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EFFECTS OF VARIOUS OPENING DAYS ON DEER HARVEST AND HUNTING PRESSURE

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Establishment of deer hunting regulations is relatively uncomplicated throughout most of the southern United States at the present time. The choice is usually between bucks-only or any-deer harvests. Deer hunting regulations will undoubtedly become more complex as numbers of deer and hunters increase. More sophisticated variations in hunting regulations such as zoning and variation of opening day

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will be considered. At that time, information will be needed about the effects of various regulations on deer harvest and hunting pressure. There is very little published information available on this subject.

Colorado has been a leader in the use of various types of seasons to obtain the desired distribution of hunters and big game harvest. A good summary of their techniques was presented by Hunter (1957).

MISSOURI DEER SEASONS

Deer hunting in Missouri came of age in 1951 when hunters were permitted to shoot any-deer for the first time. The number of hunters has increased annually from 25,000 in 1951 to 122,000 in 1964. Deer harvest has gone from 5,500 in 1951 to 21,000 in 1964 (Graph I).

Length of season has increased from 3 days in 1951 to 7 days beginning in 1960.

Hunting territory has increased from 32 counties in 1951 to a statewide season beginning in 1959. Any-deer territory has grown from 15 counties in 1951 to 94 counties in 1964 (Graph II).

The hunting territory was increased as the number of hunters swelled during the first 6 to 8 years. Room for this expansion was provided by a deer redistribution program which terminated in 1957. The expansion ended with the statewide deer seasons beginning in 1959 and we are now faced with the problem of providing room for over 100,000 hunters and getting proper distribution of hunters. The any-deer territory cannot be expanded very much beyond the 94 counties open to any-deer harvest in 1964. Deer hunting regulations in Missouri are certainly going to become complicated.

In 1960 it was decided to establish a permanent opening day for the deer season. Employees of large companies often are required to set the dates for their vacations early in the calendar year, usually before deer season dates are announced. Hunter (1957) said, "A permanent opening date, regardless of the day of the week it falls on, also has a very definite advantage. It allows the hunter, particularly the nonresident, to plan his vacation accordingly."

The choice was between establishing a specific calendar date or some day such as the third Monday in November. The calendar date of November 15 was selected. This date is about the peak of the breeding season in Missouri and therefore a time of increased deer mobility. It is late enough so that most of the leaves have fallen, but early enough to avoid severe winter storms. Setting the season earlier in November would conflict with election activities in some years. Setting the season later in November would conflict with Thanksgiving, a traditional family holiday.

The 1959 season opened on Monday. In the following years, opening day advanced through the week until 1963 when it opened on Friday. Opening day in 1964 would have fallen on Sunday because of leap year. This day seemed inadvisable to some people so the opening was set back to Friday.

Data for this paper were collected from two sources, tag stub returns and check stations. A postal card questionnaire is attached to each deer tag and each year 45 to 50 per cent of the questionnaires are returned. Beginning in 1962, it was required that all deer killed in any-deer counties must be presented at a check station located within the any-deer area.

EFFECTS ON HARVEST

Opening day is the most important day of the season, regardless of the day of the week on which it occurs (Table 1). The highest percentage of harvest occurred on opening day each year.

When the season opened on Monday, the harvest, after opening day, was spread nearly equally among the days of the season. In effect we had a full 6-day season.

When the season opened later in the week and extended beyond the week-end, the deer harvest decreased substantially on the days following the week-end. In effect, the season was shortened into the number of days preceding and including the week-end. In other words,

when the season opened on Tuesday we had essentially a 6-day season. When it opened on Wednesday we had a five-day season, and on Thursday a four-day season.

When the season opened on Friday, the season was reduced for all practical purposes to a three-day season with two opening days, Friday and Saturday. The highest percentage of the harvest still occurred on opening day but the percentage of harvest on the second day (Saturday) was comparable to or exceeded the percentage for opening day when the season opened earlier in the week.

Saturday is more important than Sunday. All years showed an increase in the harvest on Saturday but not on Sunday. This phenomena indicated that hunters in Missouri do not come out for a full week-end but hunt on Saturday and return home or stay home on Sunday.

Opening day harvests in 1962 and 1964 were slightly higher than normal because 37 counties in Northern Missouri were opened to any-deer hunting. Deer are more vulnerable in this agricultural country with limited forest cover. None of the northern Missouri counties have more than 20% of the area wooded and 11 of the 37 counties are less than 10% wooded.

EFFECTS ON HUNTING PRESSURE

Under normal conditions, deer harvest is directly related to hunting pressure, so the daily harvest data also reflects the daily hunting pressure. When the season opens early in the week hunting pressure is spread more evenly throughout the season. When the season opens on or near the weekend the hunting pressure is concentrated in the first few days of the season. Hunter (1957) stated, "A Saturday opening increases the number of hunters going into the field on the first day, as many hunters are unable to take time off during the middle of the week. Experience has shown that weekend hunters generally go to a nearby area."

In order to obtain information on the hunter's choice of days, two questions were added to the tag stub questionnaire in 1962; 1) How many days did you hunt? 2) Which days did you hunt? (Circle the dates) 15, 16, 17, etc.

The best comparison can be made between the 1962 season which opened on Thursday and the 1964 season which opened on Friday. There were 92 counties open for any-deer hunting in 1962 and 94 counties open in 1964. Only 55 counties were open to any-deer hunting in 1963.

A slightly higher percentage of the successful hunters were afield two days when the season opened on Friday than when the season opened on Thursday. The data on day of the week hunted (Table 3) indicated that these two days were Friday and Saturday.

The highest percentage of unsuccessful hunters hunted three days when the season opened on Friday and only two days when the season opened on Thursday. Opening day and Saturday were the two days hunted most heavily by unsuccessful hunters when the season opened on Thursday. Friday, Saturday and Sunday were the days most heavily hunted when the season opened on Friday. The higher percentage of unsuccessful hunters on Saturday indicated an influx of new hunters on that day.

The data for both successful and unsuccessful hunters indicated a concentration of hunting pressure into the first three days of the season when the season opened on Friday. In 1964, 73 per cent of the total hunting pressure occurred during the first three days.

The average successful hunter spent three days afield and the average unsuccessful hunter spent only four days afield during the seven-day season. These data indicated a lack of persistence by the average deer hunter.

DISCUSSION

The weekend opening could be a useful tool to concentrate hunting pressure in areas where heavier harvest is needed or in areas where dense cover requires a concentration of hunters to move the deer.

Opening the season on Friday results in two consecutive opening days with a subsequent increase in hunting pressure.

We have some evidence that the weekend opening can also be detrimental. The concentration of hunters during the first 3 days of the past 2 seasons has apparently resulted in a reduction of the deer herd in some counties adjacent to metropolitan St. Louis.

A Monday opening will spread the hunting pressure over a longer period of time and could be used in areas where maximum concentrations of hunters are not desired.

A knowledge of the expected distribution of hunting pressure and harvest can be useful in other ways. During the past 2 seasons we collected biological data from check stations only during the first 3 days of the season and handled over 50% of the total harvest from the counties sampled. The 1965 deer season will open on Monday and we anticipate having to operate our biological stations at least 4 days to get the same information.

In the past I have heard administrators say, "It was a fine conference but I wish more of the papers would have had practical management implications." I hope that some of the data presented in this paper will be useful to administrative personnel in future decisions on deer harvest regulations.

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Table 1. Per Cent of Harvest by Day of Season.

Days	1959 %	1960 %	1961 %	1962 %	1963 %	1964 %
Monday	28.1					
Tuesday	13.8	21.5				
Wednesday	14.9	18.5	22.5			
Thursday	12.7	13.2	14.9	28.4		
Friday	11.7	11.1	14.9	17.7	27.8	34.3
Saturday	16.4	15.7	18.8	17.8	25.0	27.2
Sunday		11.4	11.8	14.4	15.9	14.5
Monday		7.0	7.2	7.1	9.6	7.2
Tuesday			8.4	7.3	7.3	6.2
Wednesday				7.1	6.7	5.1
Thursday					7.3	4.6

Season Dates (Nov.) 16-21 15-21 15-21 15-21 15-21 13-19

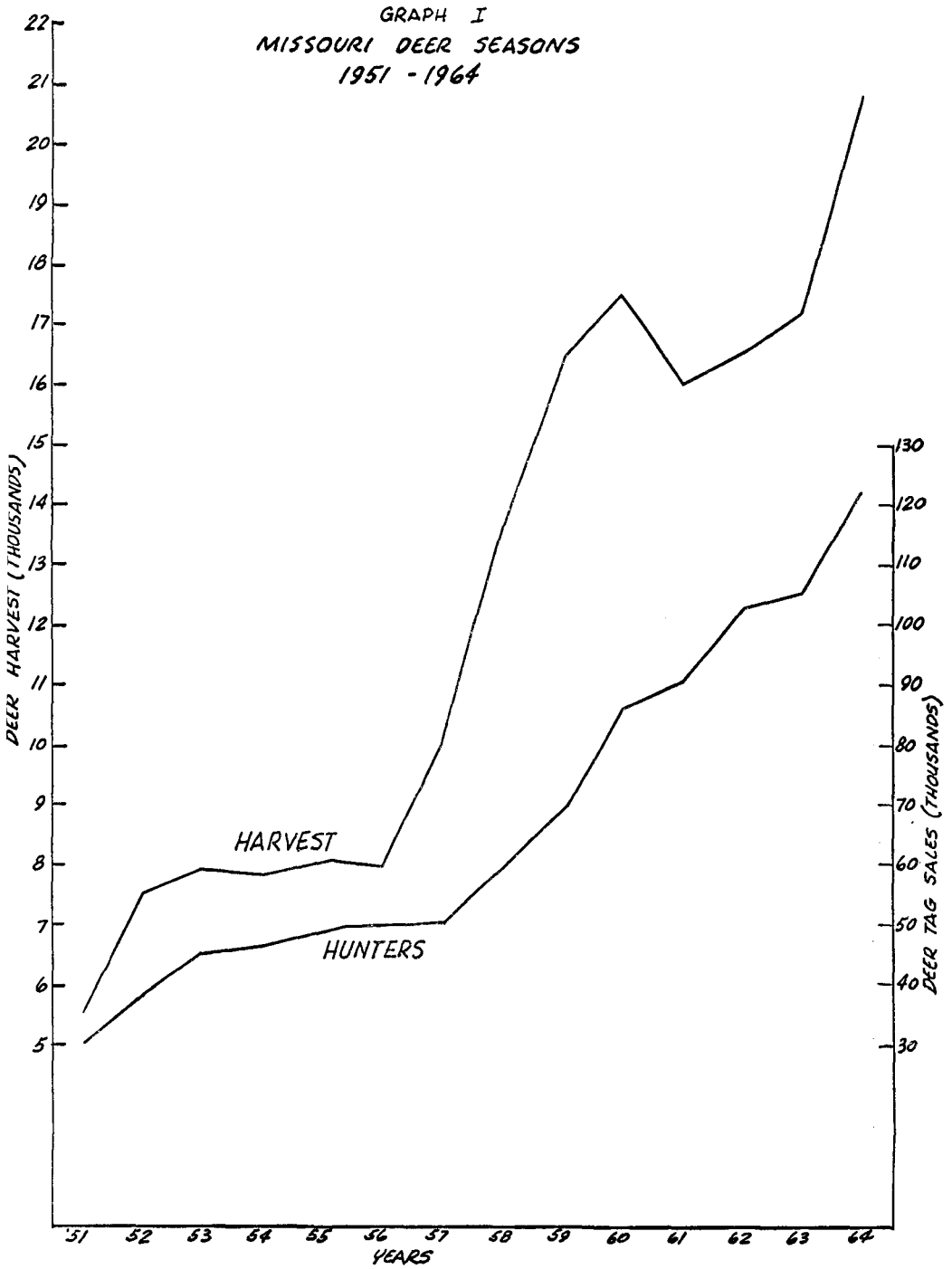
Table 2. Number of Days Hunted.

Number of Days	Successful Hunters			Unsuccessful Hunters		
	1964	1963	1962	1964	1963	1962
1	44.0%	35.4%	34.4%	8.2%	6.5%	7.0%
2	26.5	24.2	23.7	23.8	21.5	22.5
3	12.9	16.3	16.8	25.6	23.3	19.5
4	6.8	8.8	10.3	12.9	12.7	16.9
5	4.6	7.1	6.1	9.4	10.5	10.2
6	3.2	4.0	5.1	8.4	9.8	9.3
7	2.0	4.2	3.5	11.7	15.7	14.8
Average	2.2	2.6	2.6	3.6	3.9	3.8

Table 3. Days of Season Hunted.

Days of Season	Successful Hunters			Unsuccessful Hunters		
	1964	1963	1962	1964	1963	1962
Thursday	—	—	30.9%	—	—	18.0%
Friday	37.5%	32.3%	21.5	17.6%	17.3%	16.8
Saturday	27.0	26.2	18.8	22.9	21.5	22.4
Sunday	15.0	16.5	12.5	20.9	19.5	18.8
Monday	8.4	10.1	7.6	11.9	11.9	8.8
Tuesday	6.1	7.2	5.2	10.1	10.3	8.0
Wednesday	3.9	4.8	3.5	9.0	9.9	7.1
Thursday	2.1	2.9	—	7.6	9.5	—

GRAPH I
 MISSOURI DEER SEASONS
 1951 - 1964



GRAPH II
 COUNTIES OPEN TO HUNTING

