the day prior to raccoon hunting was compared to its movement the day following raccoon hunting. This difference was then compared between the raccoon hunted area and the control area to determine if the difference was attributable to the raccoon hunt or normal daily variation in deer behavior.

No statistically significant changes in these deers' movements were measured. The radio-collared deer continued to move at the same times of day and for the same distance each day despite raccoon hunting activity the evening before.

AVERAGE DEER MOVEMENT (MTD)		
	Control	Treatment
Pre-Raccoon Hunt	2.17 miles	2.44 miles
Post Raccon Hunt	2.33 miles	2.41 miles

The individual deer movements from the 24 hour tracking period prior to the hunt were overlaid with the 24 hour tracking period following the hunt to analyze the amount of overlap in the areas each deer were using. No significant difference was detected. Deer continued to use the same areas prior to the raccoon hunt as were used before the raccoon hunt.

Only once out of 18 hunts were hounds observed to have run a deer. This deer, a 1.5 year old male, was a radio-collared deer. All of the movements of this deer during and after the chase were within its original home range. By 3:36 a.m. the following morning it had returned to its original position at the time it was jumped by the hounds. At no time during the 18 raccoon hunts were any of the 27 deer observed to have left their home ranges.

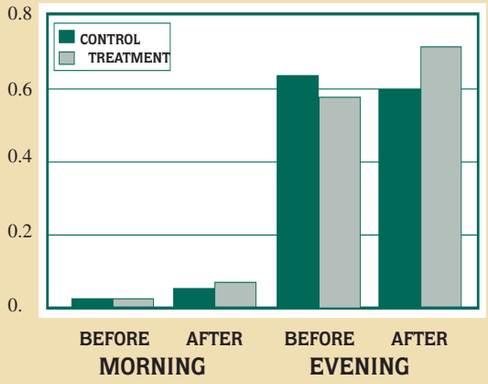
A total of 8 deer were seen by hunters on 5 different occasions while going to the treeing hounds. On each occasion, deer were either bedded or standing when first observed and continued to stay bedded or slowly walked off as the hunters approached the treeing hounds.

A total of 2,530 deer were counted in 7,607 photographs taken from game patches and baited deer stands. Again, no statistical difference in deer behavior was observed as a result of raccoon hunting. Deer were observed and photographed at the same rate for the morning and evening hunting periods after a night of raccoon hunting, as were observed for the morning and evening periods before each hunt.

Most of the deer photographed were recorded in the afternoon, 2,341 deer in 3,832 photographs, as opposed to the morning, 189 deer in 3,775 photographs. Sixty-eight antlered deer were recorded in the photographs. There was no significant difference in the rate of observation of antlered deer with respect to raccoon hunting.

The photographic data also allowed the evaluation of the impact of raccoon hunting on turkey behavior. A total of 14,686 turkeys were observed in the study photograph. Like deer, the turkeys' rate of visitation to game patches was unaltered by night time raccoon hunting in an area.

DEER PER PHOTOGRAPH



Management Recommendations

The lack of statistical differences in movement, daily use area overlap and food plot visitation during deer hunting hours, when comparing a raccoon hunted area to an area not raccoon hunted, indicates that raccoon hunting during the time of sunset to midnight has no apparent affect on the ability of hunters to observe and potentially harvest deer in the same general area during the following day. Therefore, it is recommended that raccoon hunters, using trained raccoon hounds, be allowed access to properties being hunted for deer.

Acknowledgments

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THE IMPACT OF SPORT RACCOON HUNTING ON DEER MOVEMENT AND DEER HUNTING SUCCESS

Introduction

Research completed by the South Carolina Department of Natural Resources, Clemson University and Westvaco Corporation was designed to determine the impact of raccoon hunting upon deer behavior and deer harvestability. The project was initiated as a result of perceived conflicts when deer hunters and raccoon hunters share common hunting ground. Many deer hunters fear that night time raccoon hunting activity could disrupt deer behavior patterns and thus reduce the quality of deer hunting. As a result, many deer hunting clubs do not allow raccoon hunting until after the deer season closes.

Raccoon hunters, deer hunters and state natural resource departments wanted scientific data to determine the impact, if any, of raccoon hunting upon deer. The study objectives were: 1) to determine the impacts of raccoon hunting activity on deer home ranges and activity patterns, 2) to determine the impact of raccoon hunting on deer harvest potential.

Study Area

The study was conducted on Westvaco's North Whitener Tract, located southwest of Tillman, South Carolina. The North Whitener Tract is approximately 7,769 acres in size and lies in the Savannah River flood plain forest. Low elevations are characterized by bottomland hardwood and bald cypress/water tupelo wetlands. Higher elevations are characterized by sand ridges that are dominated by stands of planted loblolly pine. Westvaco has owned and managed the area for selected wildlife species while intensively managing for timber production since 1981.

Twenty-seven radio collared deer were used for movement analysis.

Study animals were captured using rocket nets.

The hunting club on the North Whitener Tract harvest deer by still hunting only. Raccoon hunting has been allowed on the property, but only after the deer season closes each year. Spotlight surveys indicate a relatively high deer density of one deer per five acres on North Whitener. Raccoon densities are also high. However, no population surveys were conducted for raccoons.

Methods

This study was a component of a comprehensive research project on the North Whitener tract related to movement and mortality of whitetailed deer. Deer were captured using rocket nets. All captured deer were restrained, blindfolded, ear-tagged, aged, radio-collared and released at the capture site. Sufficient radio telemetry sampling was conducted to determine exact home ranges for each deer prior to the beginning of the first raccoon hunt. Each deer was also intensively followed during each raccoon hunting trial. The intensive monitoring period included a 24 hour period prior to the raccoon hunt and a 24 hour period following the raccoon hunt.

The study area was subdivided into two units. The units designated as east side and west side were separated by sufficient distance, such that the deer home ranges on the east side did not overlap with the home ranges of the deer on the west side. On the nights when raccoon hunting trials were conducted, only one side was hunted. The area where raccoon hunting took place was referred to as the "treatment area". The other side served as a control area in order to determine normal daily difference in animal movement which might be attributed to weather, moon phases or other non-raccoon hunting factors.

Radio collared deer were monitored for 24 hour periods before and after each raccoon hunt.

Raccoon hunts were conducted weekly from mid-December through February for two field seasons. Each week, the raccoon hunt alternated between the east side and the west side. A total of 18 raccoon hunts were conducted during the 2 field seasons of 1994 and 1995. During the study, raccoon hunts averaged 4.4 hunters, 3.4 hounds, 3.4 hours hunt time, 4.9 treeing events and 3.1 raccoon sightings. The hounds used in this study were selected by the hunters with no restrictions from the researchers with respect to hound age, ability or tendency to run deer. The hunt started in a location where collared deer were located at first dark. After the hounds were released at the first location, hunters were free to hunt any location except for the control area.

In order to determine the impact of raccoon hunting on a deer hunter's ability to harvest deer, mock deer hunts were conducted using automatic "Trailmaster" cameras. Cameras were located on game patches and in wooded areas baited with corn. Each camera was equipped with an intervalometer which instructed the camera when to take the picture. Intervalometers were programed to take a photograph every 15 minutes for the first 2 hours of daylight (starting at official sunrise) and the last 2 hours of daylight (ending at official sunset). Photographs were taken in the morning and the evening of the day before the raccoon hunt and the day following the raccoon hunt. Total deer per photograph and bucks per photograph for each time event "a.m. and p.m." and for each hunt were determined.

Results

Twenty-seven deer were used for movement analysis during the study. Fawns composed 56% of the total and adult deer represented 44%. The sex ratio in the sample was 54% bucks and 46% does.

Deer movement was analyzed using two methods. The first method measured each deer's minimum total distance moved during a 24 hour period (MTD). The second method looked at each deer's MTD broken down into four periods of the day. The four periods roughly represent a morning period, an afternoon period and two night time periods. In order to measure the impact of raccoon hunting, each deer's movement

"Trailmaster" cameras were used to monitor deer visitation at food patches.