

EVALUATION OF A BEAR HUNTERS SURVEY AND ITS IMPLICATIONS ON BLACK BEAR MANAGEMENT IN VIRGINIA

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Abstract: A questionnaire was developed to characterize Virginia bear hunters, their hunting methods, and attitudes concerning Virginia bear hunting, Game Commission policy, and potential management alternatives. Of the respondents 61% were dog hunters and 39% incidental hunters. These 2 classes differ in hunting methods as well as attitudes concerning hunting and proper management strategies. Although these differences complicate decisions, they must be considered in planning bear management policy and education efforts.

Proc. Ann. Conf. S.E. Assoc. Fish & Wildl. Agencies 32: 202-207

In recent years the public has become more vocal in questioning goals and objectives pertaining to the management and use of its natural resources. Both consumptive and nonconsumptive users are demanding that their interests be considered in developing management policies. It is significant that in recent years concentrated efforts also have been made by natural resource agencies to delineate user characteristics and attitudes in the development of management policy. Comprehensive wildlife management must consider human attitudes and interactions as well as wildlife characteristics.

With growing pressure from the public sector it is becoming increasingly difficult for resource agencies to justify management policies solely on biological information. The public must be made aware of the criteria used to establish policy and potential public benefits.

Objectives of an on-going research project at VPI & SU are to determine the status and trends of the Virginia black bear (*Ursus americanus*) population and to propose plausible management alternatives. In our initial efforts to utilize the available data base, it became obvious that information regarding hunter pressure, characteristics, methods, and attitudes was seriously lacking. Comprehensive planning must include this type of input. The objective of this study was to characterize Virginia bear hunters, their hunting methods, and their attitudes concerning Game Commission policy, the quality of Virginia bear hunting, and potential changes in management strategy.

The following individuals are acknowledged for their assistance in developing the questionnaire: J. Raybourne, Game Biologist, Virginia Commission of Game and Inland Fisheries, and R. H. Giles, Jr., Professor, Wildlife Management, Virginia Polytechnic Institute and State University. Financial support was provided by the Virginia Commission of Game and Inland Fisheries.

METHODS

A 39-item questionnaire concerning basic demographic information, hunter characteristics, methods, and attitudes about Game Commission policy was administered to 2 groups within the state: (1) 279 hunters from the past 6 seasons who had returned bear teeth to the Virginia Game Commission for an aging study, and (2) 138 dues-paying members of the Virginia Bear Hunters Association (VBHA). The VBHA group was chosen from a small group of Virginia dog hunting clubs to characterize the attitudes and attributes of organized dog hunting groups. Obviously these 2 groups are not mutually exclusive; those VBHA members who were included in the first group (15 individuals) were mailed only 1 questionnaire.

Questionnaires were sent in a single mailing. No follow-up procedures were utilized due to time and funding constraints.

RESULTS AND DISCUSSION

A total of 222 (53%) questionnaires were returned, 140 (50%) from successful bear hunters and 82 (59%) from VBHA members. Results from the combined survey indicated that the typical Virginia bear hunter is a man in his late thirties, has a high school education, lives in a rural community, and is employed in an unskilled or skilled occupation. He hunts bear for 2 weeks every year in a county other than the one in which he resides. He has 15 years hunting experience and has killed at least 1 bear. He hunts with 11 to 15 fellow hunters, uses 8 dogs released in 1 or 2 packs and owns an average of 4 dogs which he values at \$450.00 each.

The above stereotype is somewhat misleading for it was determined that there are 2 major classes of bear hunters in Virginia. There are (1) individuals who hunt only with dogs, and (2) those who have killed bear while actually seeking other game – incidental hunters. The following sections will deal with comparisons of these groups.

Demographic Information

Hunters who use dogs are, on the average, older than incidental hunters (Table 1). All hunters have the same level of educational achievement (median = 12 years). A large proportion of each hunter group is from a rural or small town environment (Table 2). The majority of both groups work in unskilled, e.g., laborer, or skilled, e.g., electrician, occupations (Table 3). Those individuals who listed more than one occupation were classified according to their primary occupation (if noted) or the first mentioned.

Table 1. Hunter characteristics (\bar{x} = mean, \check{x} = median).

	<i>VBHA members</i>		<i>All dog hunters</i>		<i>Incidental hunters</i>		<i>All hunters</i>	
	\bar{x}	\check{x}	\bar{x}	\check{x}	\bar{x}	\check{x}	\bar{x}	\check{x}
Age	42	42	40	39	35	34	38	38
Education	11	12	11	12	12	12	11	12
Years hunting experience	20	20	18	16	11	10	16	15
Number of bear killed	5	2	5	2	1	1	3	1
Number of days hunted per year	19	15	18	15	11	7	16	13

Table 2. Population of home town (percentage of total within the group).

	< 1000	1001-5000	5001-20,000	20,001-50,000	> 50,000
VBHA members	38	17	27	16	2
All dog hunters	44	21	21	11	4
Incidental hunters	38	24	20	11	8

Table 3. Hunter occupation (percentage).

	<i>Unskilled</i>	<i>Skilled</i>	<i>Supervision</i>	<i>Self-employed</i>	<i>Professional</i>	<i>Other^a</i>
VBHA members	31	29	13	12	4	11
All dog hunters	39	24	9	14	4	10
Incidental hunters	27	30	16	10	7	10
Non-club dog hunters	50	17	4	17	6	7

^aRetired, student, housewife, unemployed.

Dog hunters, as would be expected from their older median age, have significantly more hunting experience than incidental hunters (Table 1). Most dog hunters have a tradition of bear hunting in their family group while less than one-third of the incidental hunters reported this trend.

Dog hunters are afield twice as many days per hunting season as are incidental hunters. Dog hunters have also reported harvesting more bears over the years (median = 2, range 1-60) than incidental hunters (median = 1, range 1-5) (Table 1).

Sixty-five percent of all dog hunters own and maintain dogs. Each dog owner has a median of 4 dogs valued at \$450.00 each. The monetary investment of buying and training dogs in addition to their maintenance throughout the year was cited as incentive for frequent hunting trips. Nine dog hunters mentioned that they hunted primarily for the chase and did not harvest bear which were "tree'd". Apparently the chase is as important to many dog hunters as the kill.

Hunting Methods

Approximately two-thirds of the hunters sampled used bear dogs in harvesting or hunting bear. A high percentage (79%) of all dog hunters used 2-way radios for communication during hunts. Hunters reported using radios to facilitate picking up dogs after the chase as well as coordination of hunter movements during the chase.

Hunting parties that used dogs had a median of 11 people (range 1-75) while those hunting without dogs had a median of 2 (range 1-8). The number of dogs used in a bear hunt varied from 2 to 35 (median = 8) with 1 to 9 packs released during the chase (median = 1) (Table 4).

Table 4. Dog hunting characteristics. (\bar{x} = mean, \hat{x} = median)

	<i>VBHA members</i>		<i>Non-club hunters</i>		<i>All dog hunters</i>	
	\bar{x}	\hat{x}	\bar{x}	\hat{x}	\bar{x}	\hat{x}
Number hunter in party	15	12	14	11	12	11
Number of dogs used/hunt	10	8	9	8	9	8
Packs of dogs used/hunt	2	1	2	1	2	1

In general all hunters use a high-powered rifle in their sport. Incidental hunters however reported 64% of their kills within 1.6 km of a road, while dog hunters reported 64% of their kills at a distance of more than 1.6 km from a roadway. It would appear, due to the mobility of the dogs, that dog hunters are frequently not found in close proximity to a roadway when the actual kill takes place. Incidental hunters on the other hand, frequently hunt from a stand or by stalking game. It appears that greater than half of this group spend their time in close proximity to a road of some type.

Sixty-eight percent of all hunters reported hunting bear only. This corresponds closely to the percentage of dog hunters in the sample. Fourteen percent of the hunters said they were hunting deer and only 1% were hunting turkey. Sixteen percent of all hunters reported hunting more than one type of game at the time of kill; deer was the common game animal for these hunters.

In an attempt to determine if hunters are selective in harvesting bear, 1 question dealt with whether the hunter had not taken the opportunity to shoot at the first bear within shooting range. Sixty-three percent of all hunters reported that they did not shoot the first bear seen; however, dog hunters are much more likely to pass up a bear (72%) than are incidental hunters (45%). This appears to be related to the relative opportunity to see bear. Dog hunters feel that they are certain to see additional bear during the season because of the ability of their dogs to track bear, while incidental hunters appear to be more opportunistic. One might hypothesize that in areas of high bear density, the probability that incidental hunters might also pass up the opportunity to shoot a bear would increase due to their relative abundance. We have no evidence to accept or refute this hypothesis.

If preferred weather conditions could be identified, this information might be used for optimizing deployment of enforcement officers in the field or personnel at check stations. Wet or damp, windless days (34%) and windless days with snow cover (33%) were the weather conditions considered most important for successful bear hunting, i.e., harvesting a bear or enjoying the hunt. Windless days were preferred by most hunters and appeared to be especially important to dog hunters. Windy days make it difficult for the hunters to hear the dogs while tracking bear. Wet ground (either precipitation or snow) was favored by dog hunters because bear scent is more easily detected in this weather.

Attitudes Toward Current Management Policy and Possible Alternative Strategies

Eighty-three percent of VBHA members are familiar with Virginia Game Commission (VGC) bear research projects but less than 50% of the non-club dog hunters and incidental hunters were aware of existing projects. The majority of all hunters (55%) felt that the VGC was doing a good to excellent job in maintaining a viable bear population (Table 5). But 41% of the incidental hunters felt that the existing population was declining as compared to 21% of the dog hunters (Table 6).

In an attempt to determine hunter attitudes toward alternatives in current management policy, 4 questions relating to the initiation of a separate bear tag, establishment of bear sanctuaries, changes in the hunting season, and a change in hunting strategy were included. In addition, comments and suggestions were requested concerning possible improvements in the bear management program.

VBHA members are strongly in favor of a separate tag requirement for hunting bear and also the elimination of all bear hunting during deer season (Table 7). Incidental hunters on the other hand, are opposed to separate bear tags and the elimination of bear hunting during deer season but are in favor of excluding bear hunting with dogs. A frequently mentioned alternative was the restriction of dog hunting to a shorter season. Incidental hunters also expressed concern about the use of vehicles and 2-way radios and preferred the restriction or elimination of these hunting aids.

All hunters were in favor of bear sanctuary establishment (Table 7). However, incidental hunters, as might be expected from their perception of the status of the bear population, were more in favor of sanctuaries than dog hunters.

Table 5. Opinions concerning how good a job the VGC is doing in maintaining a viable black bear population (percent).

	<i>VBHA</i>	<i>Non-club dog hunters</i>	<i>Incidental hunters</i>	<i>All hunters</i>
Poor	9	14	16	12
Fair	34	41	24	32
Good	23	31	41	31
Very good	24	10	13	17
Excellent	10	4	6	7

Table 6. Opinions of the black bear population trend (percent).

	<i>VBHA members</i>	<i>All dog hunters</i>	<i>Incidental hunters</i>
Declining	21	21	42
Increasing	21	20	10
Stable	58	58	48

Table 7. Opinions in response to policy questions (percent affirmative responses).

	<i>VBHA members</i>	<i>Non-club dog hunters</i>	<i>All dog hunters</i>	<i>Incidental hunters</i>	<i>All hunters</i>
Separate bear tag?	93	65	82	38	67
Bear sanctuaries?	65	54	61	81	68
Eliminate bear hunting during deer season?	91	65	81	33	65
Eliminate bear hunting with dogs?	1	4	2	74	26

Other suggestions to improve bear hunting were: more effective law enforcement, stricter penalties for convicted game law violators, habitat improvement, shorter seasons, closing bear season for a few years, more research, and stocking bear (Table 8).

CONCLUSIONS

Apparently 2 distinct hunter groups exploit the Virginia bear resource – dog hunters and incidental hunters. Incidental hunters hunt in conjunction with other game seasons, particularly deer, and tend to be opportunistic. Dog hunters however, having large sums

Table 8. Opinions concerning improvements in the bear management program (percent of respondents who stated that opinion).

	<i>All dog hunters</i>	<i>VBHA members</i>	<i>Incidental hunters</i>
Eliminate bear hunting during deer season	46	54	---
More effective law enforcement, stricter penalties for violators	30	29	9
Habitat improvement, stop habitat destruction	14	12	7
Create a separate bear tag requirement	13	14	6
Create bear sanctuaries	12	9	9
Stock bear	12	9	---
Shorten bear season	9	12	17
Open raccoon season with bear dog hunting	6	11	---
Eliminate bear hunting with dogs	---	---	33
Stop use of 2-way radios for bear hunting	6	2	22
Close bear season for a few years	3	3	18
Close access roads on National Forest lands to "vehicular hunters"	9	6	9
Open bear and deer seasons the same day	3	3	9

of capital investment at stake, hunt specifically for bear, hunt more frequently, and subsequently are more successful at harvesting bear. Their higher harvest also may be related to their advanced methods of sport hunting, i.e., 2-way radios and vehicular travel.

There are certain limitations inherent in the questionnaire method of data collection and these results should be interpreted with a degree of caution; however, these limitations should not detract from the value of this approach in providing useful information. Although incidental dog hunters share some common characteristics, major differences in hunting methods and attitudes creates a dynamic situation which must be carefully evaluated. Our major concern however, should be the wildlife resource and the effect of these 2 groups on its population level. To that end we feel that this survey will provide useful information for developing management policy and direction of educational efforts.