Meeting the Challenge to Increase Participation in Hunting and Shooting

A Final Report/Handbook to the

National Shooting Sports Foundation

and the

International Hunter Education Association

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EXECUTIVE SUMMARY

In response to declining participation rates in hunting, the National Shooting Sports Foundation (NSSF) and the International Hunter Education Association (IHEA) received a grant in 1999 from the U.S. Fish and Wildlife Service Division of Federal Aid to develop recommendations for effective actions that state/provincial agencies and other organizations could use to increase participation of hunter education graduates and others in hunting and shooting activities. Specific needs for future research were also identified–research that would address timely and specific needs throughout the nation.

Ten Think Tank participants met with project facilitators in Lansing, Michigan, on October 5-7, 1999. Following the meeting, Think Tank participants worked through May 2000 to develop specific recommendations for increasing hunting/shooting participation, and to identify specific research needs to fill gaps in the current body of knowledge relating to hunter recruitment and retention. Project facilitators also electronically surveyed state hunter education administrators during March 2000 to determine characteristics of licensing and hunter education requirements that could affect hunter recruitment and retention.

Following are the major findings of the Hunter Participation Think Tank Project:

1. Hunter education graduate participation is not the problem. One very wrong, but often-quoted "statistic," is that "half of hunter education graduates never go hunting." In fact, previous studies indicate that more than 85% of graduates do participate in hunting. Further, graduates who do not hunt probably never intended to hunt, and efforts to convince them otherwise would likely be ineffective. Agencies should welcome non-hunting family members and other students into the hunter education program since these people can become or remain supportive of hunting and hunters in their community.

2. Becoming a hunter/shooter involves more than just firing a firearm or bow, or going afield to harvest game. Being a hunter/shooter is more attitudinally based and involves development over time of an individual's perception of him/herself as a hunter/shooter and as part of a hunting/shooting culture. This development does not occur in a vacuum, and requires a broad and deep social system of initiators, companions, and mentors. Not everyone in the hunting/shooting culture is a hunter/shooter. Long-term participation in hunting/shooting depends on development of a personal/cultural identity.

3. The number of hunter education graduates does not provide a very useful indicator of recruitment, although it has often been used in this way.
   - Many hunter education graduates never intend to hunt, but attend courses either to find out more about hunting and shooting, because their family or friends made them do it, or because the course was part of an environmental education program.
   - Increasing numbers of licensed hunters are required to take hunter education courses in order to hunt in other states/provinces, and inadequate record-keeping by some agencies forces some certified hunters to take the course again.

- In some states/provinces, people may begin participating in hunting before they are required to take a course.
- Many other people who are quite interested in becoming hunters never make it to a hunter education program.

There is great danger in thinking of a hunter education program as the "switch" that defines someone as a recruit. If a person must be certified in order to go afield with others, the program can be a barrier to development of that person's self-perception as a hunter, because going afield with other hunters may be necessary to help the individual understand how taking game is a significant element of the full context of being a hunter. Requiring people to take hunter education courses before allowing them to kill game makes sense, just as does requiring them to buy licenses for that specific purpose. But since the hunting culture does not define a hunter as simply someone who shoots game, it makes little sense to have hunter education programs be thought of as major elements in determining whether someone is recruited or retained as a hunter.

4. License sales and other easy-to-measure data are inadequate indicators of hunting participation and support for hunting. These indicators:
   - Ignore sporadic hunters who are important components of the hunting culture, providing important social support for others.
   - Ignore dropouts who may not go afield because of advanced age or other family obligations, but who still provide important social support in the hunting culture.
   - Consider people who buy licenses to be hunters even though they may not have an understanding of the cultural and personal significance of hunting, and thus, are unlikely to be long-term participants in or active supporters of the hunting culture.
   - Ignore the large number of people who support hunting politically, economically, and socially even though they do not buy licenses/pursue game.

5. Providing and enhancing social support for hunters is the key to future hunting and shooting participation. Efforts to increase participation should focus on "becoming a hunter" and not on "going hunting." How someone develops a personal/cultural identity as a hunter is a long-term process involving myriad activities, and always occurring in a particular social context. Any individual can go hunting once or even multiple times, but development of a personal/cultural identity is necessary for long-term commitment and participation. Agencies are limited in their ability to directly influence many aspects of social support issues, but they can and should be catalysts in this regard.

6. The development of social competence is critical to the development of a long-term hunter. Hunter education programs have largely focused on technical competence with little or no consideration for influencing social competence. Apprenticeship experiences provide opportunities for interested persons to become socialized into hunting and shooting. Through these experiences, the individual develops technical competence in a set of skills and techniques, and social competence through recognition and adoption of implicit qualities and beliefs that are associated with being a hunter.

7. Think Tank members created a model classification system that identifies the various stages of hunting/shooting adoption to help agencies analyze their hunter participation needs (see Results section).

INTRODUCTION

A.   Problem or Need this Project Addresses

Current trends indicate that although the U.S. population is increasing, hunting participation is declining over time. Because of the transient nature of society, increased demands on leisure time, changing ideas in our society about the kinds of recreational options among which our youth should choose, and other factors, these trends may lead ultimately to the end of hunting as we know it today. This could result in negative impacts on the world's most successful wildlife management program, which relies on significant participation and financial support from hunters. It also could have negative economic impacts on rural America.

Each year, nearly 750,000 people graduate from hunter education courses given throughout North America. Several researchers have previously investigated what becomes of these graduates. However, results of these studies are neither well-known nor well-used by many of the agencies and organizations that could benefit. When they are used, they are often taken out of context or misunderstood. In addition, there has not been clear direction concerning areas where future research is needed to identify and develop solutions to specific problems.

B.   Goal and Objectives

In 1999 the National Shooting Sports Foundation (NSSF) and the International Hunter Education Association (IHEA) received a grant from the U.S. Fish and Wildlife Service Division of Federal Aid to develop recommendations for effective actions that state/provincial agencies and other organizations could use to increase participation of hunter education graduates in hunting and shooting activities. Specific needs for future research were also identified–research that would address timely and specific needs throughout the nation.

The project had three specific objectives to help achieve this goal:
1. Review national literature concerning the graduates of hunter education courses. (Do they hunt/shoot? What do they hunt/shoot? Why do/don't they participate? What are the barriers to participation? etc.)
2. Conduct a two-day workshop with ten national experts on hunter education, recruitment, retention, and social science research to review the literature, make recommendations for overcoming obstacles and increasing hunter/shooter participation, and identify holes in the research–studies that need to be conducted to better understand the issues.
3. Produce and distribute a handbook to guide agencies, wildlife organizations, and others in their efforts to recruit and retain hunter education graduates as lifelong hunters and shooters.

C. Results and Benefits

This project enabled some of the nation's top experts to review and discuss the existing research findings on hunting participation and other types of outdoor recreation in detail as a group. Often, agencies and organizations address common problems without knowledge of other, similar efforts being conducted in other places. This project gathered results of previous work done in this area, focused the best thinking on the issues, and clearly defined future direction and additional research needs. Finally, the project resulted in production of this handbook that provides recommendations on how to increase participation in hunting and shooting activities among graduates of hunter education courses and other audiences.

PROCEDURE

A. Think Tank Meeting

From May through September, 1999, project facilitators assembled scientific literature concerning hunter education, recruitment, participation, and retention (see definitions of these terms in the Glossary). Facilitators also developed a list of experts in hunter education, human dimensions, and the social sciences from which to select Think Tank participants. In August 1999, 12 experts were invited to attend the Think Tank meeting. Ten of those invited accepted the invitation (see Appendix A). Facilitators distributed a package of materials (literature citations and other background information) to the participants in September 1999.

The Think Tank participants met with project facilitators in Lansing, Michigan, on October 5-7, 1999. Participants made formal presentations of pertinent information from their various fields of expertise (see Appendix B).

Following the formal presentations, Think Tank participants brainstormed a list of barriers and opportunities for the issue of hunter participation. They then selected the top ten issues and ranked them in priority order:
1. Lack of social support; influence of social groups outside the program (mentoring, role models, community program linkages, etc.).
2. Need to improve agency support for hunting and hunter education.
3. Need alternative delivery systems for certification to better meet needs of customers.
4. Determine impact of teaching models on participation.
5. Assess effects of supply side aspects (shooting ranges, hunting locations, etc.).
6. Assess opportunities for under-represented groups (ethnic, women, disabled).
7. Address difficulties in program evaluation and assessment.
8. Consider broad social trends (geographic mobility, urbanization, ethnicity, etc.).
9. Increased communication and application of research.
10. Competition for time.

All participants agreed that the lack of social support was by far the most important issue in the list, and toward the end of the Think Tank meeting, participants began developing specific recommendations for increasing hunting/shooting participation. They also began identifying specific research needs to fill gaps in the current body of knowledge relating to hunter participation.

B.   Development of Classification System

From the end of the Think Tank meeting through May 2000, participants and facilitators worked via phone, mail, and e-mail to develop specific recommendations to help increase participation in hunting and shooting activities. These recommendations were developed in the context of an overall hunting/shooting participation classification system.

This hunter participation classification describes:
1.   the various stages of hunter involvement;
2.   the facilitating factors that help move a person into that stage from a lower stage of involvement;
3.   specific recommendations for overcoming barriers to entry and for facilitating permanent involvement; and
4.   future research and evaluation needs.

The Hunter Participation Classification is included in the *Results* section below.

C.   Survey of Hunter Education Administrators

Project facilitators electronically surveyed state hunter education administrators during March 2000. The goal of this survey was to determine characteristics of licensing and hunter education requirements that could affect hunter participation.

More specific objectives included:
1.   Determining at what age hunting may begin in each state.
2.   Identifying the circumstances that determine when hunter education is actually "required."
3.   Determining where the mandatory hunter education program in each state fits within the classification system described above.

D.   Development of Final Report/Handbook

In April and May 2000 project facilitators compiled and edited all input from the Think Tank project into this handbook. This handbook is intended to guide state/provincial agencies, hunter education programs, and other organizations interested in hunter education and hunter/shooter participation–to show where the barriers exist, what can be done to help minimize or eliminate them, and where more information is needed to better understand the problems and solutions.

RESULTS

Based on review of the literature and discussions of the expert participants, following are the major findings of the Hunter Participation Think Tank. The *Hunter Participation Classification* section below further describes these findings and includes recommendations for future actions and research.

1. Hunter education graduate participation is not the problem. One very wrong, but often-quoted "statistic," is that "half of hunter education graduates never go hunting." In fact, previous studies indicate that more than 85% of graduates do participate in hunting. Further, graduates who do not hunt probably never intended to hunt, and efforts to convince them otherwise would likely be ineffective. Agencies should welcome non-hunting family members and other students into the hunter education program since these people can become or remain supportive of hunting and hunters in their community.

   Current longitudinal studies on hunting participation are inadequate. One study (Applegate, 1982) suggests that 50% of hunter education graduates quit purchasing hunting licenses within five years. However, at this point, many of the subjects were leaving home for college, service in the armed forces, or moving away to jobs, marriages, etc. Some of these graduates may have returned to hunting at a later time, and some may have retained identities as hunters even though they lacked opportunity to participate. Longitudinal studies are very difficult due to mobility, funding, non-response, etc. This is an area for creative researchers to consider in the future.

2. Becoming a hunter/shooter involves more than just firing a firearm or bow or going afield to harvest game. Being a hunter/shooter is more attitudinally based and involves development over time of an individual's perception of him/herself as a hunter/shooter and as part of a bigger hunting/shooting culture. This development does not occur in a vacuum and requires a broad and deep social system of initiators, companions, and mentors. Not everyone in the shooting/hunting culture is an active hunter/shooter. Long-term participation in hunting/shooting depends on development of this personal/cultural identity. Recognition that long-term participation in hunting/shooting is linked inexorably with personal/cultural identity development has an influence on our understanding and definition of the terms recruitment and retention in a hunting/shooting context. A person can be considered recruited when they have developed a personal/cultural identity as a hunter/shooter. A person can be considered retained if they continue to maintain this self-perception over time.

3. The number of hunter education graduates does not provide a very useful indicator of recruitment, although it has often been used in this way. Reports and news releases generally estimate the number of annual hunter education graduates in North America to be about 750,000 people a year, but the number of "new" hunters attending courses each year may be no where close to that figure–perhaps as low as half that total. Unfortunately, there is little survey data to accurately assess the actual numbers and trends, but consider:

    - Some hunter education graduates never intend to hunt, but attend courses either to find out more about hunting and shooting because their family or friends made them do it, or because the course was part of an environmental education program. Saying that these people are recruits is grossly inaccurate, and trying to turn them into recruits is probably a waste of time.

    - Increasing numbers of licensed hunters are required to take hunter education courses in order to hunt in other states or provinces. Certification requirements applying to hunters born after a certain date apply to a greater percentage of the hunting population each year. These hunters may have been grandfathered under their own state laws, or they have lost certification cards from the courses they attended. Inadequate record-keeping procedures by some agencies forces some people to retake a course to get a new card for a non-resident hunting trip. [Note: verifying training and issuing duplicate cards requires a significant commitment of human resources each year. In some states, hunter education personnel spend hundreds of hours a year on these tasks.]

    - In some states, people may begin participating in hunting before they are required to take a course. Hunter education laws may not apply unless the person reaches a certain age or decides to hunt for specific species of big game. Thus, a person may already be "recruited" into the hunting/shooting community before taking the course. This situation is beneficial for hunter recruitment, but it may mask or confuse the number trends.

    - Many other people who are quite interested in becoming hunters never make it to a hunter education program. Available studies suggest that only 30 to 40% of teenagers interested in hunting are actually trying it. These people represent the greatest potential for recruitment. Demand for hunting/shooting opportunities does not need to be created, it just needs to be recognized and met.

    There is great danger in thinking of a hunter education program as the "switch" that defines someone as a recruit. If agencies use the hunter education program to certify people as being qualified to go afield in the company of others, the hunter education program can be a barrier to development of that person's self-perception as a hunter because going afield with other hunters may be a necessary step in helping the individual understand how shooting game is a significant element of the full context of being a hunter (which also includes a variety of other hunting-related activities).

    Agencies need to consciously decide upon the purpose of their hunter education programs. Given the nature of the processes through which someone becomes a hunter, it makes little

sense to give artificial importance to hunter education programs in terms of recruitment and retention. Requiring people to take hunter education courses before allowing them to kill game makes sense, just as does requiring them to buy licenses for that specific purpose. But since the hunting culture does not define a hunter as simply someone who shoots game, it makes little sense to have hunter education programs be thought of as major elements in determining whether someone is recruited or retained as a hunter.

4. In proper context, license sales and other easy-to-measure data can provide some useful information about hunting participation; however, they are inadequate for assessing the success of long-term recruitment and retention programs because these indicators:

    *   Ignore sporadic hunters who are important components of the hunting culture, providing important social support for others.
    *   Ignore dropouts who may not go afield because of advanced age or other family obligations, but who still provide important social support in the hunting culture.
    *   Consider people to be hunters even though they may not have an understanding of the cultural and personal significance of hunting, and thus, are unlikely to be either long-term participants or active supporters of maintaining the hunting culture.
    *   Ignore the large number of people who support hunting politically, economically, and socially even though they do not buy licenses and pursue game (research suggests that active license buyers represent less than 25% of people who have identities as hunters).

5. Providing and enhancing social support for hunters is the key to future hunting and shooting participation. Efforts to increase participation should focus on "becoming a hunter" and not on "going hunting." How someone develops a personal/cultural identity as a hunter is a long-term process involving myriad activities, and always occurring in a particular social context. Any individual can go hunting once or even multiple times, but development of a personal/cultural identity is necessary for his/her long-term commitment and participation. State/provincial wildlife agencies are limited in their ability to directly influence many aspects of social support issues, but they can and should be catalysts in this regard.

6. The development of social competence is critical to the development of a long-term hunter. Hunter education programs in the past have primarily focused on technical competence with little or no consideration given to their potentially negative influence on social competence. Hunter education regulations that, by accident or by design, interfere with traditional apprenticeship opportunities may have a negative impact on recruitment. Conversely, hunter education programs may have positive influences on people who are interested in hunting but lack opportunities to learn about it from friends and family members. Apprenticeship experiences provide opportunities for interested persons to become socialized into hunting and shooting. Through these experiences, the individual develops technical competence in a set of skills and techniques. These experiences also help the individual develop social competence through recognition and adoption of implicit qualities and beliefs that are

associated with being a hunter.

- Technical competence means learning about a skill as much as it means learning how to do a skill.
- Social competence is developed through socialization and social control. Socialization means taking on new roles and developing an understanding of what is expected of a person in that role. Social control is exerted by others in more senior roles and helps to protect the safety of participants and to protect the integrity of the role.

Social support pertains to the social context and environment within which apprenticeship activities occur. It needs to occur at a variety of levels. Mentors have the responsibility to identify and facilitate important linkages between individuals within groups in which the individual is an active participant (e.g., home, school, church, hunt club).

7.   Think Tank members created a model classification system to help agencies analyze their hunter recruitment and participation needs (see Results section).

Lack of Social Support
As evidenced by the list of findings above, Think Tank participants agreed that by far the biggest obstacle facing hunter participation today is the lack of social infrastructure and social support mechanisms for hunters and shooters. This lack of social support has impacts at every stage of hunter/shooter involvement.

The issue of social support for hunters and hunting is complex and pervasive. It is far beyond the scope of any single program, agency, or organization to solve by itself. However, there are many actions that individual programs, agencies, and organizations can take to move in the right direction–to help introduce more people to hunting and shooting activities and to increase their participation at every stage in their hunting/shooting "careers."

Hunter Motivations
All hunters have one or more motivations for hunting–primary reasons why they become involved and stay involved. These motivations have been described as *Achievement*, *Affiliation*, and *Appreciation* (see descriptions below). People in every stage of hunting involvement may have one, two, or all three of these motivations, but in general, research suggests that people in earlier stages of involvement tend to have single motivations, and that motivation is often achievement-oriented.

Agencies should provide opportunities for hunters to develop and satisfy multiple motivations to encourage their long-term participation. Satisfaction of multiple motivations not only makes "hunting" a more integral part of the person's life, but also is reflective of the person starting to recognize that being a hunter is more than just going out to shoot something.

Achievement
Achievement-oriented hunters are motivated by numbers of animals harvested, trophy animals, methodology, recognition, and demonstration of skill. Achievement-oriented hunters may exhibit what others may describe as the most negative (and sometimes illegal) behavior patterns in an attempt to satisfy their desire to excel and be recognized. These hunters may also be motivated by higher ideals. These hunters may want to become hunter education instructors for a variety of reasons, some positive (e.g., to help as many other people as possible) and some negative (e.g., to use their instructor status merely as a tool to help them get permission to hunt on private lands; or to gain influence or credibility among their peers; or to give them a forum for teaching others the "one" right way to do things).

Affiliative
Affiliative hunters are motivated by relationships and interactions with family and friends. Those relationships are important for fueling their identity development–they use those relationships to ensure they have opportunities to engage in the activities and behaviors that make them think of themselves as hunters. Hunters may also develop affiliative relationships with dogs, whereby the desire to share time with the animal companion becomes a motivation to hunt. Affiliative hunters may be good candidates for mentoring people or for becoming hunter education instructors.

Appreciative
Hunters with an appreciative orientation are motivated to seek solitude and "wilderness" experiences. The motivation is to get away, renew energy, and enjoy or appreciate nature. Hunters driven solely by appreciative motivations may not be good candidates for mentoring unless they see hunters as essential supporters of "wilderness" and open-space.

Hunter Participation Classification System

Think Tank participants developed the following classification system to identify:
1. the various stages of hunter "adoption" or involvement;
2. the facilitating factors that help move a person into the next stage of involvement;
3. specific recommendations for overcoming barriers specific to that stage and for facilitating permanent involvement; and
4. future research needs.

Different kinds of social support are needed for the different stages of adoption. The classification system is designed to make the recommended actions and future research needs more targeted and effective.

Each stage of hunting adoption listed in this classification system contains the following sections:

Definition: Defines the segment of the population that fits in this stage.
Facilitating Factors: Factors that facilitate movement or progression from one stage of hunting adoption to the next.
Recommended Strategies: Strategies and actions for moving people toward (and keeping them in) one of the continuation stages.
Research and Evaluation Needs: Information needed in order to allow more effective and targeted strategies for moving people toward (and keeping them in) one of the continuation stages of hunting.

Note: In traditional hunting adoption theory, the stages of adoption are based on attitudes. In this classification, the attitudinally based continuation stage is subdivided into three stages that are based on behaviors. Think Tank participants felt that this division provided more detail and allowed the identification of more specific recommendations for agencies and organizations to use in their efforts to increase participation in hunting/shooting.

I. Awareness Stage

Definition: People who are aware that hunting and shooting are legal recreational activities.

Facilitating Factors:
Exposure to hunting and shooting through the media.
Watching (seeing people out hunting and shooting).
Hearing others talking about hunting and shooting.
There may or may not be any real interaction between the individual in the awareness stage and the hunting culture, as long as there is recognition by the individual that the activity of hunting is done.

Recommended Strategies:
1. Promote hunting and the benefits of participating.
2. Promote shooting and the benefits of participating.
3. Develop ways to engage people in a socialization process.
4. Develop programs for parents who do not hunt (include existing programs and information from NSSF and others). Potential program ideas include:
    - Community collaboration for hunting and shooting ("Hands-on" events sponsored by retailers, clubs, agencies, conservation and youth organizations, etc.).
    - Show the benefits that shooting sports have on life skills (increased concentration, self esteem, etc.).

5. Develop a positive presence for the hunting and shooting culture at mainstream events (i.e., fairs, festivals, malls, zoos, science centers etc.).

Research & Evaluation Needs:

1. Identify optimal target audiences (study non-hunters, former hunters, and present hunters, looking for patterns of influences).
2. Identify the most effective methods for reaching the target audiences (what are the communication preferences of the various target audiences–how to best reach them?).
3. Identify the attitudes of non-hunting parents toward hunting and shooting–what would it take to make them part of their children's social structure?
4. Determine what aspects of hunting/wildlife management appeal to nonhunters (what messages would encourage them to be supporters, even if they never participate).

II. Interest Stage

Definition: People who move beyond the awareness stage and begin to develop some positive thoughts or feelings concerning a possible personal involvement. This stage involves an understanding that being a hunter is something more than just going hunting, and can be exhibited in various levels of intensity. People in this stage are starting to consider whether they want to become a "participant." They are not yet developing a notion that they could have an identity as a hunter per se, but that they may be willing to participate in some hunting-related activities.

Facilitating Factors:
Direct interaction with members of the hunting and shooting culture.
Development of an understanding of what hunting is all about.
Development of the notion that hunting and shooting activities might be consistent with individual's personal motivational-orientations.
Encouragement from family and friends.
Promotional materials/media.
Hunter education course through a school, scout, or other youth organization program.

Recommended Strategies:
1. Promote hunting and hunter education programs (promote the positive role hunters play in natural resources conservation, especially to youth audiences).
2. Make hunter education courses convenient and fun.
3. Develop alternative methods for delivering the hunter education program. This may depend on the purpose of the course (license purchase vs. opportunity to learn about hunting).
4. Promote the NSSF "Step Outside" program and similar programs.

5. Develop ways to engage people in a socialization process before they take a hunter education course (e.g., game dinners, field days, etc.).
6. Develop the "Pocket Park" concept (urban "mini-experience," such as airgun ranges, hunting/shooting simulators, etc.).

7. Supply existing youth organizations with the resources, programs, and technical assistance needed to deliver the programs and provide places to shoot and hunt.

Research & Evaluation Needs:
1. Measure the latent demand for hunting and shooting on a state by state basis.
   – How many potential participants are we missing?
   – What would it take to encourage their participation?
2. Measure the interest in a variety of hunting-related activities and determine the degree to which people in this stage recognize that being a hunter involves more than just buying a license and going afield to harvest game.
3. Determine the degree to which parents of youth in the interest stage recognize that these related activities are part of being a hunter, and the parents' willingness to help facilitate opportunities for the youth to get involved in those activities.
4. Determine which groups (scouts, school, church, etc.) are important in fostering interest.
5. Measure the effectiveness of alternative delivery systems on different target groups.
6. Identify a way to quantify the political and economic support provided by the entire hunting culture, not just license buyers.
7. Investigate the roles that age and developmental stage (social, cognitive, affective, etc.) play in the movement of a person from the awareness stage to the interest stage.

Note: Some state/provincial hunter education regulations are designed to intercept people between the Interest and the Trial Stages of hunting adoption. At the other end of the spectrum, some agencies allow youth to hunt without training or licenses for several years before hunter education is required, as long as the youth is accompanied by an adult. The implications of this range of differences are significant. The hunter education program can actually work against recruitment and retention if program developers insist that it be an important component of becoming a hunter for everyone. Some people may come to think of the hunter education program as an important rite of passage, but that certainly is not guaranteed for all hunters. The hunter education program in this case probably should be separated from recruitment and retention programs or the likelihood is high that it will become a barrier instead of a facilitator. The availability of convenient, well-designed courses is an important consideration for agencies that intervene at this stage.

In other states, young hunters have time to develop social competence and strong identities as hunters before the training is required. In these states, hunter training can be more advanced and the course becomes a true rite of passage from being an apprentice hunter to a person who

can continue hunting, socially and legally, without support.

Also, the legal and mandatory nature of the hunter education course needs to be carefully considered by all states. Many people can be in the continuation stage of adoption (i.e., be recruited and even retained as hunters) without ever taking the hunter education course. If one of the goals of increasing hunting and shooting participation is to build a base of political and economic support, it is important to not discount the support base that already exists. Licensed hunters are only one segment of the hunting culture (probably less than 25% given the number of sporadic participants, dropouts, and nonhunting members of the hunting social world).

(See Figure 1 for a simplified graphical representation of some of the influences of hunter education and social support on hunter participation.)

III. Trial Stage

Definition: When a person begins to act on his/her interest in hunting and shooting they have entered the trial stage. Trials may be personally defined. If a person goes shooting or accompanies someone on a hunt or eats game meat or scouts for a hunting location, it can be a trial experience. A more definite trial experience occurs when a person goes afield with a hunting implement in search of game. People may need several trial experiences before making a decision to continue hunting or give it up. At this stage the person begins to perfect technical competence, and the development of social competence is critical to further advancement. The person may begin to develop an identity as a hunter–a strong indicator of a person in the trial stage.

Facilitating Factors:
Apprenticeship experiences.
Social support opportunities.
Opportunities to develop technical and social competence in all sorts of hunting-related activities (scouting, shooting, finding game, understanding habitat quality, preparing meat, telling good stories, etc.). This includes development of social and cultural attitudes and values concerning hunting.

Recommended Strategies:
1. Provide apprenticeship and social support opportunities year-round.
2. Promote hunter education programs.
3. Develop and test mechanisms for providing social support to hunter education graduates very soon after they complete the course (e.g., clubs, magazines, newsletters).
4. Prepare training modules for hunter education instructors, administrators, industry, and sportsmen's clubs. These modules should stress the importance of social structure to retention of participants and should show instructors how to incorporate these concepts into

the course. (This can be accomplished best by a group that includes researchers, industry, etc.)
5. Develop and promote youth hunts.
6. Provide and promote shooting preserve experiences.
7. Develop and promote surrogate experiences (e.g., simulators, 3-D ranges, field days, etc.).

Figure 1. Influence of Hunter Education and Social Support on Movement from "Interest" to "Trial" Stage of hunting.
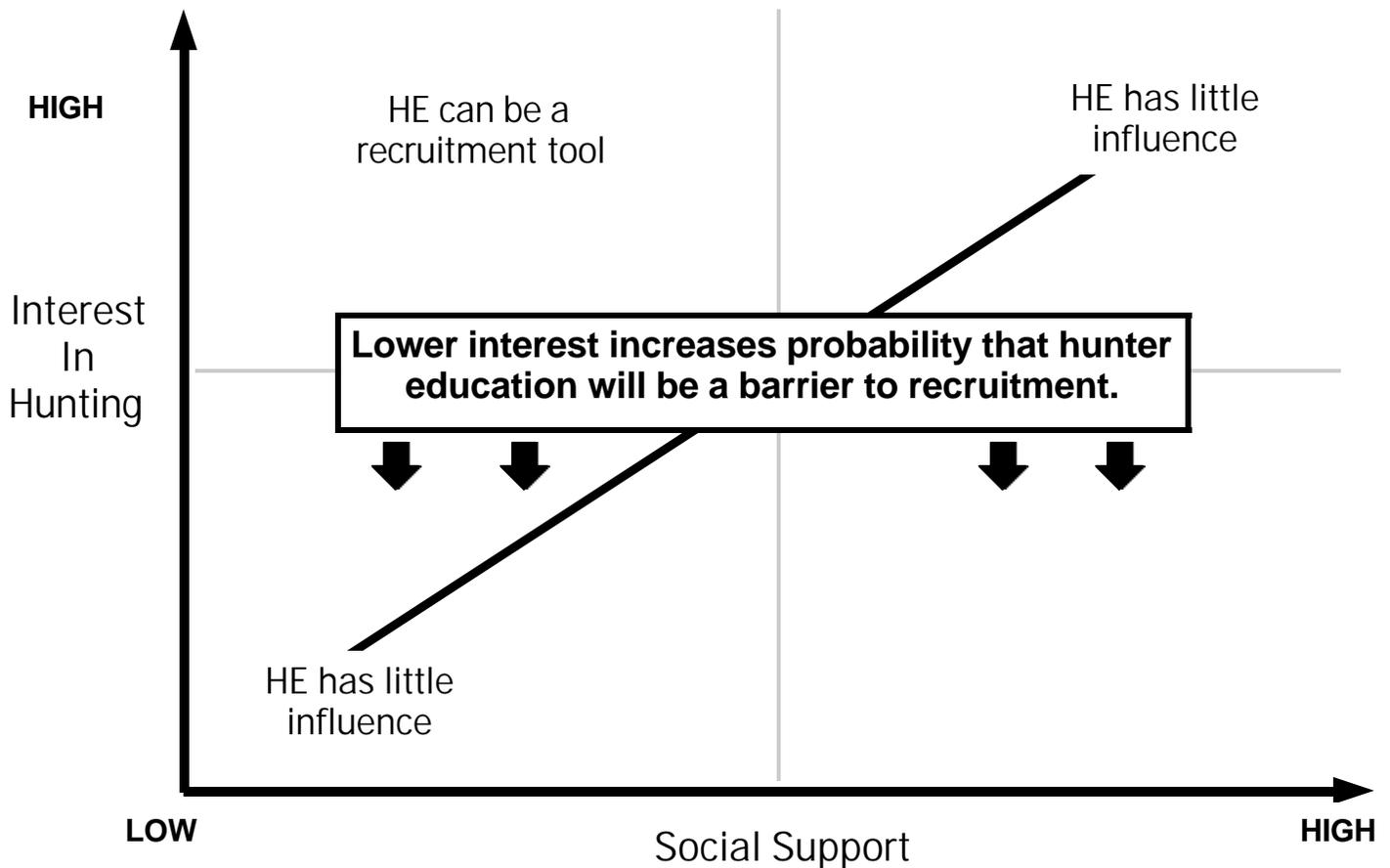
8. Provide opportunities to develop technical competence (shooting ranges, field days, etc.).
9. Develop and provide mentoring opportunities (Adopt-A-Hunter or Apprentice programs).

Research & Evaluation Needs:
1. Administer a pre-course questionnaire [such as the set of questions tested at length and used for more than a decade by researchers at Cornell University to identify stages of hunting involvement (Decker and Purdy 1986; Enck et al. 1996)] to hunter education students throughout North America to collect baseline information and to determine what stage of hunting adoption most students are in. This will allow hunter education administrators to adapt courses to meet student needs and to evaluate overall recruitment and retention needs.
2. Collect data for immediate use in program development and longitudinal investigations.
    a. Determine percentage of hunter education graduates that hunt and do not hunt in the first, second, and third hunting seasons after graduation.
    b. For those who hunt after graduation, identify their hunting effort, experiences, satisfaction, motivations, and level of social support.
    c. For those who do not hunt after graduation, identify the reasons why.
3. Evaluate effectiveness of the participation strategies listed above.
4. Determine how the socialization process differs between groups (men vs. women; urban vs. rural; Caucasian vs. non-Caucasian, etc.).
5. Measure geographic mobility of this group–how to reach people who are "transplanted?"
6. Investigate the roles that age and developmental stage (social, cognitive, affective, etc.) play in the movement of a person from the interest stage to the continuation stage.

IV. Continuation with Support (Apprentice) Stage

Definition: People who have had enough trial experiences to decide they like hunting and to perceive themselves as hunters.

Facilitating Factors:
Development of multiple motivations for being a hunter (not just for going hunting).
Development of a sense of belonging to a broader hunting and shooting culture.
Development of interest in taking on initiator/companion/mentor role within the hunting and shooting culture. No longer being treated as, or feeling like, an apprentice.
Learn new skills.
Companionship.
Challenge.
Achievement.

Recommended Strategies:
1. Provide quality opportunities for participation, such as youth hunts (especially targeted to urban youth and children of nonhunters who already are in the trial stage and indicate readiness to move into the continuation stage).
2. Develop and provide advanced, voluntary, species-specific hunter education programs.

3. Develop and promote opportunities to network with other hunters and shooters (to develop social competence).
4. Develop and provide "refresher" activities prior to hunting seasons to engage last year's license buyers.
5. Develop "Adopt-A-Hunter" programs (apprentice, mentoring).
6. Develop ways to immerse hunter education course graduates in a system of influences and support very soon after they complete the course.
7. Provide hunters/shooters opportunities to be mentors.

Research & Evaluation Needs:
1. Evaluate the effectiveness of strategies designed to increase participation.
2. Measure geographic mobility of this group–how to reach people who are "transplanted" and partner them with appropriate mentors?

Note: In some states hunter education is not required until a youth reaches this stage.

V. Continuation without Focused Support (no longer apprentice) Stage

Definition: At this stage a person has developed an identity as a hunter, along with the requisite social and technical skills needed to have satisfying experiences without outside assistance.

Facilitating Factors:
Legally allowed to hunt alone.
Developing multiple motivations (achievement, affiliative, appreciative).
Confident in social support from family and friends.
Feel technically competent to hunt on their own.
Feel comfortable with the amount of game available, hunting opportunities, complexity of hunting regulations, etc.

Recommended Strategies:
1. Provide opportunities to communicate with other hunters/shooters.
2. Encourage membership in sportsmen's groups.
3. Recruit as hunter education instructors.
4. Recruit as mentors (promote the rewards of being a mentor).
5. Maintain or increase availability of game, hunting opportunities, etc.
6. Promote alternative hunting opportunities (e.g., dove hunters may also try duck hunting if they hear that waterfowl numbers are up in a given year).

Research & Evaluation Needs:
The following types of information would be useful to track for all stages of hunting adoption, but it is especially important to discover what happens to "newly formed" hunters and shooters. This information can then be used to help ensure that the hunting/shooting community does not "lose track" of these people over time.
1. Track participation over time.
2. Track license buying activity.
3. Track number of days hunted.
4. Track amount of gear purchased.
5. Track memberships in sporting organizations.
6. Track subscriptions to sporting magazines.
7. Measure geographic mobility of this group–how to reach people who are "transplanted" and provide social support for hunting?
8. Correlate these behaviors with different hunter identity types because different hunter self-perceptions probably require different kinds of behaviors as initiating rites of passage and reinforcing activities.

VI. Continuation as a Hunting Proponent Stage

Definition: People who provide strong social and political support for the hunting and shooting sports at local, state/provincial, and/or regional and national levels.

Note: A small proportion of licensed hunters are in this stage, although for those who take it on or seek it out, it is a major part of their identity as a hunter.

Facilitating Factors:
They have multiple motivations (Affiliative; Affective; Appreciation).
Tradition, heritage.
"Individualist," 2nd Amendment rights.

Recommended Strategies:
1. Provide opportunities to communicate with other hunters/shooters.
2. Develop rewards programs.
3. Develop recognition programs.
4. Recruit as mentors (promote the rewards of being a mentor).
5. Increase acceptance of this group's vital role by agency personnel.

Research & Evaluation Needs:
Hunting proponents make up a small but vitally important segment of the hunting/shooting culture–a segment that has not been studied much.
1. Study the factors that lead people to this stage. Can we recruit more of these?
2. Evaluate agency effectiveness at nurturing this group to retain them in this stage.
3. Evaluate the impact of these people on other hunters and on other segments of society.

VII. Temporary Cessation Stage

Definition: People who temporarily drop out of the hunting ranks because of various factors. These people may experience a temporary loss of connection with the hunting and shooting culture; or they may remain connected with the culture, but cease their hunting activities.

Facilitating Factors:
Physical (illness, hospitalization, etc.).
Economic (cannot afford to hunt, work obligations, etc.).
Family obligations.
Reduced prospects for success (reduced game populations, bag limits, etc.).
Limited access to hunting land.
Displacement (moved to new, unfamiliar area of the country).
Loss of social support (long-time hunting partner moves away, dies, or quits hunting).
Loss of free time.

Recommended Strategies:
1. Maintain contact.
2. Promote opportunities to rejoin active participation.
3. Promote opportunities to take on other roles in the hunting and shooting culture (mentor, initiator, companion).
4. Promote alternative hunting opportunities (e.g., displaced dove hunters may take up duck hunting if they hear that waterfowl hunting is good in their new location).

Research & Evaluation Needs:
1. Measure rates of temporary cessation.
2. Monitor trends in license buying habits.
3. Determine reasons for temporary cessation.

VIII. Permanent Desertion Stage

Definition: People who permanently stop hunting and no longer consider themselves hunters.

*Note: Although a hunter may him/herself permanently desert the ranks of hunters, that doesn't
mean that he or she is opposed to hunting or will not support hunting and hunters in other ways.*
Facilitating Factors:
Physical (death, or can no longer walk, shoot, hear, etc.).
Economic (cannot afford to hunt).
Family obligations.
"Bad experience" with hunting or other hunters.
Reduced prospects for success (reduced game populations, bag limits, etc.).
Limited access to hunting land.
Displacement (moved to new, unfamiliar area of the country).

Recommended Strategies:
1. Maintain contact where possible.
2. Promote opportunities to take on other roles in the hunting and shooting culture (mentor,
    initiator, companion).

Research & Evaluation Needs:
1. Measure rates of desertion (loss of interest).
2. Determine reasons for permanent desertion.

Results of the Hunter Education Administrator Survey
Project facilitators electronically surveyed state hunter education administrators during March
2000. The goal of this survey was to determine characteristics of licensing and hunter education
requirements that could affect hunter recruitment and retention. A total of 31 state hunter
education administrators responded (62%) to this survey.

Responses to this survey suggest that "mandatory" hunter education programs vary widely.
Some states allow children to hunt with their parents or other adults without obtaining licenses or
hunter education training. This allows people with an interest in hunting to have numerous trial
experiences prior to taking a course. Accompanying others on a hunt is an important factor in
helping a child understand hunting in the context of other hunting-related activities like target
shooting, preparing gear, cleaning firearms, eating game, and sharing hunting stories. In this
scenario, youth are more likely to be in the continuation stage of hunting adoption when they
finally take the course.

Other states require youth to be certified and licensed before they can do anything other than observe the hunt. These requirements put strong time and planning constraints on the children and their parents. If people are unable to obtain contextual experience without first taking a hunter education course, then the course may act as a barrier to someone becoming a hunter. That is, the hunter education requirement could prevent or discourage people from moving from the interest stage into the trial and continuation stages of hunter adoption.

Conversely, hunter education programs may attract people with high interest in hunting but low social support. Hunter education programs should be designed to help these people make contacts with clubs, ranges, and other organizations that are part of the hunting world's infrastructure to help these people further develop their interest/participation.

Conclusions

Recommendations for Natural Resources Agencies
Following are recommendations that are targeted specifically to the state/provincial natural resources agencies that include hunter education programs.

Agencies need to analyze their approach to licensing and hunter education to determine where in the classification system their education program is designed to intercept hunting participants. Hunter education course participants will vary widely in their stage of hunting adoption within the state/province, but trends should be determined. Agencies may want to change certain aspects of the licensing and training process, or they may want to redesign their hunter education curriculum and delivery systems to better serve the people who are interested in hunting.

The ways in which agencies implement hunter education programs, and especially the ways in which they interpret and apply mandatory certification requirements, can *unintentionally* affect progression from a lower stage of hunting involvement into higher stages. Hunter education programs aimed at the general public (i.e., with no assumption that all participants intend to become hunters) and that are intended to help people recognize that the activity of hunting is just a part of the broader hunting and shooting culture could help people move from the awareness to the interest or even trial stages of involvement. At the other end of the spectrum, courses aimed at knowledge and skill development in terms of shooting game may inadvertently diminish interest by giving people in the awareness stage the false impression that being a hunter is only equated with harvesting game.

Also, agencies that allow non-certified people to accompany hunters in the field on hunting trips probably benefit the development of interest, provide opportunities for the non-certified individual to gain contextual understanding and experience, and allow them to move toward the

trial or even continuation stage unimpeded. At the other end of the spectrum, requiring a person to be certified just so they can participate in a trial experience probably acts as a significant barrier to movement from the interest stage into the trial stage.

Making hunter education programs mandatory for license purchase should not present any real barrier to someone becoming a hunter, as long as courses are well-designed and available. It's the middle ground where hunter education programs try to be "gatekeepers" of whether people can think of themselves as hunters that the real problem occurs.

In some states/provinces, the agency tries to make the hunter education program into a legal rite of passage for all hunters, even though it is not seen that way by most license buyers. Making hunter education certification mandatory for moving from the interest stage to the trial stage is problematic. Under this scenario, a hunter education course may become a barrier rather than an experience that helps transform someone from a person who is interested in becoming a hunter into someone who has a self-perception as a hunter. Certainly, some hunters think back on their hunter education course as a rite of passage, but research suggests that most do not. If hunter education certification is turned into an initiation rite so someone can get a "membership card" in the hunting and shooting culture, it can deny "membership" to people who can benefit most from apprenticeship experiences (people in the interest and trial stages). It also can deny "membership" to people who already think of themselves as being hunters (those in the continuation stage who are not legally old enough to get a license, or adults who for whatever reason have not yet gone through the course).

Agencies need to clearly understand that there is a difference between the activity of hunting and what is meant by "being a hunter." Similarly, recruitment and retention of hunters is quite different from recruitment and retention of license buyers. License buying is a necessary activity, but it is not generally thought of as a transforming experience.

Specific Recommendations to the Agency that Administers the Hunter Education Program
1. Continue review of state/provincial hunter education programs.
2. Develop effective measures of the impact/success of hunter education on recruitment/retention (other than license sales).
3. Recognize that hunter education offers tremendous opportunities for the agency to interact with its constituents–take advantage of these opportunities.
4. Provide more shooting ranges and hunting and shooting opportunities for the public.
5. Evaluate the impacts of agency regulations on hunting and shooting participation.
6. Make it easier for hunters to get the necessary licenses/tags.
7. Encourage agency personnel that do not hunt to become familiar with hunting/shooting activities (participate in a "Becoming an Outdoors Woman"program or similar course).

Specific Recommendations to the Hunter Education Program
1. Develop systems for delivering hunter education programs in non-traditional ways.
2. Identify and evaluate other successful programs and their delivery systems (e.g., anti-smoking campaign, seatbelts, etc.).
3. Determine if there are teaching methods/behaviors that encourage retention of hunter education students. If so, develop a delivery system to impart these methods/behaviors to hunter education instructors.
4. Document the relationship (if any) between course quality and permanent participation of the student in hunting and shooting activities.
5. Develop effective messages and media for convincing agency leadership of the value of hunter education to the agency.
6. Develop effective messages and media for agency leadership to use to promote the importance of hunter education outside the agency.
7. Assess levels and locus of agency support for the hunter education program.
8. Explore new ways to deliver hunter education to under-represented groups (ethnic, women, disabled).

The issue of providing social support for hunters and hunting is complex and far beyond the scope of any single agency or organization to solve by itself. However, agencies are not in it alone, and they should serve as catalysts and facilitators among the many stakeholders that share their interest.

Recommendations for Industry and Other Stakeholders

Like agencies, industry and other stakeholders need to understand that there is a difference between the activity of hunting and what is meant by "being a hunter." The primary focus of hunter participation efforts should be, not so much to get people to buy hunting licenses, but to move people from the interest stage to the trial stage and ultimately to the continuation stage of hunting involvement.

1. Encourage and support the development of flexible hunter education delivery systems that allow convenient access to programs for all students.
2. Encourage and support the further development and implementation of mentoring programs that serve to introduce newcomers to hunting and the shooting sports.
3. Continue to explore and evaluate new strategies that encourage and promote youth interest in the out-of-doors, including outdoor "adventure camps" and similar innovative concepts.
4. Continue to explore and evaluate landowner programs that provide hunting access and that recognize landowners who are active in such efforts.
5. Encourage and support the development of programs that focus on recruitment from non-traditional audiences.

6. Enhance communication and coordination among existing youth shooting programs to promote "cross-over" opportunities, sharing of information, and creation of strong, new partnership programs.
7. Support and expand existing programs to enhance the opportunities and the enjoyment of the shooting sports by women, and consider new programs that enhance the effectiveness of these efforts.
8. Continue to develop and support efforts aimed at expanding existing high school shooting sports programs and starting new high school programs that provide continuing shooting opportunities for young adults.
9. Support and expand existing programs to enhance the opportunities and the enjoyment of the shooting sports by minorities, and consider new programs that enhance the effectiveness of these efforts.

10. Support and expand existing programs to enhance the opportunities and the enjoyment of the shooting sports by the physically challenged, and consider new programs that enhance the effectiveness of these efforts.
11. Provide modern, safe, and environmentally responsible shooting facilities.
12. Expedite construction of public and commercial ranges in those metropolitan areas where there is a lack of accessible and convenient shooting opportunities.

Appendix A. Think Tank Participants

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Appendix B. Formal Presentations made at the Hunter Participation Think Tank Meeting, October 5-7, 1999

Dissecting the Beast: An Overview of Hunter Education
Jim Wentz

Life in the Trenches–Problems and Concerns of Hunter Education Coordinators
David Knotts

Measures of Participation
Ben Peyton

Mentoring and Motivations
Jody Enck

Hunter Education Recruitment–Insights from Scouting
David Knotts

Women's Participation in Hunting/Shooting
Diane Lueck

Insights from the 4-H Shooting Sports Program
Stephan Carlson

Fishing Participation–Relevant Issues for Hunting
Shari Dann

Importance of Rural Sociology: The Alberta Experience
Richard Stedman

Motivations, Psychological Perspectives on Participation/Trends
Dennis Propst

Appendix C. Glossary

Antecedent – Behaviors, attitudes, and understandings that occur prior to participation in the specific activity of going afield to try to kill game.

Apprenticeship – Imparting specialized, implicit knowledge to new practitioners through long-term observation and experience. (Paraphrased from M.W. Coy, ed. 1989). An apprentice is a person who is engaged in learning this implicit knowledge and understanding and how to apply it in various contexts.

Hunting Culture – That part of society for which the consumptive use of wildlife plays important roles in organizing and maintaining social relations.

Mentor – A person who facilitates an apprentice's development as a hunter by identifying opportunities for the apprentice to gain experience through a variety of positive hunting settings and contexts.

Recruitment – Attainment of a self-perception that one is a hunter and is a member of a broader hunting and shooting culture.

Retention – Continued perception of oneself as a hunter/shooter and a member of a broader hunting and shooting culture.

Both recruitment and retention are more attitudinal than behavior based. Important behaviors associated with being a hunter include not only trying to kill game, but also include developing other technical and social competencies, as well as taking on mentoring and social support roles that have nothing to do with harvest.

Social Support – Encouraging and nurturing a person's interest in hunting.

Socialization – Process of being exposed to new roles and experiences which result in changes to an individual's self-perception. (Mortimer 1979; Mortimer and Lorence 1979).

Social Competence – Understanding the rights and responsibilities, societal context, and functions of a role (Graves 1989).

Technical Competence – Learning specific skills and understanding how to apply those skills in varying situations; learning about a skill more than learning a skill. (Merle 1994).

Appendix D. Bibliography

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