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THE ROLE OF ACCESS IN HUNTER USE OF CANAAN VALLEY, WEST VIRGINIA¹

by

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ABSTRACT

The purpose of this study was to determine how an area of low quality unmaintained access affects hunter satisfaction and use of the Canaan Valley in northeastern West Virginia. The 10,120 ha (25,000 acres) northern half of the valley supported a high, well distributed population of hunters during the 1973-74 hunting season. The valley floor, where access is the most difficult, supported 67 hunter days per 40.5 ha (100 acres) and the mountainside supported 63 hunter days per 40.5 ha (100 acres). Approximately 10 percent (160) of the hunters using the valley during the 1972-73 season were interviewed by telephone. Hunters were satisfied with road conditions even though the three main access roads into the valley must be negotiated by truck, four-wheel drive vehicle or ATV. A difficult ride into a hunting area may play an important role in the total hunting experience.

INTRODUCTION

Large roadless areas are difficult to manage for hunting since most hunters will not venture far from access. Small game hunters in North Carolina prefer to hunt within a half mile of a road or trail (James et al. 1969). Johnson (1943) found that a high percentage of deer kills in the Lincoln National Forest of New Mexico were made within one mile of an automobile road and James et al. (1964) found that most deer kills in North Carolina are within one-half mile of roads or trails. The results are over-harvesting and high hunter density near access, and low use and under-harvesting in remote areas. An even distribution of hunters throughout an area is usually desirable, but often necessitates a good network of roads and trails. However, such a system is not only expensive to build and maintain, but may run counter to other management goals. The purpose of this study was to determine how an area of low quality, unmaintained roads and trails affects Hunter satisfaction and distribution.

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METHODS

The Canaan Valley, in northeastern West Virginia, lies 975m (3200 feet) above sea level between Canaan and Brown Mountains on the west and Cabin Mountain on the east. The valley once contained a magnificent spruce forest, but the heavy logging of the early 1900's and the following fires destroyed much of the climax vegetation. Today, the mountain slopes contain a second growth hardwood forest and the valley is composed of poorly drained, organic soils which support large sphagnum bogs, alder (*Alnus sp.*) thickets, native grasses and some isolated stands of spruce (*picea sp.*) and hardwoods. The valley supports a resident woodcock (*Philohela minor*) population (Goudy et al. 1970) and a large white-tailed deer herd (*Odocoileus virginianus*) as well as several flocks of wild turkeys (*Meleagris gallopavo*). Several miles of slow moving streams provide excellent habitat for beaver (*Castor canadensis*) which help to accentuate the already wet and boggy conditions of the valley floor. Populations of cottontail rabbits (*Sylvilagus floridanus*), black bear (*Ursus americanus*) and ruffed grouse (*Bonasa umbellus*) can also be found throughout the valley.

The northern half of the valley is almost devoid of development and access is restricted to three rough roads which serve to disperse hunters over 7368 ha (18,200 acres) of hillsides and 2834 ha (7000 acres) of valley. Old railroad grades, logging roads and powerline rights-of-way branch from these roads. Most of the over 109km (68 miles) of access are limited to pickup trucks, four-wheel drive vehicles, all terrain vehicles (ATVs), usually motorcycles, or walking. The valley floor is inaccessible to conventional automobiles during the hunting season, but they are used, to a limited extent, on some of the drier hillside roads. Some of the valley floor is accessible to trucks, but four wheel drive vehicles or ATVs are usually necessary. A one or two hour trip is necessary to reach some of the remote areas of the valley.

Check points were established at the entrance of each of the three main access roads and were manned by at least one person during periods of high hunter use. At least one hunter in each vehicle was questioned when leaving the valley, resulting in approximately 2,800 interviews. The hunter was asked to pinpoint the area he hunted using a 7-1/2 minute USGS topographical map marked off in 40.5 ha (100 acres) quadrats. The type of hunting done, type of vehicle, number of days spent hunting and hunter's name and address were also recorded. Traffic counters were used to record vehicle movement during periods when the checkpoints were not manned.

About 10 percent (160) of the hunters using the valley during the 1973-74 hunting season were subsequently interviewed by telephone. More detailed hunter-use data were collected during this interview as well as information on hunter attitudes. This survey yielded 293 hunter units (an individual may have turkey hunted and bow hunted on different occasions, thus resulting in 2 hunter units), which were divided among the four major types of hunting. Each type of hunting was analyzed separately.

RESULTS

We expected hunter use of the valley floor to be significantly lower than that of the more accessible mountainsides, but each type of hunting was not statistically different using the Wilcoxin rank sum test ($p=0.05$). The mountainside supported 62.50 hunter days per 40.5 ha (100 acres) as opposed to 66.67 hunter days per 40.5 ha (100 acres) in the valley (Table 1). Deer hunters do the bulk of the hunting followed by turkey and then woodcock and grouse hunters.

Hunters came well equipped to traverse the deeply rutted, muddy roads. Trucks, jeep type vehicles and ATVs made up 82 percent of all vehicles stopping at the checkpoints (Table 2).

Hunters interviewed by phone after the 1973-74 hunting season were asked: "Would you like to see the roads and/or trails into the Canaan Valley improved? The results were tabulated into three main categories for each type hunter (Table 3). Most hunters

(77 percent) desired no road improvement. Woodcock and grouse hunters were almost entirely against road improvement (96 percent) while only 67 percent of the hunters pursuing deer with a rifle were opposed to improvement.

Table 1. Hunter use per 40.5 ha (100 acres) of the Canaan Valley.

Species Hunted	Hunter days per 100 acres	
	Valley floor	Hillside
Woodcock-Grouse	4.97	2.18
Turkey	2.15	5.48
Deer (bow)	18.62	23.83
Deer (gun)	40.71	30.65
Miscellaneous	0.22	0.36
TOTAL	66.67	62.50

Table 2. Vehicle use (percent) by different types of Canaan Valley hunters.

Type Hunter	Jeep type			
	Vehicles	Trucks	Cars	ATVs
Deer (gun)	45	46	9	0
Deer (bow)	28	46	21	5
Turkey	24	45	29	2
Woodcock-grouse	54	25	21	0
Mean	36	44	18	2

DISCUSSION

A carefully spaced inter-connecting network of roads and trails is essential for good hunter distribution and an adequate game harvest. However, construction and maintenance costs for such a system can be prohibitive if the roads are kept suitable for all vehicles and the trails are given regular care. Furthermore, an elaborate system of all weather roads may destroy the impression of wilderness and may lead to overuse.

The Canaan Valley is an area of poor, unmaintained, but well distributed roads and trails yet has high hunter use and good distribution. In order to reach the valley floor a long, rough ride is necessary. The challenging remoteness and isolation of the valley floor is probably an incentive for penetration. Of equal importance is the satisfaction of having traveled a rough road to reach a favorite hunting area.

Once the hunter has reached his hunting area further dispersal through the valley is usually achieved by walking or ATV use of powerline rights-of-way, old logging roads and railroad beds. Railroad beds provide the easiest walking, since they are never steep and vegetation is short and sparse due to poor soil conditions. Old logging roads are kept devoid of vegetation by year round use of ATVs. Power-line rights-of-way are kept clear of brush by cutting and spraying.

The Canaan Valley hunter is presently satisfied with its difficult access. However, his idea of a good day afield may be entirely different from the hunter who frequents management areas having well maintained roads and trails. The challenge of a rough muddy road may play an important part in some hunter's experience afield. However, large areas of unimproved, unposted land such as presently exist in the Canaan Valley are becoming rare.

Table 3. Response of different types of Canaan Valley hunters to the question: "Would you like to see the roads and/or trails into Canaan Valley improved?"

	Deer (gun) #	Deer (gun) %	Deer (bow) #	Deer (bow) %	Turkey #	Turkey %	Woodcock & Grouse #	Woodcock & Grouse %	Total	Mean %
No Road Improvement	46	67	31	77	37	84	26	96	140	77
Road Improvement Without Trail Improvement	5	7	3	8	2	5	0	0	10	6
Road and Trail Improvement	18	26	6	15	5	11	1	4	30	17

Hendee and Potter (1971) have reminded the wildlife manager that people management is an important part of wildlife management. Can we and should we, manage for the displaced Canaan Valley type hunter? Will it be possible and acceptable to provide the necessary rough road experience? Perhaps the best management we can provide for this type of hunter is no management by neglecting to provide and maintain physical improvements. Every wildlife manager probably has some roads and trails which are expensive to maintain for all-purpose use. Allowing these areas to follow their natural course may be a good management practice.

If no effort is made to meet the recreational demands of the Canaan Valley type hunter another segment of the hunting population may be lost. There presently exist many different populations of hunter each with its own recreation requirements. Wildlife managers may find it necessary to provide several different types of hunting experience if the hunter is to be kept from hanging up his guns for good.

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EFFECTS OF INTENSIVE FORESTRY ON SUCCESSION AND WILDLIFE IN FLORIDA SANDHILLS¹

by

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ABSTRACT

Twelve 259 ha (1 mi²) plots of varying clearcut percentages were established in a randomized complete block design in the central Florida sandhills. Response variables ranged from understory vegetation changes to game species abundance over a period of 13 years. Pine (*Pinus spp.*) plantation establishment resulted in an increase ($P < .05$) in understory vegetation biomass and diversity. White-tailed deer (*Odocoileus virginianus*) seemed to prefer the partial plantation plots, but there was also a significant seasonal interaction between habitat type and deer usage. Passeriform and Piciform birds and fox squirrels (*Sciurus niger*) preferred the uncleared plots while gopher tortoises (*Gopherus polyphemus*) and cottontail rabbits (*Sylvilagus floridanus*) seemed to prefer the plantations. Rodents increased markedly in the first three years after site preparation, but numbers quickly decreased to typically low levels. Arthropod populations were greater ($P < .05$) in the plantations than native areas although no differences were found in ordinal level diversities.

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