

Utah 2024 Chukar Partridge Update

Utah Division of Wildlife Resources



Beginning in 2019, the Utah Division of Wildlife Resources (UDWR) has implemented a survey methodology to evaluate chukar numbers and production using game cameras set at water sources throughout the state. The camera survey allows data to be captured in a wide geographic area and provides data on the year's production and a year-to-year index of abundance. Helicopter surveys were discontinued due to increasing cost and safety concerns related to low-level helicopter flight.

During the initial year, cameras were placed at 20 trend sites throughout the state. Since then, the project has added and removed cameras, resulting in 33 active camera sites, of which 25 produced photos. This year, we utilized new Artificial Intelligence technology through Brigham Young University (BYU) to assist with the photo processing, and biologists and dedicated hunters verified the data. The work of volunteers from the Utah Chukar and Wildlife Foundation, BYU, and the UDWR Dedicated Hunter program was invaluable to completing photo processing and summarizing chukar visits to water sources.

Habitat conditions throughout the state have suffered due to ongoing drought, though this has improved in the last two years. Utah experienced heavy snowfall during the 2022-2023 winter, and optimal winter conditions in most of the state during the 2023-2024 winter. The last two years of precipitation patterns likely resulted in improved nutrition for breeding adults, growth of grasses and forbs, and increased insect abundance, yielding the protein critical for chick growth and survival. Although precipitation in the West Desert is spotty and conditions can differ significantly from one range to another, or even between areas on the same mountain range, the amount of snowfall from last year contributed to an increase in overall quantity and quality of brood-rearing habitat. Production was good this year, with many brood coveys visible at water sources. Chukar hunters can expect to see an above average year in many locations, and increased production in the Northern region. While low production may indicate lower populations, some areas with a substantial number of adults but not much production may be experiencing a factor of density-dependence, rather than a decline in the population.

Table 1. Chicks per Adult by Region

The average number of juvenile birds per adult birds in the four sampled DWR regions. The number of chicks per hen is an index of yearly production. Artificial Intelligence (AI) was utilized for the first time this year to assist with chukar detections in photos. Biologists and volunteers verified the data manually.

	2019	2020	2021	2022	2023	2024
Northern	2.5	1.3	0.1	2.4	0.72	2.98
Central	4.8	1.0	0.1	3.5	2.23	2.13
Southern	1.9	0.6	0.0	1.5	1.85	1.16
Southeastern	3.0	1.5	0.0	0.7	6.61*	0.34

*due to a substantial amount of data being unavailable, this is an unusually small sample size.



Chukar visitation to guzzlers may be highly variable year to year. Here is an example from the 2024 camera survey showing how the AI detected chukars at the guzzlers. These photos were reviewed by volunteers or biologists to help train the AI software, and to decipher the correct number of total chukars, as well as the number of juvenile vs. adult chukars. The average AI detections per region were: NR = 74, CR = 726, SR = 182, SER = 2.5. Most of these values are biased high, but as the software is trained via manual review, it will become more accurate.

Northern Region:

There were four cameras deployed in the Northern Region on the Grouse Creek, Pilot, Hogup, and Hogup South Mountains. All four cameras contributed to the dataset, with an increase in production from 0.72 in 2023 to 2.98 in 2024. It's likely that last winter's optimal snow conditions coupled with the prior year's wet spring has contributed to prime brood-rearing habitats in many locations.

Central Region:

Much of Utah's chukar habitat is within the Central Region, and the area also receives the majority of the camera monitoring effort with 15 active cameras in 2024 deployed on the Cedar, Deep Creek, Desert, Dugway, Gilson, Grassy, Lake, Lakeside, Long Ridge, and Thomas Mountains. Eleven of those 15 cameras contributed to the dataset. Of the data reviewed, the juvenile per adult ratio slightly decreased from 2.32 to 2.13 juveniles per adult, but this is still an increase from recent years. Overall hunting conditions will likely be similar to last year.

Southern Region:

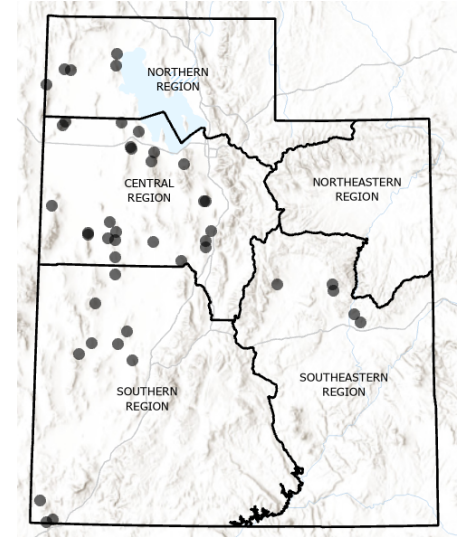
The Southern Region contains the West Desert ranges south of the Millard-Juab county line. Nine cameras were placed on the Beaver Dam, Crickets, Drum, Gray Hills, House, Mineral, and Oak Creek Mountains. Of those nine, eight contributed to the dataset. Overall production decreased slightly this year from 1.85 chicks per adult to 1.61 chicks per adult in these areas. However, other locations in the southern region (outside of this dataset) have shown a significant increase in production in the past two years. Overall hunting conditions should be comparable to better than last year.

Southeastern Region:

The Southeastern Region cameras are located along the Book Cliffs, Nine Mile, and Manti East Slope Mountains. Of the five active cameras, two cameras contributed to the dataset this year. Last year, the small amount of data that was gathered demonstrated a ratio of 6.61 juveniles per adult. Due to another small sample size this year, the data may be skewed on the low end of production with 0.34 juveniles per adult. Two cameras did not receive any chukar visits, and one did not operate properly.

Figure 1. Regional Boundaries and Monitored Locations

Regional boundaries referenced in this document with approximate locations of monitored water sources.





Summary:

Production is generally stable to increasing throughout the state, and hunters will likely encounter larger coveys with more young birds this year. Chukar populations can be spotty throughout the state, with some areas receiving more desirable precipitation patterns, or just more water in general. Because averages are presented here, there are always places performing considerably better or worse than the average of the camera locations. Don't give up; there are plenty of birds in Utah. Just remember to search for areas that provide food and cover during the hunting season. Steep, rocky slopes with brush and grass can be a great place to start, and if you haven't hunted chukar before, visit our wildlife.utah.gov for more tips, or go to learnhunting.org to find a mentor.