

## 2023 Prairie Grouse Hunting Forecast

Greater prairie-chicken and sharp-tailed grouse, commonly referred to as prairie grouse, offer a unique and popular hunting opportunity in South Dakota (SD). Prairie grouse are most abundant in central and western SD where ample grassland habitat exists (Figure 1). In addition to large blocks of grassland, prairie grouse also frequent cropland and shrubs. These habitats are targeted by hunters who often harvest mixed bags of sharp-tailed grouse and greater prairie-chickens in the central portion of the state, where their ranges overlap.

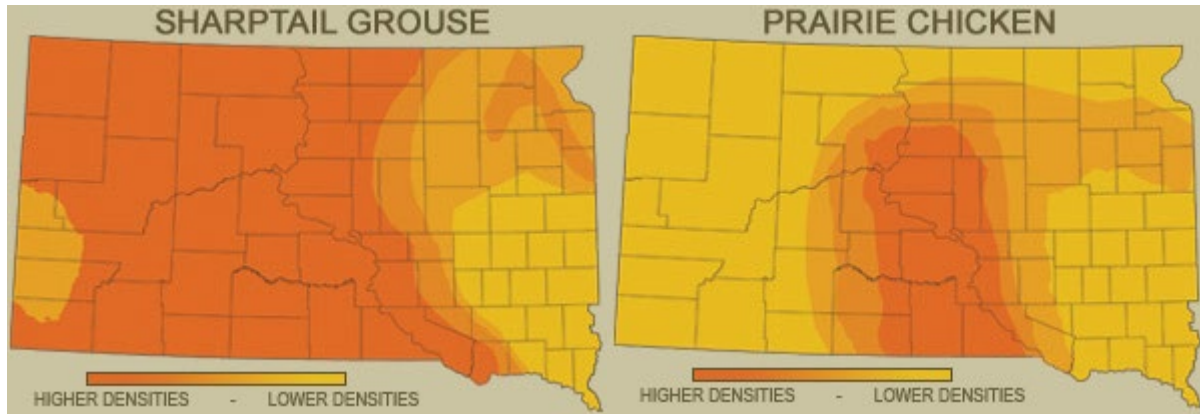


Figure 1. General distribution of prairie grouse in South Dakota.

Prairie grouse harvest increased in 2022, compared to 2021 and was well above the above the 10-year average. Overall, 16,765 hunters harvested an estimated 63,615 prairie grouse (Figure 2). Most of the prairie grouse harvest in 2022 occurred in central and western portions of the state (Figure 3).

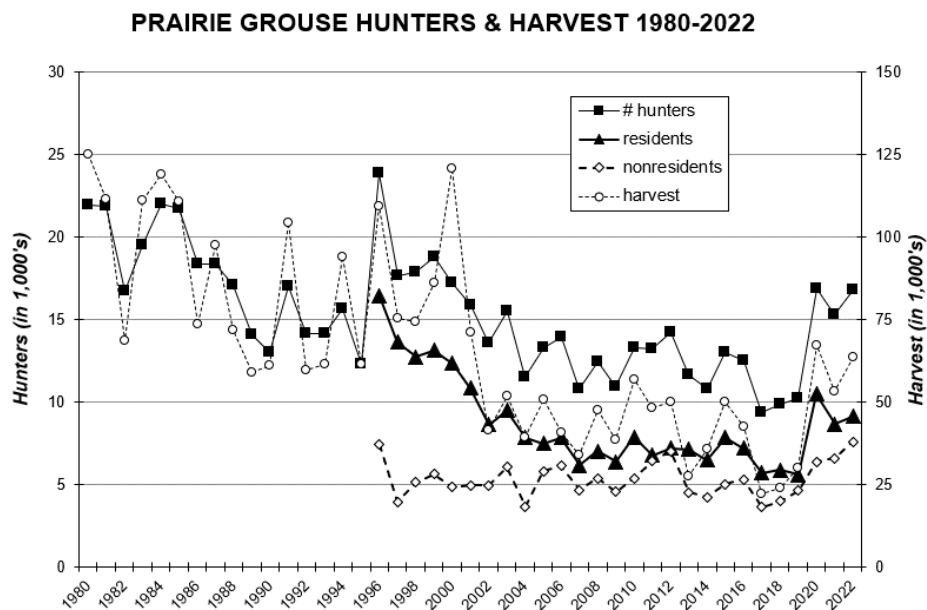


Figure 2. Prairie grouse hunters and harvest in South Dakota, 1980-2022.

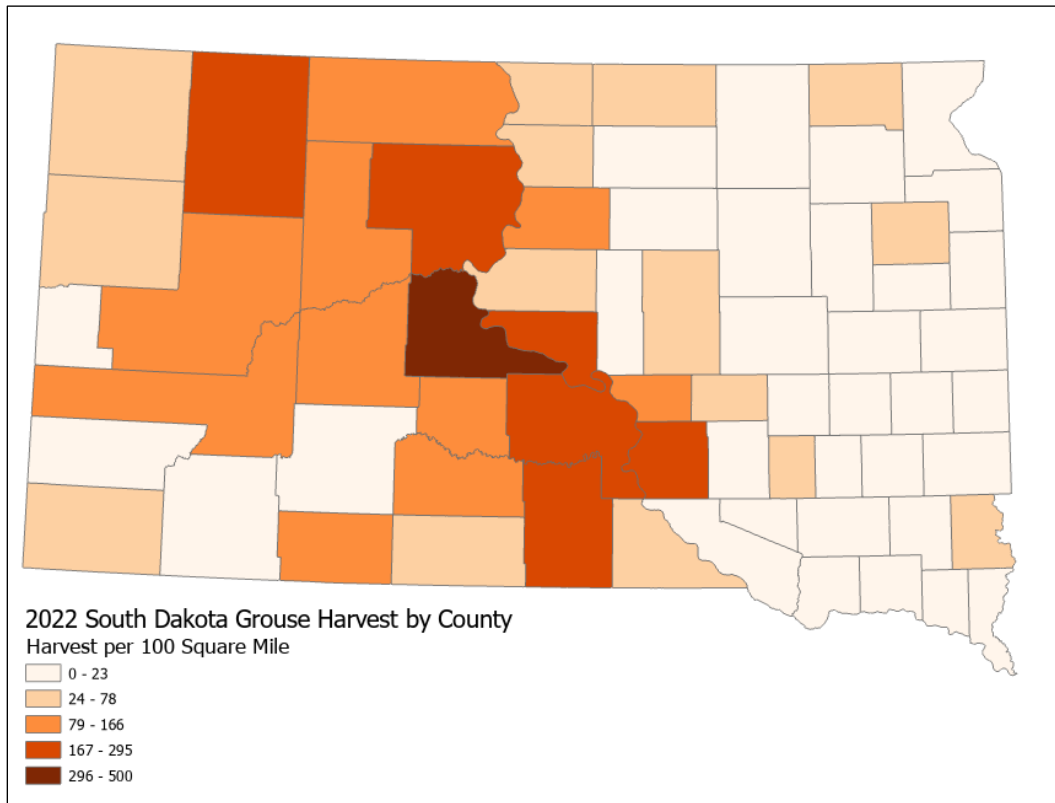


Figure 3. Distribution of 2022 prairie grouse harvest (harvest/100 mi<sup>2</sup>) in South Dakota.

Spring prairie grouse populations are monitored annually by conducting surveys consisting of counting males on leks, often referred to as dancing or booming grounds. Surveys occur in portions of central SD that overlap areas of high hunter effort. Counts of males on these traditional breeding season display areas (leks) provide a local population index of the adult population. Like other upland game birds such as pheasants, prairie grouse are generally short lived (50% annual survival) with high reproductive potential. Young of year birds typically outnumber adult birds in the fall population. For this reason, spring lek counts are not necessarily a good predictor of fall population levels or hunter success. Spring lek counts are a good indicator of long-term trend for the adult population. Lek surveys conducted in central SD by Game, Fish and Parks and U.S. Forest Service staff indicated slightly higher overall counts in 2023 compared to counts in 2022 driven by good reproductive success. The increase in these spring lek counts were solely driven by an increase in greater prairie chickens on leks.

Prairie grouse reproductive success is not easily determined before the hunting season. However, wings from hunter harvested prairie grouse are collected each year to determine what proportion of the harvest consisted of young of year birds. On average, two young of the year birds are harvested for every one adult, but the ratio of young to adult birds has been as high as 3.05 in 2004 and as low as 0.61 in 2002. These data provide biologists with valuable information about reproductive success each year. Last year, the ratio of young to adult birds was 1.8, higher than 2021 and comparable to the 10-year average. (Figure 4).

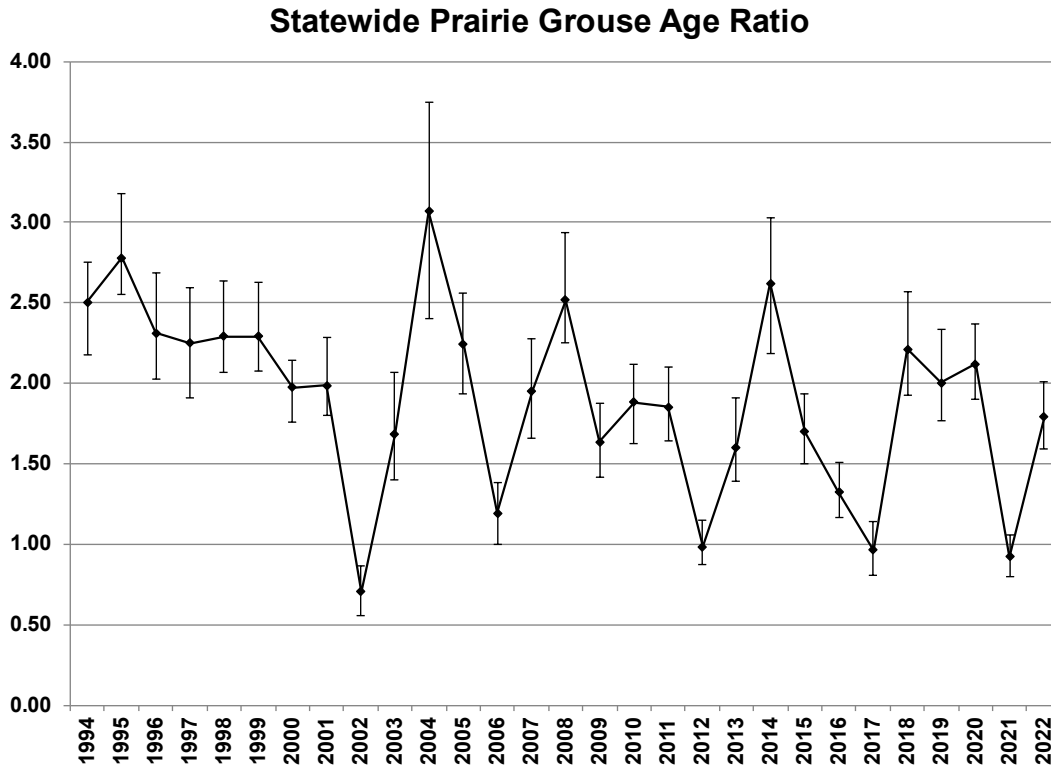


Figure 4. Prairie grouse age ratio for South Dakota, 1994 – 2022.

Interannual prairie grouse production is often driven by habitat conditions dictated by the presence or absence of drought. It is well known that environmental variables can impact reproductive success in upland game birds and accounts for some of the highs and lows. When a multitude of weather variables thought to have potential impact on prairie grouse production were evaluated in central SD, the average temperature in June was found to be negatively correlated with prairie grouse production. The analysis of data dating back to 1994 suggests that abnormally warm June weather could be a detriment to grouse production, potentially caused by reduced insect production, deteriorating habitat conditions related to drought, or chick loss from heat stress. The average June temperature in central South Dakota for 2023 was about 3.4° F above normal. Drought conditions are often associated with years when June temperatures are warmer than average. Although much of SD experienced a relatively warm June, precipitation in central SD exceeded the June average by over an inch. June in much of the prairie grouse range was favorable for nesting grouse and we believe the warmer temperatures should not hamper production.

Last year, portions of the primary prairie grouse range were in varying levels of drought through much of the nesting and brood-rearing season. Timely rains and relatively normal spring/summer temperatures did allow habitat conditions to improve yielding more favorable nesting cover, as well as huntable cover. This year, a vast majority of the primary grouse range is drought free (Figure 5) and expected to yield favorable nesting/brood rearing cover.

Map released: Thurs. July 13, 2023

Data valid: July 11, 2023 at 8 a.m. EDT

### Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

### Authors

United States and Puerto Rico Author(s):

[Richard Tinker](#), NOAA/NWS/NCEP/CPC

Pacific Islands and Virgin Islands Author(s):

[Denise Gutzmer](#), National Drought Mitigation Center

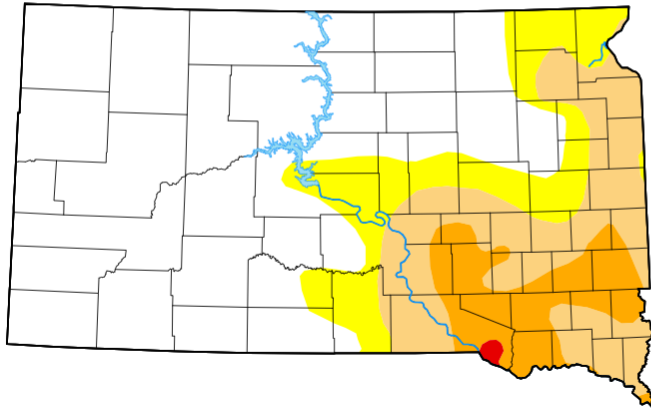


Figure 5. South Dakota drought status for July 13, 2023.

The 2023 prairie grouse hunting outlook is expected to be better than 2022. Abnormally dry conditions were limited in early to mid-spring in much of western SD and alleviated by snowmelt and timely rainfall. The majority of central and western South Dakota has recovered from drought and is seeing very good grassland habitat conditions. Although the lingering cooler spring temperatures and snowpack from the winter may have delayed nesting efforts in some areas, we expect the current favorable range conditions to contribute to good prairie grouse production, resulting in increased hunter success. The latest U.S. drought monitor map can be viewed at: <https://droughtmonitor.unl.edu/>.

Hunters are encouraged to visit with landowners and residents in their traditional hunting areas as local population levels and habitat conditions can vary. Hunters are again asked to hunt safely and ethically; respect private landowners and public hunting areas across the state and enjoy the South Dakota tradition of hunting all upland game with family and friends this fall. Hunters who harvest grouse are encouraged to provide a wing from each bird which will be used to estimate reproductive success and refine future prairie grouse outlooks (For more information please visit: <https://gfp.sd.gov/prairie-grouse/>).

The South Dakota Prairie Grouse Season begins September 16<sup>th</sup>, 2023, and ends on January 7<sup>th</sup>, 2024.