

Hunter Orange for Spring Turkey Hunting: Hunter Perceptions and Opinions

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Abstract: In 1982, the Missouri Department of Conservation surveyed 370 volunteers for their experiences, perceptions, and opinions related to use of "hunter orange" during spring hunting of eastern wild turkey (*Meleagris gallopavo silvestris*). Results showed that gobblers can indeed be called and taken while a hunter orange item is being displayed, but hunters were ambivalent as to the effects of the band on heightening the alertness of turkeys. Subjects generally agreed that hunter orange served to alert other hunters to their presence, but were hesitant to say they "liked" the idea of using an item of hunter orange during spring turkey season.

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Dramatic increases in the population of the eastern wild turkey in Missouri have been accompanied by substantial increases in the number of hunters participating in spring gobbler seasons. About 700 hunters went afield in 14 counties during the first "modern era" hunt managed by the Missouri Department of Conservation in the spring of 1960. Since then, huntable populations of the birds have been re-established in 100 of the state's 114 counties. Moreover, the Department has lengthened the spring season to 2 weeks and liberalized the bag (1 bearded or male bird per week). The average annual increase in permit sales since 1960 has been 26%. In 1981, nearly 62,000 hunters purchased permits for Missouri's spring gobbler season, with a resultant harvest of almost 21,000 birds.

Associated with growing hunter involvement, however, has been an increase in the reported spring turkey hunting accidents. The first such incident was a nonfatal mishap in 1967, and was the only accident reported for roughly 6,600 permittees that year. The highest number of accidents to date occurred in 1981, when 28 were documented, 4 of which were fatal. Seventeen of the 28 were cases of victims mistaken for turkeys, with 3 of the 4 fatalities classified as such. Accident reports for 1982 fell to 20, but 18 were victims mistaken for game, including 1 fatality.

Though several factors might contribute to the number and severity of turkey hunting accidents, probably the most obvious is self-concealment by hunters. Contemporary woods lore holds that the hunter should be well camouflaged to avoid detection by the apparently keen-sighted and color-sensitive wild turkey. But camouflage makes the hunter vulnerable to other hunters who, because of inexperience, carelessness, or hyper-excitement, make tragic errors in target identification.

In other types of hunting, voluntary or mandatory use of "hunter orange" has been supported and accepted by hunters. For example, 94% of firearm deer hunters in Missouri wore an outer garment of hunter orange during the 1978 season without a regulation requiring its use (Giessman and Porath 1979). Further, 91% of the deer hunters surveyed on the matter in 1979 favored a regulation requiring its use (Porath et al. 1980). A regulation requiring the use of hunter orange was implemented for the 1980 firearms deer season in Missouri.

The use of hunter orange for spring gobbler season, however, is a novel idea, and only now is being explored as a possible approach to decreasing hunter casualties. The National Wild Turkey Federation recently produced a hunter safety slide show suggesting that hunters consider the safety advantages of wearing or displaying orange while turkey hunting in the spring. The presentation notes that bright colors are a natural part of the wild turkey's forest environment, and that orange on or near the caller is not the cause for alarm in turkeys that hunters assume.

A difficult question for the wildlife professional to answer is, "What are the real effects, if any, of hunter orange on turkey awareness and behavior?" An easier and perhaps more germane question is, "What do hunters perceive the effects of orange to be on turkey awareness and behavior?" After all, hunter's perceptions of the effects of orange on turkeys will determine their willingness to consider or use hunter orange, whatever the actual effects.

The Missouri Department of Conservation initiated a survey in the spring of 1982 to study hunters' experiences, perceptions, and opinions related to the use of hunter orange for spring turkey hunting. Five objectives were identified: (1) determine if turkeys could be called and harvested while hunters displayed an orange item, (2) determine hunter perceptions of the

effects of orange on turkeys' willingness to come within range for a shot, (3) determine the effect of orange in alerting other hunters to one's location, (4) determine if hunters liked or disliked the idea of using orange, and (5) refine the methodology for conducting this type of study in the future.

Methods

Subjects

The study group was a voluntary one, with the Department of Conservation soliciting participation from members of the Conservation Federation of Missouri and Missouri chapter of the National Wild Turkey Federation. Additionally, interested individuals who responded to news releases on the project were included in the study group. All volunteers were included, regardless of past success or experience in turkey hunting. Indeed, the variation in past experiences and success represented a useful item by which the study results could be analyzed. Of 587 volunteers, 370 completed the project.

Alert Band

The Department of Conservation supplied each volunteer an "alert band," and instructions for its use.¹ The band is a 6-inch wide strip of hunter orange cloth, 60 inches long, with a Velcro fastening system. This allows it to be secured around a tree trunk or other object, or draped on the body bandolier-style or as a sash. Each participant was to place the band around a tree in close proximity to his calling position.

Questionnaires

Two questionnaires were developed for the project by Department of Conservation staff.

Your Turkey Hunting Background—Three weeks prior to the opening of the 1982 spring gobbler season, each volunteer was sent an alert band and a questionnaire for recording the person's turkey hunting experiences and past success. Each person was told that participation in the project was contingent on return of the background questionnaire; 448 volunteers returned their forms.

Alert Band Turkey Hunting Survey—Immediately following the 1982 spring gobbler season, a questionnaire was sent each participant to record the

¹ "Hunter Alert," made by Hunter Safety Specialists Company, RD #1, Box 59, Houghton, NY 14744. Use of the product or its trade name does not imply product endorsement by the Missouri Department of Conservation.

volunteer's experiences using the alert band during the 2-week season. After 1 follow-up mailing to nonrespondents, 400 questionnaires were returned.

Results

Of the 400 hunters responding to both questionnaires, 30 did not hunt turkeys during the 1982 spring season, reducing the study group to 370. The following percentages have been adjusted for nonresponse.

Participant Profile

Most participants were male (96%), with an average of 6.5 years experience of hunting wild turkeys in Missouri's spring season, and an average past harvest of 4.4 birds. Seventy-two percent had taken at least 1 wild turkey in prior spring seasons.

Twelve-gauge shotguns were used by large majority (84%), with a few using 10-gauge guns (7%), 20-gauge (7%), and 16-gauge (2%). The most common shot size used was #4 (53%), followed by #6 (32%), #2 (12%), with a small group preferring other sizes.

Over half were 30 to 49 years old (56%), with 26% younger, and 18% older. Almost half (46%) had completed a hunter safety/education training course. The majority (53%) hunted alone, though a substantial number hunted with a partner (39%), and a few as part of a group (9%). A majority (54%) most often hunted on private land, while 23% usually hunted on public land, and another 23% on public and private land.

When asked how often in the past they found themselves in spring turkey hunting situations where they felt uneasy about their safety, 44% answered "never," 48% "on a couple of occasions," and 7% responded "often." Despite this, 72% never before had used any method to alert other hunters to their presence. Of the 123 participants who did, the most common methods were to whistle (36%), talk or move (33%), use bird calls (10%), and wave or move (9%). Only 3 hunters in the group had ever worn or displayed orange for spring turkey hunting.

Use of the Alert Band and Hunter Success

Probably, most study participants volunteered for the project with the best intentions of using the alert band and "letting the chips fall where they may" with regard to their success in the '82 gobbler season. However, many hunters were inconsistent in using the band, or at the extreme, deserted use of it. Fifteen percent of the participants indicated they did not use the band at all during the first week of the season, while 30% did not use the band during the second week. Twelve percent did not use the band at all during

the 2-week season. In both weeks, 32% used the band on all hunting occasions, with the remaining saying they used the band on "several" or "most" opportunities.

Thirty-seven percent of the study group took a gobbler during the first week of the season, and 24% harvested a bird in the second week. Forty-eight percent killed at least 1 gobbler during the 2-week season, and 18% 2 birds. In all, 224 gobblers were taken by the study participants. The success of the group was substantially higher than that of the general population of turkey hunters in Missouri, 34% of which took at least 1 bird during the 2-week season in 1981 (Lewis 1982).

The average distance at which birds were killed was 24.6 m. Mean distance for the 183 birds taken by hunters using 12-gauge shotguns was 24.0 m. But the 20 birds harvested by shotgunners using 10-gauge weapons were taken at an average of 32.5 m.

Forty (29%) of the 137 birds taken by study participants the first week were shot while the alert band was being displayed in some manner—either on a tree, as instructed (32 kills) or on the hunter's body like a sash or bandolier (8 kills). Seventy-one percent of the successful first-week hunters indicated they had not put the band in place prior to shooting the turkeys. Similarly, 78% of the 87 successful hunters in the second week said they had not displayed the band as requested prior to shooting birds. And of the remaining 19 successful hunters (22%) who used the band, 3 hunters chose to wear it as a sash. Seven hunters killed 2 birds with the band in place, so the number of individuals harvesting at least 1 turkey while displaying the band totaled 52 (14%).

On the average, there were virtually no differences between the distances at which birds were taken by hunters displaying and not displaying the bands. First-week hunters displaying the band took birds at an average of 23.4 m just as those did who did not have the band in place. And by eliminating a single second-week no-band kill reported at 77.7 m (12-gauge, #4 shot), average kill distances with and without bands were essentially the same, 25.9 m.

Perceived Effects of Hunter Orange

Most subjects used their alert bands at some point during the season and were able to give their impressions of the effects of the band and hunter orange on turkeys and other hunters.

Perceived Effects on Turkeys—Hunters were first asked to express their opinions on the effect of the alert band on the ability to call turkeys in range for a shot—within "at least 30 yards" (27.4 m). A plurality of study participants (40%) did not know if the band had any effect; 27% said the band had "no effect," 19% indicated "somewhat of an effect," and 14%, "great effect."

Two subgroups were in the best position to offer an appraisal of the effect of the band on turkeys; first, the 44% of all volunteers who saw birds but were unsuccessful while displaying the band, and second, the 14% of all volunteers who harvested birds with the band in place. Of the first group, 27% said the band had "no effect" on their ability to call birds within range (Table 1). But, 50% thought the band had either "some effect" or a "great effect" on their ability to call birds close enough to shoot.

Perceptions of "no effect" were held by 68% of those who harvested birds while displaying the band. A few, however, felt the band had at least some effect on birds (Table 1).

As would be anticipated, most of the 140 hunters who did not see turkeys while displaying the band said they did not know the effect of the band on birds responding to calls (70%), or that it had "no effect" (13%). Apparently, the 17% of hunters who did not see turkeys with the band in place but who indicated the band had "some effect" (8%) or "great effect" (9%) attributed not seeing birds to the band.

Perceived Effects on Other Hunters—Participants generally agreed that the band did, indeed, alert other hunters to their presence. Fifty-nine percent said the band had a "great effect" in alerting other hunters, with an additional 9% feeling the band had "somewhat of an effect." Thirty percent did not know what effect the band had, and 2% said "no effect."

Volunteers who actually saw other hunters looking at the alert band told of expressions of puzzlement, then understanding, then movement away from the band. Several participants told of other hunters moving some distance away from the bands, and then approaching volunteers as they left the woods to learn where a band might be obtained.

One volunteer indicated that the band may have prevented him from being the victim or shooter in a "line-of-fire" accident. The volunteer was unaware that he and another hunter were "working" the same gobbler, and the best opportunity for a shot might have had both hunters shooting at the

Table 1. Hunters' Perceptions of Effect of Alert Band on Ability to Call Gobblers within Range

Response	Hunters Seeing Birds But Not Successful While Displaying Band		Hunters Successful With Band	
	Number	Percent	Number	Percent
Great Effect	31	22	2	4
Somewhat of Effect	41	28	11	24
No Effect	39	27	32	68
Don't Know	33	24	2	4

bird as it passed between them. Because the other hunter located the volunteer by the alert band and origin of the volunteer's call, the other hunter shot the bird before the dangerous situation developed.

Hunters' Opinions of Alert Band

Participants were asked to indicate if they "liked," "disliked," or had "no opinion" on the idea of using the alert band for spring turkey hunting. Forty-five percent of the study group said they liked this method of alerting other hunters, 32% said they disliked the idea, and 23% had no opinion. Those who said they disliked the idea showed slightly higher success in harvesting at least 1 bird (53%) than those who indicated they liked the idea (47%). Of those who had taken a hunter education course, 48% said they liked the idea of using the alert band, while 42% of those who had not completed a course said they liked the idea. Hunters who said they had "never" found themselves in uneasy situations during previous turkey hunts showed only 33% liking the band, while 50% of the hunters who had been uneasy on "a couple occasions" expressed favor with the band, as did 63% of the hunters who had found themselves in uneasy situations "often" in the past.

A number of hunters observed that the band served several other useful purposes during the hunt. Wearing the band to and from the hunting location served a safety function, as did wrapping a dead bird with the band on leaving the turkey woods.

In evaluating the hunter orange item, a substantial group of participants expressed a common explanation for not using the band or using it selectively. It was not for fear of the orange scaring birds that they "deserted" use of the band, and not because of the orange that they indicated they "disliked" the band. Rather, it was because of the extra effort and movement required to wrap the band around the tree, and "Velcro-noise" associated with band removal. Several volunteers said that use of the band simply did not lend itself to their mobile style of turkey hunting involving moving toward gobbling birds. Therefore, a basic methodological refinement to any subsequent study involving the alert band will be to ask volunteers to wear the band bandolier-style or as a sash, thus minimizing additional movement or noise associated with using the alert item.

Discussion

This study has not attempted to answer the difficult question about how a turkey reacts to hunter orange, nor is it the final analysis of hunters' attitudes toward safety innovations for spring turkey hunting. What has been shown is that turkeys can be harvested while a cloth item designed to alert other hunters to a fellow hunter's presence is in use.

Two key points should be made concerning the use of safety devices in turkey hunting; the first is one of psychology, and the other is a question of ethics. From a psychological viewpoint, if a hunter feels safer in the field with a cloth item or device recognized as an indication that a hunter is nearby, then the hunter should be encouraged to use the device while hunting turkeys. The device may put the hunter at ease, allowing a more enjoyable outdoor experience. Moreover, it may indeed prevent another hunter from accidentally wounding or killing a fellow hunter during the excitement of the hunt.

But the fact that the judgment of some hunters becomes clouded by the excitement of the hunt highlights the second and more basic consideration in using hunter safety items, that of standards of hunter conduct—ethics. In Missouri, the modern spring turkey season originally was established by biologists and administrators to be an intimate and quality experience of man and nature. Gobblers would be called until beards could be seen, and then shotgunners would be shooting at reasonably close range, probably within 28 m. Witness, however, that the mean distance for turkey hunting accidents in 1982 was 33 m, with 40% being over 36 m, suggesting that the shooters involved did not exercise the control nor the safety envisioned for a quality spring turkey hunt. Even the hunters in this study harvested turkeys at greater distances the second week of the season than during the first week, though the average distance both weeks was under 28 m. Possibly, the competition to harvest a bird wore on hunters' patience and judgment as the season progressed, moving them to take longer shots which would not have been taken earlier.

An increasingly formidable and effective turkey hunting technology might well be contributing to changes in the nature of turkey hunting and forcing an even higher code of conduct for hunters. On the average, for example, birds harvested in this study by hunters using 10-gauge shotguns were at a distance nearly 10 m greater than birds harvested with 12-gauge shotguns. This is not an indictment of 10-gauge guns or those using them, nor does the idea of greater harvest potential reflect poorly on other technological advances like improved shot-shell types which provide tighter patterns, bigger shot, and higher velocities. Rather, it is simply the responsibility of people using these advances to exercise the additional caution which must accompany the ability to kill birds at greater distances.

The situation wherein hunters, or more specifically, shooters, safely regulate their own behavior is the ideal. Agencies can encourage self-regulation by offering or requiring programs of hunter education. One extreme approach to stimulating the safety consciousness of turkey hunters would be to require completion of a training program prior to obtaining a permit. This would require substantial cost and entail logistical problems, though these are not considered insurmountable if this approach were deemed desirable.

Another extreme alternative is to have hunters alert others to their presence by requiring a hunter orange item. This would be a costly solution, and as suggested by this project, probably would encounter some resistance from hunters.

A more realistic approach that is not as costly and does not entail the logistical concerns is to promote voluntary hunter education and encourage use of alert items. Voluntary hunter safety training for hunters of all ages should be offered with appropriate publicity highlighting the reasons for and benefits of these courses. Additionally, in light of the fact that birds can be harvested when an orange item is displayed, agencies and private conservation groups can, in good conscience, encourage hunters to use alert items.

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