

Setting Spring Hunting Seasons By Timing Peak Gobbling, Peak Breeding, And Peak Nesting

Introduction

In 1970, the South Carolina Wildlife and Marine Resources Department (SCWMRD) developed a Wild Turkey Research Project and the “Turkey Project” remains today as one of several special program areas in the Wildlife Section of the South Carolina Department of Natural Resources (SCDNR). The original objectives of the Turkey Project were to develop census techniques to monitor rapidly expanding turkey populations in the piedmont and to ascertain distribution patterns relative to habitat management practices. Studies also were initiated to determine peak periods of gobbling and nest incubation in order to best determine when the spring season should begin and end. Spring seasons were open only in areas of the state with adequate numbers of turkeys. Much of the state, particularly in the coastal plain, had no open season because there were few or no turkeys. In 1975, a comprehensive biological plan was developed by the Department for the restoration of turkeys in the coastal plain. This restoration plan was implemented between 1976 and 2003, resulting in the capture and translocation of approximately 3,542 turkeys on 204 restoration sites statewide. In 1993 a portion of all counties were open to spring gobbler hunting and in 1998 all counties were fully opened with the exception of recent restoration sites.

Wild turkey seasons in South Carolina are established under authority of SC Code of Laws Sections 50-11-520 and 50-11-560. Prior to 1976, all spring gobbler seasons in South Carolina began on March 15 and ended on April 15. Results of gobbling and nesting studies conducted in the piedmont and coastal plain during the 1970s led to changes in the spring turkey season dates. Based on results from these studies, the Department recommended a statewide season of April 1-May 1 that offers the following benefits over the old March 15-April 15 season: better weather conditions, less disruption in breeding activity, a reduction in inadvertent or illegal hen kill, and the ability to hunt during the longest and most consistent peak in statewide gobbling so that gobblers will have increased responsiveness to hunters’ calls.

Current seasons in Game Zones 1, 2, 3, 4, 5, 7, 8, 9, and 10 are as recommended by SCDNR, April 1-May 1 (SC Code 50-11-520). Conversely, the General Assembly provided no authority for SCDNR to set seasons in Game Zones 6 and 11 (lower coastal plain) and opted to take the Department’s recommendation for the new biologically established season and add it to the old socio-political season (SC Code 50-11-560). Resulting in a March 15-May 1 season in those two Game Zones.

With respect to both biology and effective hunting, the timing of spring gobbler seasons in South Carolina should take into account three primary factors; peak breeding, peak gobbling, and peak incubation. Considering these factors, seasons can be set to afford hunters the best opportunity to hunt during the best time (i.e. peak gobbling period) without inhibiting reproductive success.

The following describes how the current April 1-May 1 season was developed in South Carolina.

Peak Gobbling

Gobbling by male wild turkeys occurs primarily in the spring and for the purpose of attracting hens for mating purposes. Although there is typically some gobbling in mid March in South Carolina, this is not “the peak” in gobbling that hunters should be interested in. This gobbling is associated with the breakup of winter turkey flocks (Figure 1). Gobbling associated with winter break-up is not as consistent or long in duration as the true peak in gobbling that occurs about one month later. Gobbling during mid March is primarily by subdominant males attempting to come away from the winter flocks with hens. Inevitably, dominant gobblers will come away from the winter flocks with most of the hens in a harem type arrangement. By about the third week in March the winter flock breakup is well underway and this initial minor peak in gobbling ceases. Most breeding occurs immediately following flock breakup and there is a period of nearly 2 weeks during which there is very little gobbling (Figure 1). Hunting during this period can be frustrating because as hunters say, “they are all henned up”.

By the first week in April the nesting phase of the wild turkey breeding period is underway. During this time hens will lay one egg per day until the clutch is complete. In South Carolina most of the laying is done in about two weeks, therefore, most hens begin incubation during the first half of April. When the majority of hens begin incubation gobbling begins in earnest. Remember, male turkeys gobble to attract hens. During peak breeding hens are available, therefore, little gobbling takes place. Once hens begin spending increasing amounts of time away from the gobblers (extended stays at the nest and ultimately continuous incubation) the longest and most consistent peak in gobbling occurs (Figure 1). This time frame offers the best opportunity to hunt gobbling birds.

Figure 1. Gobblers heard per hour from an un hunted area in the piedmont of South Carolina (adapted from Bevill 1975). The longest and most consistent gobbling occurs from April 16-28. Data from the lower coastal plain is similar with peak gobbling about one week earlier (April 6-22).

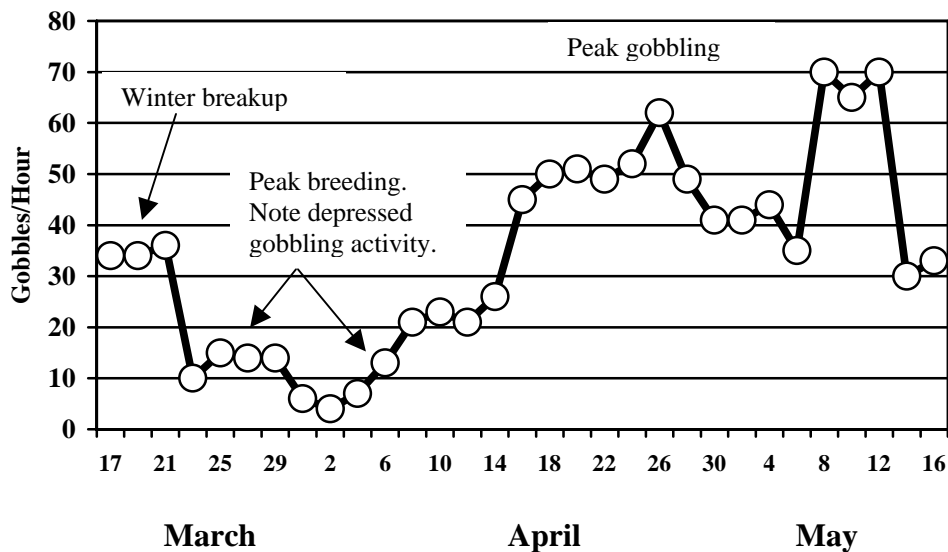
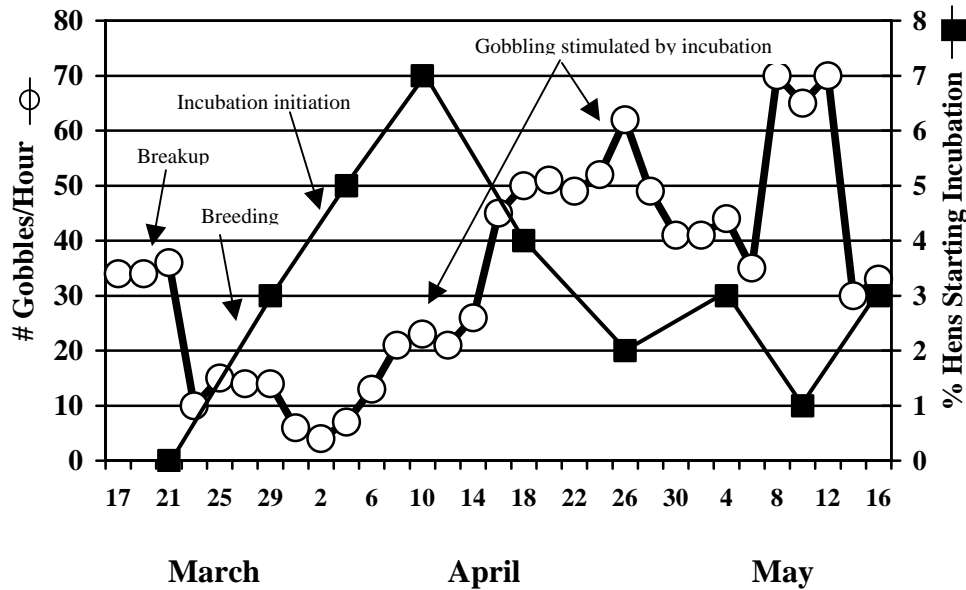


Figure 3. Comparison of peak gobbling and beginning dates for incubation by hens in the piedmont of South Carolina. Peak gobbling is a direct result of the lack of hens due to nesting activities. Data for lower coastal plain is similar with peak dates about one week earlier (adapted from Bevill 1975).



Points to remember concerning April 1-May 1 spring gobbler season.

- Prior to 1976 all spring gobbler seasons in SC were March 15-April 15. Keep in mind that many areas of the state had no turkey season at that time.
- Between 1972 and 1974, intensive studies were undertaken to determine peak periods for gobbling in both the piedmont and coastal plain. Studies of nest initiation by hens were also conducted using radio-telemetry. These were multi-year studies with data being combined to generate peak gobbling/incubation, therefore, any annual effects of weather should be negligible.
- These studies were conducted on both hunted and unhunted sites. However, due to sporadic gobbling patterns on all hunted areas monitored, only data collected on unhunted sites were used in determining peaks of gobbling. Most hunters are aware of the negative relationship between hunting pressure and gobbling activity and problems in using gobbling data from hunted areas had previously been noted in studies from other states, as well.
- The first peak in gobbling in the piedmont occurs during the period March 17-21 (5-7 days earlier in the lower coastal plain). Gobbling during this period can be attributed to winter flock breakup and attempts by subdominant males to win harems of hens.
- Following this initial peak, depressed gobbling activity occurs over a 10-day period during late March and early April. This depressed activity can be attributed to the abundance of hens accompanying dominant gobblers.

- It is important to note that although gobbling is depressed during this period, breeding takes place with dominant gobblers breeding hens that have remained with them following breakup. Also recall that once bred, a hen remains fertile for an extended time period, so killing gobblers after fertilization is not a biological issue.
- Hunting can be frustrating during peak breeding because hens are with adult males, i.e. gobblers are “henned up”.
- Hens are vulnerable to inadvertent or illegal harvest during peak breeding since they spend considerable time with gobblers that respond to hunters’ calls.
- Inadvertent/illegal kill of hens has been documented by numerous studies to be a significant mortality factor associated with early spring seasons.
- Nest initiation/incubation begins the first week in April with peak dates for the beginning of incubation April 1-15.
- As a result of nest initiation/incubation, hens are no longer with gobblers and are less likely to be exposed to inadvertent or illegal harvest.
- As a result of nest initiation/incubation, gobbling begins in earnest due to lack of available hens.
- During the period April 8-May 16 (April 1-May 9 in lower coastal plain) gobbling becomes more active with the longest interval of consistent gobbling occurring from April 16-28 (April 6-22 in lower coastal plain).
- However, hunters cannot expect consistent gobbling of this duration in hunted areas due to the effects of hunting pressure. Responsive birds are killed immediately and survivors may become “buggered-up”. In reality, about 10 days of good gobbling can be expected except in very lightly hunted situations.
- Following these studies DNR recommended an April 1-May 1 season statewide.
- DNR has authority to set seasons in Game Zones 1, 2, 3, 4, 5, 7, 8, 9, and 10. Based on the biological data, new seasons were adapted in 1976 in these Game Zones.
- DNR does not have authority to set seasons in Game Zones 6 and 11. The General Assembly chose to add the biologically recommended season to the socio-politically set season resulting in the longer, early opening March 15-May 1 season in those two zones.

Literature Cited

Beville, W. V., Jr. 1975. Setting spring gobbler hunting seasons by timing peak gobbling. Proc. National Wild Turkey Symp. 3:198-204.

Whitaker, D. M., J. C. Pack, G. W. Norman, D. F Stauffer, and S. Klopfer. 2005. A Rang-wide meta-analysis of wild turkey breeding phenology. In press. In C. A. Stewart, ed., Proceedings of the Ninth National Wild Turkey Symposium, Michigan Department of Natural Resources, Lansing, MI.

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