 87 due to undetermined, unfound, or outdated telephone numbers, and further reduced by two refusals to 85. Seventy-five of these were contacted during the follow-up period, which allowed several callbacks.

Response Weighting

The sample stratification allows comparison and analysis of the four regions, since all were sampled for approximately 500 HTC participants and counties within regions were proportionally represented. The statewide analysis required data from the four regions to be weighted so that each region was proportionally represented within the state.

Background Characteristics of HTC Participants

The socioeconomic characteristics of HTC participants were diverse, but certain trends were predictable due to the nature of laws governing hunting in New York. For example, because 14 and 16 are the minimum ages when one may begin hunting small game and big game, respectively, it was not surprising that 56 percent of the respondents were between 16 and 18 at the time of the survey (i.e., between 14 and 16 in 1978); 59 percent were students; and 65 percent had not graduated from high school. Most HTC participants were male (85%).

A slight majority of respondents (54%) resided in rural areas or villages of under 5,000 population in 1980; the exception to this trend was found among respondents from the heavily urbanized region I. Overall, the distribution of respondents' primary residence when between the ages of 6 and 16 did not differ greatly from their 1980 residence; the majority of HTC participants (62%) who were over 16 at the time of the survey lived in an area of similar population characteristics as that where they grew up.

Most HTC participants engaged in other wildlife-related recreation activities in 1979. Fishing was reported by 72 percent of the respondents, while observing or photographing wildlife was an activity of about half. Trapping was less common, with only about one out of six of the respondents reporting participation in this activity in 1979.

Most participants (90%) in the 1978 HTC had used some type of firearm prior to taking the HTC. This shooting experience generally was not just a unique incident for most people. Nearly two-thirds of the HTC participants had shot a firearm on over 10 occasions during the 12 months prior to taking the HTC. Hunting experience, either active or as a spectator, was reported by two-thirds of the HTC participants.

People may take the HTC for a variety of reasons, but the most obvious is to meet the legal requirements for obtaining a first New York State hunting license and this was the primary reason given by most (71%). A notable proportion (11%) participated in the course primarily to learn more about hunters and hunting. Few people (less than 5% for each reason) took the course to replace a lost license, to learn more about wildlife and wildlife management, to accompany a friend or relative, or to replace a revoked license (none in our respondent audience).

About four out of five people who took the HTC in 1978 intended to hunt in 1978 or 1979, 17 percent were uncertain at the time as to whether they would go on to hunt, and 3 percent had no intentions to hunt. The HTC served to increase interest in hunting for 64 percent of participants in 1978, while about 35 percent felt the course had no affect on their interest.

For most HTC participants (78%), a characteristic of their childhood was that someone in their family hunted. Parents were by far the most-frequently-mentioned family members who hunted during the respondents' childhoods. And, nearly half of the 1978 HTC participants reported that a parent introduced them to hunting. However, friends were reported as often as parents (42 and 38%, respectively) as usual hunting companions.

Three reasons for hunting were expressed by a majority of respondents who had obtained a hunting license since taking the HTC in 1978: to use hunting skills (78%), to get close to nature or solitude (71%), and to obtain meat (69%). Also, two out of five respondents indicated that hunting created an opportunity to be with friends or family.

Respondents who did not obtain a hunting license in 1978-79 or 1979-80, or who did not intend to obtain a license in the next two years (from the time of the survey) were asked why they did not or will not hunt. The two most-frequently-given reasons for not hunting were lack of hunting companions and cost of licenses, equipment, ammunition, etc. Two reasons of secondary

importance were loss of interest in hunting generally and dislike of killing game. No one reported adverse public opinion against hunting as a reason for not hunting.

Most of the participants in the 1978 HTC considered themselves hunters, but about 14 percent labeled themselves as nonhunters. Many described themselves as "occasional" hunters (66%), although two out of five of these people considered themselves avid hunters despite the fact they hunted only occasionally. About 20 percent were avid hunters who hunt often and think about hunting a lot; they rate hunting as an important part of their lives.

For those HTC participants who obtained appropriate hunting licenses in 1978-79 or 1979-80, small game hunting was by far the most popular type of hunting in terms of days of activity. Mean days of small game hunting for active participants during the two license years were 17 and 21, compared to 7 and 9 for waterfowl hunting and 9 and 9 for big game hunting.

Analysis of Hunter Commitment Groups

The typology of six hunting license obtaining behaviors developed prior to the survey was used to categorize respondents. Most fell into the continuous license obtaining group (68.5%) (Fig. A). Based on further review of the data, this original typology was modified to eliminate the "late starter" category; these people were placed into the "continuous" and "sporadic" groups, as their situations warranted. The five remaining types of hunters in the amended typology conceptually represent three general categories of hunter commitment; Committed hunters (continuous and sporadic hunters), Potential Hunters, and Uncommitted Hunters (deserters and nonhunters). Figure B illustrates the proportions of respondents in each category, while Figure C reflects the estimated frequency of 1978 HTC participants of each type (using amended typology) adjusted for nonresponse effects; this is our best estimate of the actual proportions of HTC participants in each category. Thus, two years after the 1978 HTC, three out of four HTC participants were active, committed hunters.

Profile of Committed Hunters: Committed hunters averaged 22 years of age and were predominantly male (88%). This group had a large rural component, with the majority living in rural areas (34%) or villages of under 5,000 population (20%) in 1980. Similarly, the majority of these people described the area of

Fig. A. Frequency of Original Hunting License Obtaining Behavior Typology.

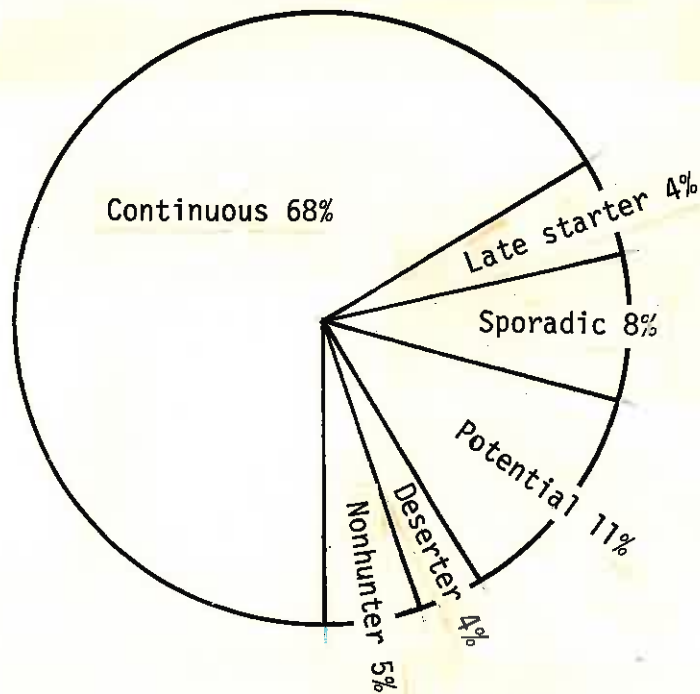


Fig. B. Frequency of Amended Hunting License Obtaining Behavior Typology.

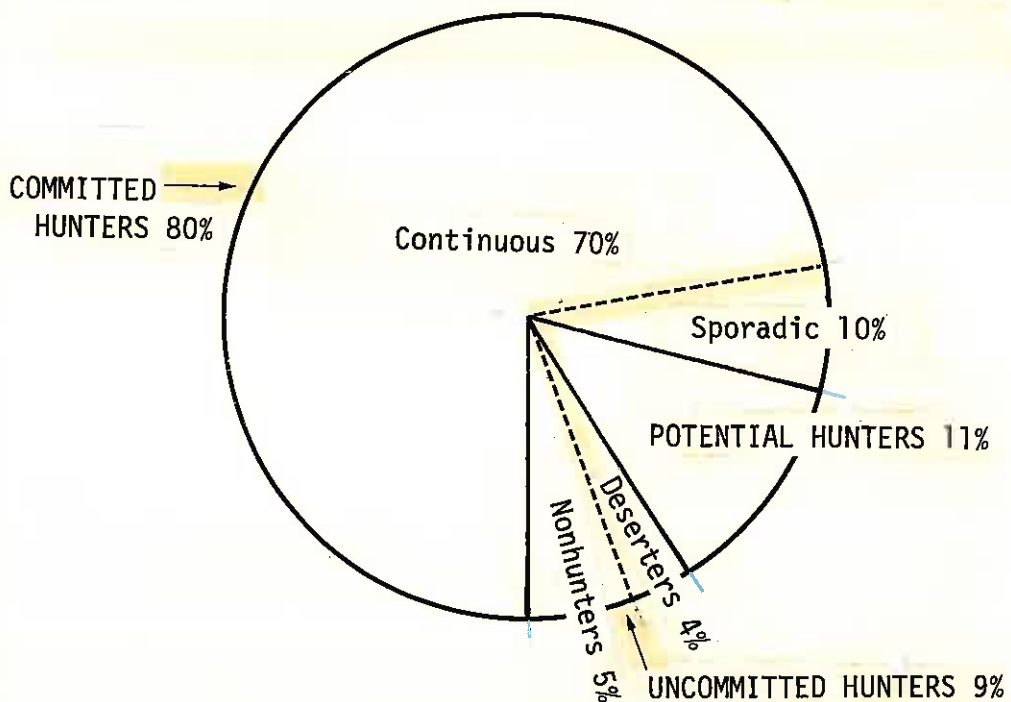
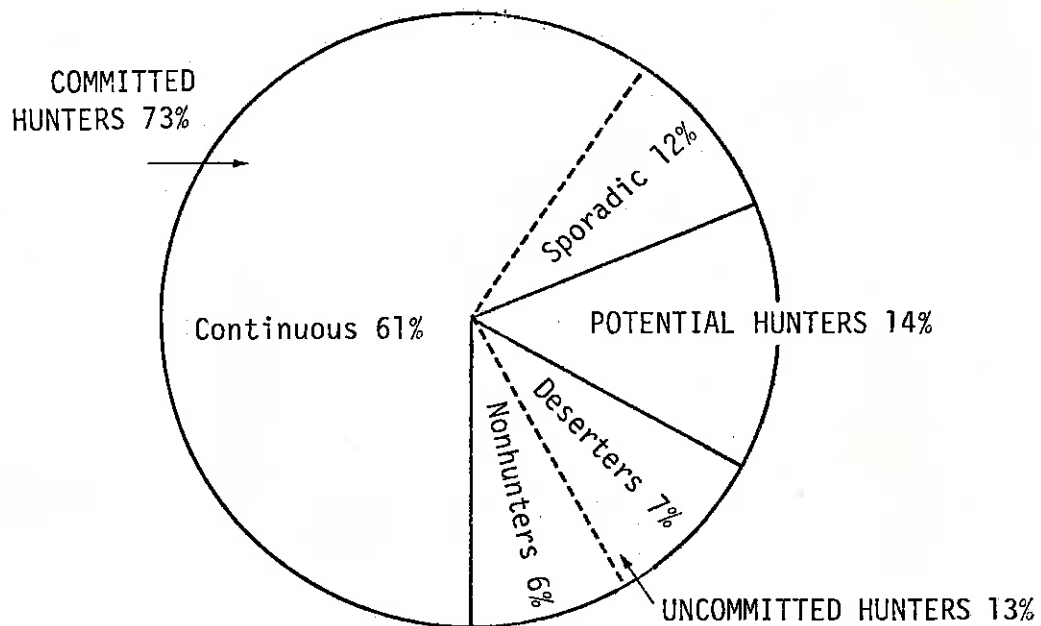


Fig. C. Estimated Frequency of Hunting License Obtaining Behavior Among 1978 HTC Participants (Amended Typology Adjusted to Consider Nonresponse Effects).



their primary residence when they were between the ages of 6 and 16 as rural (37%) or villages of under 5,000 population (20%). Two-thirds of all the committed hunters (66%) had not completed high school and about 17 percent of those over 18 years old had not completed high school. A majority of committed hunters (59%) were students; professional-technical and craftsmen-foremen occupations were more prevalent than students among those HTC participants over 18 years of age.

Three out of four committed hunters fished in 1979, but less than half actively observed or photographed wildlife and less than one-fifth trapped.

Committed hunters were nearly all experienced at shooting firearms (93%) and most had previous hunting experience (72%), either as an active hunter or a spectator, prior to taking the HTC in 1978. Prior to the 1978 HTC, two out of five of the committed hunters had accompanied other hunters afield without personally carrying a firearm; this was the most common form of previous hunting experience reported.

Three out of four committed hunters took the 1978 HTC primarily for the purpose of obtaining their first hunting license, and at the time they took the HTC most (89%) intended to hunt within two years. Two-thirds of the committed hunters reported that the HTC increased their interest in hunting while most others indicated that it had no effect.

Over three-fourths of the committed hunters came from a family where a family member had hunted during the HTC participant's childhood and about half of the committed hunters were introduced to hunting by their parents. Although parents most frequently were the people who introduced committed hunters to hunting, friends were cited slightly more often than parents (42 vs. 38%) as usual hunting companions.

Most committed hunters viewed hunting as an opportunity to use hunting skills (78%), to get close to nature and solitude (72%), and to obtain meat (69%), while two-fifths of these people hunted to be with family or friends.

The sporadic subgroup of committed hunters had not obtained a hunting license for at least one hunting season since 1978. An array of reasons were cited by these people for not obtaining a hunting license. Most notable of these were that 36 percent indicated they had not obtained a hunting license in 1978 or 1979 because they had no one to hunt with them and 26 percent indicated that license and equipment costs had been a deterrent to their obtaining a hunting license.

All committed hunters were not so avid that they spent what they considered to be a great deal of time at this recreational activity. About 40 percent hunted occasionally and did not consider themselves avid hunters; 33 percent hunted occasionally but did consider themselves avid; and 24 percent considered themselves avid, hunted a lot and thought about hunting a lot.

For those committed hunters who obtained appropriate hunting licenses in 1978-79 or 1979-80, small game hunting was by far the most popular in terms of mean days of activity each year (17 and 21 days, respectively). Active waterfowl hunters averaged 7 and 9 days while big game hunters averaged 9 and 10 days for the two seasons.

Small game animals harvested by committed hunters averaged 7 and 8 animals per active hunter in 1978-79 and 1979-80, respectively. Waterfowl harvest averaged 4 birds per year per active waterfowler and big game harvest averaged 0.08 and 0.15 animals per big game hunter for the two seasons.

Characteristics of Potential and Uncommitted Hunter Groups: Mean ages of all hunter groups were similar, but fewer uncommitted than committed hunters were in the youngest age categories (< 18) (33 vs. 53%) and more were in the 18-24 age category (42 vs. 24%). More uncommitted than committed hunters were female; the nonhunter portion of the uncommitted group accounted for this higher percentage of females because significantly more nonhunters than deserters were female (40 vs. 11%).

The childhood residence area characteristics of potential and uncommitted hunters did not differ markedly from those of committed hunters. However, slightly greater percentages of potential and uncommitted hunters were residing in cities at the time of the survey. Urban residency (city of 25,000 or greater) was especially prevalent among deserters, 41 percent of whom lived in such an area. Deserters also tended to have been more transient; more of these people shifted to cities compared to their childhood residence.

The majority of potential hunters (66%) and uncommitted hunters (52%) had not completed high school. This was primarily attributable to the young age of potential hunters and the nonhunter subgroup of uncommitted hunters; most deserters (62%) had completed high school. Considering only those people who were over 18, the educational attainments of the three major groups of respondents were similar.

As the age and education data suggest, most potential and uncommitted hunters were students. However, among those over 18, more deserters than nonhunters were students (39 vs. 16%), indicating that two out of five deserters were in college.

Potential hunters and deserters exhibited differing patterns of participation in three recreation activities related to hunting (trapping, wildlife observation, fishing), but an index of participation for these activities shows that participation of potential hunters and deserters, groups with some current or previous interest in actively hunting, is generally similar to that of committed hunters. Nonhunters, people with practically no interest in actively hunting, participated less in these other activities.

About 80 percent of both the potential and uncommitted hunter groups had participated in shooting sports prior to taking the HTC in 1978, and the majority of both groups had done so several to many times. Nevertheless, these rates of participation were significantly less than that reported by committed hunters. Less than half of the potential and uncommitted hunters reported having had some

type of hunting experience prior to taking the HTC, compared to nearly three-fourths of committed hunters who had such experience.

Potential and uncommitted hunters had a variety of reasons for taking the HTC. The most important difference between these people and committed hunters was that significantly smaller percentages of these other groups took the HTC to obtain their first hunting license. This was especially evident among nonhunters, less than one-quarter of whom took the HTC so they could obtain a hunting license; as many took the HTC simply to accompany a friend or relative and more (33%) did so to learn more about hunters and hunting. Seventeen percent of the potential hunters also reported taking the HTC to learn more about hunting and hunters.

One-half of the potential hunters and 44 percent of nonhunters were uncertain at the time of the HTC as to whether or not they were going to hunt. A substantial proportion of nonhunters (69%), twice that of committed and potential hunters, reported that the HTC had no affect on their interest in hunting. Looking at this another way, only 28 percent of the nonhunters -- a group where over one-third of its members took the HTC to learn more about hunters, hunting, wildlife, and wildlife management -- reported that the HTC had increased their interest in hunting.

Like committed hunters, most potential hunters came from a family where a family member hunted (81%) and were most frequently introduced to hunting by a parent (45%). Fewer uncommitted hunters, however, were from families where a member hunted (63%) and fewer were introduced to hunting by a parent (34%). In fact, as many nonhunters were introduced to hunting by a friend as by a parent (30 and 28%, respectively).

Only the deserter subgroup of uncommitted hunters had actively hunted since taking the HTC and, like committed hunters, most deserters hunted in order to use hunting skills (78%) and to get close to nature and solitude (74%), but fewer hunted to obtain meat (53%). To be in the company of family and friends was an important reason for hunting for 47 percent of the deserters.

Potential hunters most frequently reported lack of a hunting companion (41%) and cost of licenses, equipment, etc. (36%) as reasons for not hunting. The reason given most often by uncommitted hunters (45%) for not obtaining a license was that they do not like to kill game; this was given by 59 percent of the nonhunter subgroup. Two other reasons cited by about one-third of the uncommitted hunters were that they lost interest in hunting generally and that the cost of licenses, equipment, etc. was too high. Over one-quarter of the deserters

(27%) reported that they quit hunting in New York because they moved out of the state.

HTC Participants' Opinions on Selected Aspects of Wildlife Management and the HTC

Measures of respondent's opinions toward six aspects of wildlife management practices and the HTC were solicited, each on a 5-point scale. Responses to the six items were not normally distributed (Kolmogorov-Smirnov 1-sample test, $\alpha = 0.05$); most respondents were opinionated toward what can be interpreted as a correct, positive, or proper response.

The majority of 1978 HTC participants believed that the course should be a mandatory requirement for obtaining a hunting license and indicated support for the current distribution of emphasis in the HTC on hunting ethics and hunter behavior together with shooting skills and firearms safety. Evidently 1978 HTC participants prefer the broader scope of the current HTC over the narrower focus on firearms handling safety and shooting skills that was characteristic of earlier courses.

HTC participants did not condone overharvest or indiscriminate killing of wildlife. The majority of respondents did not agree that hunters should be allowed to shoot predators year-round, nor did they believe that hunters should be allowed to shoot as many deer of either sex as they want during the season by buying additional licenses. And most respondents agreed that people convicted of poaching deer should have their hunting licenses temporarily revoked.

HTC participants generally recognized the need to manage nongame animals. Three-fourths of the respondents agreed that state wildlife managers should work on management of all wildlife species, including those which are not hunted.

Because we wished to identify and describe "problem" hunters (if possible), an attempt at problem hunter identification was taken using a count of negative or improper answers to the opinion questions by an individual. This approach is intuitively straightforward and does not depend on an assumption of scalability. The count of negative responses per respondent resulted in a skewed distribution of cases; few people answered more than one item "improperly". Further analyses use the count to categorize respondents into groups having zero negative responses (46.6%), one negative response (35.6%), and more than one negative response (17.8%).

Problem hunters (those giving two or more negative responses), more often than others, had hunted in New York State prior to the HTC, considered themselves avid hunters (although they only hunted occasionally), intended to obtain a

license in 1980-82, and were in the committed hunter type. Fewer problem hunters than others had previous hunting experiences during which game was shot at in their presence or ranked "to get close to nature" as one of three major reasons for hunting.

It seems noteworthy that significantly fewer committed hunters (45%) than potential (54%) or uncommitted hunters (62%) answered all five items "properly".

These findings provide some evidence contrary to the often supported notion that "uncommitted" hunters are the group to which much of the "slob" behavior among hunters can be attributed. Rather, some subgroup of committed, "avid" hunters may be a problem, based on our limited definition of problem hunters. This conclusion is highly tentative and illustrates the need for further study of this sensitive, yet critically important issue.

A Model of License Obtaining Behavior

A model of license obtaining behavior was developed using multinomial logit analysis. The "best" set of variables for predicting hunter commitment (i.e. committed hunters, potential hunters, and uncommitted hunters) contained three variables: previous shooting experience, population characteristics of current residence area, and sex.

Four potential scenarios were considered which assumed various changes in these variables among 1985 HTC participants:

- (a) continued ruralization of the New York State population through 1985 at the present rate;
- (b) slightly increased previous shooting experience among the HTC audience (2500 people) and continued ruralization;
- (c) greatly increased previous shooting experience among the HTC audience (99.9%) and continued ruralization;
- (d) increased female participation in the HTC and continued ruralization.

Scenario (a) is simply a base for comparing the possible program treatments of b, c, and d.

We would like to concentrate on scenario (b), as it reflects what would be expected to happen given current trends in ruralization and expected participation in the 4-H Shooting Sports Program. That is, in 1985 a greater proportion of HTC participants are expected to be from rural areas due to trends in ruralization and at least 2500 young people who would not otherwise have had previous shooting

experience will be involved in the 4-H Shooting Sports Program (Howard, pers. com.). These influences alone are predicted to increase the proportion of committed hunters among the 1985 HTC participants to 95 percent, compared to the 82 percent identified among 1978 HTC participants.

Instituting a prerequisite requiring nearly all HTC participants in 1985 to have had shooting experience prior to taking a HTC (scenario c) would seemingly increase the proportion of committed hunters very little for the programmatic effort that would be needed to assure compliance.

Discussion and Implications

A major aspect of this study was simply to determine the degree to which HTC participants are actually going on to hunt after completing a HTC. Adjusting for nonresponse we estimate that about 25 percent of 1978 HTC participants were not committed hunters. Consequently, while the majority of HTC participants are the hunters which the HTC was developed for, a significant number of people taking the HTC could be considered as doing so "inappropriately."

This, together with other findings, indicates that the current structure of the Hunter Training Program should be reexamined. Two general alternatives are evident which are very different in their approach to handling the potential and uncommitted hunter segment of HTC participants. First, maintain a position that the HTC is only for those having the greatest probability of becoming committed hunters. Under this alternative the approach would be to discourage by whatever means are feasible as many as possible of those people who are taking the HTC but who will not go on to hunt. The second alternative would be to maintain or try to increase potential and uncommitted hunters' participation in the HTC because it can be considered an opportunity to educate people about wildlife management, and may even persuade some to become hunters.

A compromise approach for responding to the combination of concerns addressed by both alternatives A and B might be to try to limit the present HTC to those with the greatest potential to become committed hunters and to initiate or encourage separate courses on wildlife management and hunting for nonhunters. Thus the current HTC would continue to be specifically for prospective hunters. DEC may choose to conduct their own courses for nonhunters, possibly under different funding arrangements, or DEC may try to steer those people to other organizations' programs, such as the 4-H shooting sports program.

The analysis of the hunter commitment groups pointed out evidence of factors and influences deterring active hunting participation which are beyond the control of DEC: people moving out of state, people attending college, people moving to urban areas where access to game resources is limited, etc.

Fortunately, the analysis also suggests ways that the HTC or DEC policy may be modified to enhance hunting recruitment and participation. In view of the study findings we suggest that the feasibility of the following potential modifications be considered:

Possible Modifications of the HTC

1. Improve attractiveness of HTCs for females - both instructors and students.
2. Continue to support efforts to train pre-hunting age youth in firearms handling.
3. Concentrate on the "appreciative" aspects of hunting more in the HTC.
4. Identify attitudinal/perceptual barriers to hunting among potential HTC participants so that the HTC can adequately address these barriers and diminish their effect.
5. Modify parts of the HTC to improve its relevance as an "understanding wildlife management and hunting" course, since many HTC participants who do not intend to hunt take the HTC to learn more about wildlife and hunters.
6. Institute a "big brother" (i.e., substitute parent) program to help potential hunters get hunting experience.
7. Develop sensitivity training techniques to use in the HTC to reduce the personal trauma associated with killing game animals.

Possible Modification of DEC's policy

8. Reduce the cost of hunting licenses for beginners, at least for those less than 16 years of age.

These suggested considerations may not all be feasible in light of DEC's current fiscal situation, but may in the long term increase participation and concomitant license sales.

No real surprises were found when comparing HTC participants' responses among regions. The most striking aspect of the regional comparisons was the similarity among regions on many variables. The obvious impact of low resource accessibility and concomitant low hunting opportunity was apparent for HTC participants residing in region I. However, little in the way of remedial measures via the HTC is apparent to alleviate this situation.

Overall, there was little indication that the HTC was acting as a deterrent to hunting participation. About two-thirds of the HTC participants reported that the HTC served to increase their interest in hunting. Most HTC participants believed that the course should be mandatory and indicated support for the current distribution of emphasis in the course on hunting ethics and hunter behavior together with shooting skills development and training in firearms safety.

Recommendations for Future Research

Future research in two major areas concerning HTC participants, or beginning hunters, seems appropriate to gain further insight into New York's new hunters. First, more information is needed regarding prospective hunters' motivations for hunting, expectations of hunting (and the HTC), and perceived satisfactions to be met by hunting experiences. Efforts to influence hunter behavior via education must be based on an adequate understanding of these social-psychological antecedents. Understanding these aspects of HTC participants and comparing them to the objectives of the HTC is essential to refine further the content of materials and the teaching techniques used in HTCs for influencing HTC participants' attitudes about hunting and, hopefully, subsequent field behavior. Closely related is the need to identify the preferences of new hunters for various types of hunting experiences. From such information it may be possible to develop a typology of prospective hunters based on social-psychological parameters (motivations, expectations, perceived satisfactions, and preferences). Potential hunters of different types might be targeted for educational programs specifically designed to enhance or to modify their way of viewing hunting so as to improve their hunting behavior in an effort to reduce overall depreciative behavior among the hunting public.

Second, more research needs to be directed at identifying the attitudes and factors influencing the attitudes of new hunters toward various aspects of wildlife management, especially as these attitudes might affect compliance with hunting laws and adherence to some level of ethical standards. Understanding the attitudes of prospective hunters toward wildlife management is required by educators who seek to enhance further the effectiveness of hunter education programs that are designed to influence these attitudes favorably.

Once information such as that suggested above is available, studies could be initiated which follow samples of hunters of various "types" through time to evaluate their behavior (e.g., rates of hunting participation, hunting law violations, and hunting accidents). Relationships between hunter "types" and behavior may help to refine HTC objectives and content in the future.