

Studies show sage-grouse hunting regulations effective

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Wildlife management agencies in the Mountain West, including the Wyoming Game and Fish Department, have a tall task each fall: balancing conservation of Greater Sage-Grouse — a bird whose presence is prized but declining — and hunters' desire to harvest them for sport.

It's a balance, and it's one that is working in Wyoming, according to University of Wyoming professor Jeff Beck, who recently published two studies that examine the history of hunting regulations and the effects of grouse hunting in 11 U.S. states and two Canadian provinces.

What Beck's research confirmed is that sage-grouse populations are more influenced by human activities such as energy development and agriculture, as well as loss of sagebrush habitat caused by drought or wildfires.

The science, he said, concludes that sage-grouse populations are not adversely affected by hunting if only 5% to 10% of the fall population is harvested, and if those populations have more than 300 sage-grouse.

"I think the states have set up their regulations to try to achieve that," Beck said. "But whether that number falls between 5 to 10%, or more or less, is a little difficult to come up with. That's the challenge. It needs to be better understood how we can find out if we're really taking 5 to 10%."

That's because wildlife management agencies base the year's hunting regulations on spring lek counts of male sage-grouse. The fall population, Beck said, can change from the spring population.

Wyoming tracks the number of harvested sage-grouse by its wing barrels, where hunters are asked to deposit a wing from each shot bird in a wing receipt barrel so Game and Fish can estimate not

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only how many birds were harvested but also so they can determine whether the grouse was male or female, juvenile or adult, Beck said.

Game and Fish also conducts hunter surveys via phone or email where hunters self-report, which could lead to an overestimate of harvested grouse.

Some states, such as Montana and Colorado, have a similar harvest estimation practice, he said. It's one that is less accurate than some states, including Utah, whose hunters must enter a hunt drawing to apply for a finite number of permits to hunt grouse, according to the state's wildlife resources website.

"Then those hunters that draw can only shoot the number of birds on their permit, and that is all they can take for the season," Beck said. "Then the state wildlife agency knows exactly which hunters got these permits, so (the agency) can go back and ask them, 'Did you hunt? How many birds did you shoot?' Then they might even request wings be mailed to the state agency and obtain a really accurate number of birds that are harvested by hunters."

In response to declining sage-grouse populations from the 1870s through 2019, management agencies adjusted hunting season regulations in hopes of reducing the possibility of additive mortality on the bird populations, the study shows. The

overall conclusion of the research is that spring lek counts don't increase after hunting season closures.

This year, northeast Wyoming was one of the state's sage-grouse hunt areas that remained open to hunters, from Sept. 18 to Sept. 20. Areas in and around Teton County and throughout southeastern Wyoming were closed, and the largest area, which stretches from Montana to Colorado in the state's center, was open for two weekends, from Sept. 18 to Sept. 30. Both the northeastern and central hunt areas had a two-bird daily bag limit and a four-bird possession limit.

These regulations change from year to year based on the spring's sage-grouse lek counts, Leslie Schreiber, Game and Fish sage-grouse and sagebrush biologist, previously told the *Bulletin*.

"As an agency, we will evaluate it and decide if hunting season pressure should or should not be adjusted," she said in an interview before this year's hunting season.

Beck said he presented his research to the state's Sage-grouse Implementation Team, of which Schreiber is a member, earlier this year.

The season in northeast Wyoming is just three days due to the area's smaller sage-grouse population, he said. According to lek counts this year, attendance declined 11% from 2020 to 2021

in the Powder River Basin, Game and Fish reported.

Of the region's sage-grouse habitats, Wyoming has made the least-dramatic changes to its hunting season, Beck's study shows. The state had the highest harvest in 2018 of the 11 states Beck researched, with over 10,400 birds harvested that year. The harvest, the study says, was five times larger than Idaho's, the state with the next highest figure.

The outlier in Beck's research, he said, was in Idaho, where wildlife managers conducted their own study of hunting's effects on sage-grouse populations by implementing hunting closures in certain areas compared with light or moderate hunting regulations in other areas over several years. The study showed that males attending leks in the spring were higher in areas with no hunting compared with areas with light or moderate hunting.

Beck said this points to levels where wildlife managers can "overdo it," with long seasons and high bag limits.

Overall, though, the results of Beck's two papers surprised him.

"We thought we would see more impact (from hunting)," he said. "The conclusion we came to was that restrictive hunting seasons for sage-grouse over the past 25 years seem to have paid off, so hunting wasn't a problem like it could have been."