Do wild turkeys influence quail or grouse populations?

Northern bobwhite and ruffed grouse populations have declined considerably in various areas over the past 20 years. At the same time, wild turkey populations have increased significantly. Without supporting evidence, many people are convinced wild turkeys have contributed to the decline in quail and grouse numbers. “Turkey blamers” cite food competition, nest and chick predation, and incompatibility (area exclusion) as ways wild turkeys have negatively influenced quail and grouse populations. However, often what appears as cause-and-effect actually had no influence at all.

Wild turkeys have a varied diet that includes almost anything they can get down their throat. Although they primarily eat acorns, soft mast, forbs, miscellaneous seeds, grains, and insects, on rare occasion you might also find a small mammal, bird, or snake, frog, lizard, or salamander in a turkey’s crop. As you might imagine, gobblers are more likely than hens to eat these larger food items. Wildlife researchers have investigated food habits of wild turkeys for decades, in virtually every area where turkeys exist, during all seasons of the year. Never has a quail or grouse chick been reported in a turkey’s crop, nor has a wild turkey been cited depredating a quail or grouse nest. Does that mean it has never happened? Of course not. I wouldn’t be surprised if at some time in the history of the world, a turkey has eaten a quail or grouse chick, or an egg of one of the smaller game birds. But so what? It doesn’t matter. Relatively rare occurrences such as these do not affect populations.

To consider wild turkeys incompatible with bobwhite or grouse is curious and without merit, especially considering the habitat requirements of the 3 vary considerably. Each has its own unique niche in the natural world. Although there may be common foods among them, they co-evolved and have co-existed for thousands of years where the vegetation types they require converge. This logic escapes most people who blame turkeys for decreased quail and grouse populations. If turkeys out-compete quail and/or grouse, then how have each existed in the same area over time? Early explorers cited large numbers of all 3 species prior to and even during settlement. So what has changed? The pattern and occurrence of disturbance on the landscape.

Wild turkeys are generalists. That is, they can exploit many different vegetation types and use a broad array of food items. Northern bobwhite and ruffed grouse are more specialized. In the eastern US, bobwhite require early successional plant communities; that is, old-fields that appear “grown-up” with native forbs and grasses with lots of shrub or brushy cover well interspersed. Bobwhite are not woods birds. If they are found in woods, you can rest assured the population is declining. Ruffed grouse are woods birds. In particular, they require the dense cover afforded by young forest cover, especially in the 6 – 20-year-old range. Grouse do not use fields to any real extent.

So, what has happened? For bobwhite, a number of things. Small rowcrop fields and the associated fallow fields and brushy fencerows, so common yesteryear, have been sown to tall fescue or bermudagrass as pasture or hayland. Neither are compatible with quail—no food, no protective cover, and too dense at ground level for quail to navigate. Other fields have been allowed to "grow-up," and trees now cover what once was quail habitat. Today, production agriculture requires "double-cropping," which usually provides no suitable cover for quail, at any time of year. Landowners perennially mow and/or spray brush and weeds because they think it looks bad ("It looks snaky" and "What would the neighbors think?!?"). Few realize they are destroying what little nesting, brooding, or escape cover that might be present for the small game birds. Perhaps the biggest problem with declining quail numbers is the increasing human population and decreasing size of land ownership. No one manages quail habitat anymore! Almost no one. And the few who do usually are trying to do so on relatively small properties in a forested landscape, not an open landscape where lots of adjoining landowners also are managing land for quail.

For ruffed grouse, forest maturation is the problem. Where grouse occur on national forest land in east Tennessee, fewer acres are regenerated now than at any time since the property was acquired by the US Forest Service. The same problem is occurring in the Cumberlands. Mature forest does not contain high stem densities grouse require. Therefore, an active forest management plan is needed to perpetuate desirable grouse cover. Grouse feed on acorns, beechnuts, and other foods in mature forests, especially near the edge of young forest cover, but the birds are much more susceptible to predation in the more-open mature stands. Wild turkeys, on the other hand, readily use mature forests for nesting, raising broods, feeding, and roosting. They do not like dense thickets where visibility is limited. So, turkeys are responding just as you would predict as the forest matures and visibility in the woods is increased. Grouse cannot survive in open woods because the cover is not adequate to protect them from predation.

If you are concerned with declining quail or grouse populations, then work to habitat for those species, and get your neighbors to do the same. Then, you will realize those ill-regarded turkeys actually are nothing more than innocent bystanders!

Craig A. Harper

Professor