Hunter Noncompliance with Bucks-only Regulations[1]

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Abstract: About the same number of antlerless deer (*Odocoileus virginianus*) were harvested illegally as were harvested legally during bucks-only days on public land. A large percentage of hunters apparently shoot first and take only legally harvested deer to mandatory check stations. I estimated that 48.2% of hunters were predisposed to noncompliance with bucks-only regulations.

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National Forest lands are often widely dispersed and transected by public roads so that limiting access is infeasible. Deer harvest check stations are usually not used to monitor harvest, but when they are, mandatory hunter use of check stations may not be readily enforceable. Levels of illegal harvest of white-tailed deer from public areas are difficult to assess. It is often thought that illegal harvest during legal hunting days is low compared with illegal harvest during closed seasons. Hunter noncompliance with bucks-only regulations might explain these differences. Here, I present evidence that hunters using public lands during open seasons are a major source for illegal take of white-tailed deer.

Methods

The study area was the 15,385-ha National Red Dirt Wildlife Management Preserve (NRDWMP) of the Kisatchie National Forest, Louisiana. This upland pine and mixed pine-hardwood forest is in Natchitoches Parish. Five public roads transect the tract. NRDWMP was established in 1941 as a game refuge. Protection was rigorous and allowed the deer population to increase. Buck hunting was allowed for

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the first time in 1955, and deer were trapped for restocking other areas through 1959. During the 1960s either-sex hunts were allowed providing average (±SE) annual harvests of 245 ± 25 deer (Aycock 1968). During these (1959–1967) years, 51 ± 2.5% of harvests were males, and hunter success averaged 1 deer per 18 ± 2.1 hunter efforts. A trap-recapture program in 1967 demonstrated that the either-sex harvests were sufficient to prevent deer herd expansion. Few records are available to trace the deer herd's history from 1967 to 1985.

A single deer check station was established in the center of the NRDWMP prior to hunting in 1986. All hunters were required to check their big game permits prior to hunting, and their permits were returned when they finished hunting. Ages of all deer were determined following removal of lower jaws following the method outlined by Severinghaus (1949). The check station was manned from 1986 through 1991 hunting seasons.

During each of the first 3 hunting seasons, 9 days of bucks-only hunting was permitted prior to 5 days of either-sex hunting. During the last 3 hunting seasons, bucks-only days were deferred, and only 7 days of either-sex hunting was allowed. Data presented here are means ± standard errors.

Results and Discussion

During the first 3 hunting seasons about 79 ± 5 bucks were checked during bucks-only days. During the either-sex days, 58 ± 4 antlerless deer and 21 ± 3 bucks were checked (Table 1); the total seasonal harvest averaged 158 ± 4 deer. The sex ratio of the total harvests averaged 67% ± 1% males. Fewer than 1.5 does were taken per 400 ha. Hunter success was stable at 1 deer per 19 ± 0 hunter efforts.

During the last 3 either-sex only hunting seasons, 75 ± 6 antlered bucks were harvested. Total mean number of antlerless deer harvested was 164 ± 6. The sex ratio of the harvested deer was 49% ± 0.02% males, and total harvest exceeded that of the previous 3 years by 80 ± 6 deer. Hunter success varied slightly among years

Table 1. Numbers of legally harvested deer recorded at a check station on the National Red Dirt Wildlife Management Preserve, Natchitoches Parish, Louisiana (15,385 ha).

Year	Antlered	Antlerless	Total	Efforts/Deer
	Bucks-only (9 days) then either-sex (5 days)			
1986	102	65	167	19
1987	95	57	152	19
1988	103	53	156	19
	Either-sex only (7 days)			
1989	87	152	239	12
1990	71	172	243	16
1991	66	167	233	17

and was higher than 1 deer per 15 ± 1.5 hunter efforts during previous 3 hunting seasons.

The average annual harvest during the either-sex only years (238 ± 2.9 deer) was similar to the 245 deer annual harvest during the 1960s which had stabilized deer population growth. Hunter success during our study period for either-sex hunts was slightly higher than that reported during the 1960s. However, the harvests of 80 fewer antlerless deer during the first years of our study was obviously sufficient to stabilize the population because neither total harvest nor hunter success declined over the former period. On the other hand, populations did not increase either. I must conclude that the 80 additional deer were actually being taken each year during bucks-only days but not reported at the check station. Because this number of deer is similar to the total number of bucks legally harvested and checked, I suspect that a large proportion of hunters were shooting without regard for the sex of deer. The attitude "if its got hair, footsies in the air" seemed to prevail among hunters using the NRDWMP even in the close proximity of enforcement personnel.

The either-sex only hunts conducted during the last 3 years of the study provide an opportunity to estimate the probabilities of encountering either an antlerless or a legally antlered deer. Assuming that most hunters attempted to harvest the first deer available, the probability of harvesting an antlerless deer was 0.68 ± 0.02, the average proportion of the either-sex harvest comprised of antlerless deer. The probability of harvesting an antlered buck was 0.32 ± 0.02; therefore, the probability of harvesting an anterless deer was 2.1 times that of harvesting an antlered buck. If all hunters had been predisposed to noncompliance with bucks-only regulations during the first 3 years of the study, then the number of illegally harvested deer would have been 2.1 × 79 = 165.9 deer. However, I estimated that 80 antlerless deer were illegally taken during the average bucks-only hunting period. Therefore, the proportion of hunters predisposed to noncompliance with the regulations can be estimated by 80 ÷ 165.9 = 48.2%.

During the hunts since 1985, enforcement personnel of the U.S. Department of Agriculture Forest Service and other uniformed Forest Service employees were present at the check station and conducted patrols. I suspect that more deterrence would have been obtained if uniformed wildlife conservation officers had been present. However, without road blocks there was little to deter taking a deer out of the 15,385-ha area regardless of enforcement presence. Furthermore, most of the 242,915-ha Kisatchie National Forest is open to unsupervised hunting during legal open seasons. Therefore, I am led to believe that illegal harvest of deer is even higher (in general) than that was reported for the supervised NRDWMP. It is generally considered that deer densities are lower on the National Forest in general than on the Management Areas. Solutions to the problem of hunter non-compliance with hunting regulations are not easy. As a result of my findings, the deer hunting season on Kisatchie National Forest was reduced from >50 to 21 days, but as long as hunters fail to comply with harvest regulations, even this strategy will probably have little benefit since an even shorter season on NRDWMP areas combined with the prevailing hunter attitude combines to keep deer populations low. An intensive

educational campaign is needed to convince hunters using public land that they are their own worst enemy. Peer pressure may do more to deter illegal kill of deer than active enforcement.

Literature Cited

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