

# Alaska

## Small Game Summary 2024

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Species considered small game in Alaska are defined by the Alaska Department of Fish and Game (ADF&G), for regulatory purposes as grouse, ptarmigan, and hare. Alaska has 7 species of grouse and ptarmigan (Tetraonidae) including ruffed (*Bonasa umbellus*), sharp-tailed (*Tympanuchus phasianellus*), sooty (*Dendragapus fuliginosus*), and spruce (*Falcipennis canadensis*) grouse; and rock (*Lagopus muta*), white-tailed (*L. leucurus*), and willow (*L. lagopus*) ptarmigan. In addition, Alaska has 2 species of hare (Leporidae) including Alaska (*Lepus othus*) and snowshoe (*L. americanus*) hare. All 7 species of grouse and ptarmigan and snowshoe hare can be legally harvested in Alaska with liberal seasons and bag limits for all game management units (Unit). Alaska hare, which have a distribution limited to western coastal areas, have liberal season dates but more conservative bag limits as current numbers are far below historical numbers.

The statewide Small Game Program (SGP) has three primary responsibilities including research, management, and outreach. Recent research results are briefly described within the specific species sections. Management efforts largely focus on spring breeding and summer brood surveys, harvest composition, recommendations to the Alaska Board of Game (BOG) regarding regulatory proposals, and addressing concerns from staff and the public. Specific survey methods are fully described in Merizon and Carroll (2023). Survey and research efforts occur across the state from Nome to Ketchikan and along the road system from the Steese Highway south to the Kenai Peninsula. Outreach and education efforts focus on recruiting new hunters, providing hunters with tips, recommendations, and insight into Alaska's small game species.

This report summarizes the activities conducted by the SGP during the 2023 regulatory year (RY23, 1 July 2023–30 June 2024) in addition to brood survey results from summer 2024. Specifically, it addresses: 1) 2023–24 weather patterns, 2) species status including spring 2024 breeding and summer 2024 brood survey results, and RY23 harvest composition, 3) research updates, 4) recent BOG regulatory changes, and 5) new developments and outreach efforts. A more thorough multi-year management report is available (2022) or will be available (early 2025) at <https://www.adfg.alaska.gov/index.cfm?adfg=smallgamehunting.research>.

For clarity when reading this report we regularly report data from large geographic areas including the Interior (Game Management Units [GMUs] 12, 19–21, 24, and 25), Southcentral (GMUs 6, 13A, 13D, 14, and 16A), the Alaska Range (9A, 9B, 11, 13B, 13C, 13E, and 16B), and the Kenai Peninsula (GMUs 7 and 15).

### 2023 / 2024 Weather

July 2023 was hot in northern and eastern regions of the state but wet in the west and southcentral with July 2023 the wettest on record for Homer (Alaska Climate Research Center 2024). The wet and cool conditions continued into August 2023 for Southcentral Alaska, but conditions were dry in the Interior near Fairbanks and Delta Junction. Snow cover was present throughout much of Alaska by the end of November with record snowfall recorded for that month in Anchorage in 2023. By the end of December 2023, Anchorage had recorded the snowiest year on record since 1953. A new snow record was recorded in Juneau for the month of January 2024 and temperatures throughout the Interior were colder than the long-term average. March and April 2024 were dry and warm throughout much of the state. May 2024 was cool throughout much of the state with lots of precipitation recorded in the southern region of the state and the Interior. This pattern shifted to a warm and dry June for much of the state with the 2<sup>nd</sup> warmest June recorded for Bettles and 3<sup>rd</sup> warmest June for Fairbanks, which resulted in an increase in fire activity and poor air quality during the latter half of June and into early July of 2024.

Beginning in 2017 and continuing into 2024, a spruce bark beetle (*Dendroctonus rufipennis*) outbreak has severely affected large stands of mature ( $\geq 15$ cm diameter) white spruce (*Picea glauca*) throughout Southcentral and the Kenai Peninsula. Much of the Matanuska-Susitna valley (Mat-Su) has been severely affected in addition

to portions of the Anchorage bowl. This loss of spruce grouse habitat may have a strong negative effect on spruce grouse populations throughout Southcentral and the Kenai Peninsula over the coming years and has increased the wildfire risk in affected areas. (United States Forest Service 2023).

## Species Status

### Ruffed Grouse

Spring breeding surveys were completed at long-term monitoring sites near Palmer, Delta Junction, Anderson, Fairbanks, and Tok. Surveys were conducted from 1-18 May 2024 in Interior Alaska and 16 April to 15 May 2024 in the Mat-Su. Survey conditions in the Interior were generally good with relatively light winds and cool morning temperatures but relatively warm nighttime temperatures. Conditions along survey routes in the Interior were good with little snow remaining unlike the previous 2 springs. Survey conditions in Mat-Su were generally good and spring leaf-out seemed 1-2 weeks ahead of forests around Anchorage. Deep snow was present on several survey routes in the Mat-Su during late-April but had largely melted by mid-May. The average number of drumming males heard along survey routes in the Interior near Anderson, Fairbanks, and Tok suggest ruffed grouse numbers have been increasing for the last few years. Surveys near Delta Junction showed a slight decrease in ruffed grouse numbers. Despite the lower ruffed grouse count from Delta Junction the overall trend in the Interior is that ruffed grouse numbers are increasing. The average number of drumming males heard on survey routes in Mat-Su continues to remain low from the high documented in 2018.

The proportion of juveniles in the harvest (based on hunter harvested wing donations) is used as an index of chick survival (Merizon and Carroll 2023). In Southcentral, the number of wing donations in RY23 ( $n = 6$ ) was below the long-term average ( $n = 19$ ; 2011-2023). The low sample size precludes a reliable estimate of the proportion of juveniles. In the Interior the number of wings received in RY23 ( $n = 56$ ) was above the long-term average ( $n = 45$ ; 2011-2023). The proportion of juveniles in the harvested sample from the Interior in RY23 (0.83) was slightly above RY22 (0.78,  $n = 32$ ). The relatively small sample sizes across large geographic areas of collection warrant caution in drawing strong conclusions about population trends from the wing data alone. Hunter reports of ruffed grouse numbers were generally good throughout the Interior but less encouraging in Southcentral during RY23.

Overall, spring breeding surveys in 2024 coupled with warm and dry weather conditions in the Interior during the early brood rearing period suggest hunters may expect to see more ruffed grouse in the Interior this year. Despite poor spring breeding survey estimates, warm and dry weather during the brood rearing period (mid-June to early-July) in Southcentral likely had a positive effect on production and recruitment of juvenile ruffed grouse.

### Sharp-tailed Grouse

The SGP conducted annual spring breeding surveys near Delta Junction from 17-30 April 2024 and near Tok from 25-28 April 2024. Survey conditions were generally good with light winds and cool temperatures. Snow conditions were much more manageable during spring 2024 and did not hamper access to the majority of leks.

Sharp-tailed grouse numbers near Delta Junction and Tok were higher in 2024 (4.6 males per stop and 6.2 males per stop for Delta Junction and Tok, respectively) than 2023 (2.5 males per stop and 2.8 males per stop for Delta Junction and Tok, respectively) and the 2024 estimates were higher than the previous 5-year-averages. The number of active leks near Delta Junction in spring 2024 was 22, which is more than the number of active leks recorded in 2023 (18). The number of active leks observed near Tok in spring 2024 was the same as in 2023 (5). For clarity, a lek is defined here as an area with  $\geq 1$  male sharp-tailed grouse

observed displaying in at least 2 consecutive years. A lek is considered inactive or abandoned when no males are observed displaying for 5 consecutive years.

Sharp-tailed grouse brood surveys were completed during 20-21 July 2024 near Delta Junction. Brood surveys have been completed near Delta Junction with the aid of pointing dogs since 2016. Although the data is limited the number of broods seen during brood surveys on survey transects was higher in 2024 (3) than in 2023 (0).

There were more sharp-tailed grouse wings donated from hunters throughout the Interior in RY23 ( $n = 87$ ) than in RY22 ( $n = 69$ ) and the proportion of juveniles in the harvest calculated from donated wings was higher in RY23 (0.78) compared to RY22 (0.68). Most of the wing donations from the Interior come from Unit 20D (70% in RY23). Therefore, the data suggest juvenile production during the summer of 2023 in Unit 20D was likely very good but whether or not that applies throughout the Interior is less clear due to limited samples from other areas.

Considering spring breeding densities of sharp-tailed grouse were up near Delta Junction and Tok in 2024 and more broods were seen on survey transects in summer 2024 than summer 2023 hunters should expect to see more sharp-tailed grouse while afield in the Interior for the 2024-25 hunting season.

### **Spruce Grouse**

Limited data are available for spruce grouse. Relative abundance projections are limited to inference made from wing donations and field observations. However, beginning in fall 2019, a roadside survey technique was initiated to develop an index of abundance in the Mat-Su. This technique has shown promise in its ability to provide an efficient and cost-effective means to index spruce grouse population abundance at a localized scale. Fall roadside spruce grouse counts declined in Mat-Su from 2021 to 2023.

Wing donations for spruce grouse throughout Southcentral and the Kenai Peninsula in RY23 ( $n = 64$ ) were less than half that received in RY22 ( $n = 171$ ). The proportion of juveniles in the donated wing sample from Southcentral and the Kenai Peninsula was 0.44 in RY23 compared to 0.60 in RY22, suggesting poor juvenile production in RY23. The relatively small sample size across a large geographic extent warrants using caution when drawing strong conclusions from the wing data alone. However, the wet and cool weather experienced in Southcentral and on the Kenai Peninsula during the summer of 2023 likely did not have a positive influence on juvenile production. In addition, many hunters in Southcentral reported seeing few spruce grouse while afield during RY23. The number of donated wing samples from the Interior was similar in RY23 ( $n = 163$ ) compared to RY22 ( $n = 149$ ) and the proportion of juveniles in the harvest in RY23 (0.69) was very similar to RY22 (0.66) and has stayed relatively consistent since RY20.

In 2024, Southcentral spruce grouse populations may be negatively affected by the ongoing and widespread spruce bark beetle infestation throughout the region. In comparison to the consistently cool and wet weather during the second half of June and early July of 2023, conditions during the same period in 2024 were relatively warm and dry, which may have improved production and recruitment of juvenile spruce grouse in Southcentral. Furthermore, warm and dry weather in the Interior during the critical brood-rearing period likely had a positive impact on chick production for spruce grouse in the Interior in 2024 and Interior hunters are likely to see good numbers of spruce grouse during RY24.

### **Sooty Grouse**

Spring breeding surveys were completed in Juneau, Petersburg, Ketchikan, and Haines between 9 April and 23 May 2024. The spring breeding estimate of the number of singing males (“hooters”) per stop was up in 2024 near Juneau (1.7 males per stop), Ketchikan (1.1 males per stop) and Petersburg (1.8 males per stop)

compared to 2023 but down slightly near Haines (2.2 males per stop). The estimate near Ketchikan is the highest recorded since surveys were initiated in 2020 and was the third highest near Juneau since surveys were initiated there in 2015.

Zero sooty grouse wings were donated to the SGP in RY23. This makes it impossible to draw any meaningful conclusions about differences in juvenile production between RY22 and RY23.

Southeast grouse hunters should anticipate good numbers of sooty grouse this fall near Juneau, Ketchikan, Haines, and Petersburg based on 2024 spring counts and the relatively warm and dry weather during summer 2024.

### **Rock Ptarmigan**

Rock ptarmigan spring breeding surveys occurred from 23 April to 20 May 2024 throughout the Kenai Peninsula, Chugach Mountains, Alaska Range, and White Mountains. The spring breeding estimate of abundance for rock ptarmigan on the Kenai Peninsula in 2024 (0.6 males per stop) was down from 2023 (0.8 males per stop) and below the previous 5-year average (0.7 males per stop). The estimate for the Chugach Mountains in 2024 (0.5 males per stop) was above the estimate from 2022 (0.4 males per stop). No estimate is available from the Anchorage bowl for 2023 due to a combination of poor weather and staff availability. The survey estimate for rock ptarmigan in the Alaska Range in 2024 (0.2 males per stop) was far below the estimate from 2023 (0.6 males per stop) and below the previous 5-year-average (0.3 males per stop). Survey data from 2024 indicate rock ptarmigan are increasing near Mount Fairplay (1.8 males per stop) in the eastern Interior compared to 2023 (1.4 males per stop) and near Eagle Summit on the Steese Highway. The estimate from Mount Fairplay is the highest on record since surveys were initiated in 2015. Rock ptarmigan populations throughout Southwestern Alaska and the Alaska Peninsula appear to be rebounding with several locations throughout the Yukon-Kuskokwim (YK) Delta observing more ptarmigan than in the recent past.

Sixty-nine harvested rock ptarmigan wings were donated from hunters in RY23. These samples were spread over a very large geographic area with the most wing samples coming from Unit 22D near Nome ( $n = 18$ ). Drawing any conclusions about juvenile production for a given area from this sample is very difficult.

Brood surveys for rock ptarmigan were completed between 15 July and 4 August 2024 from Eagle Summit south to the Kenai Peninsula (including Denali Highway, Sheep Mountain, Hatcher Pass, and Chugach State Park). Very few rock ptarmigan are typically observed on brood survey routes along the Denali Highway which are primarily focused on willow ptarmigan, however, in 2024 37 rock ptarmigan were observed along Denali Highway brood survey routes. Surveys near Eagle Summit were completed on 3 to 4 August 2024. Eight groups of rock ptarmigan were observed (40 total rock ptarmigan) along survey routes but unfortunately observers were only able to positively identify 1 chick making it impossible to estimate the average number of chicks per brood. No comparisons in the total number of rock ptarmigan observed can be made between 2024 and 2023 because surveys were not completed at Eagle Summit in 2023. At the time of publication, data was unavailable from the majority of brood survey locations in CSP, Hatcher Pass, and the Kenai Peninsula. Again, the data for these areas is currently incomplete, but rock ptarmigan populations in these areas likely benefited from warmer and drier weather during the brood-rearing period of 2024.

Overall, hunters can likely expect to see good numbers of rock ptarmigan in the Interior and possibly into the Alaska Range but likely fewer in Southcentral and on the Kenai Peninsula.

### **White-tailed Ptarmigan**

Beginning in summer 2021, increased brood survey effort was employed throughout Southcentral Alaska for white-tailed ptarmigan. In addition to hunter harvested wing donations the brood survey data affords a better understanding of white-tailed ptarmigan chick survival and subsequent population productivity throughout the Chugach, Kenai, and Talkeetna mountains. In 2024, brood surveys were completed in white-tailed ptarmigan habitat in CSP, Hatcher Pass, and on the Kenai Peninsula, although data was incomplete at the time of publication and therefore it is unknown what hunters can expect to find in these areas for white-tailed ptarmigan numbers. Nonetheless, both Southcentral and the Kenai Peninsula experienced comparably warmer and drier weather in 2024 than in 2023 during the brood-rearing period, likely having a positive impact on chick survival.

Sixteen white-tailed ptarmigan wings were donated to the SGP in RY23 with all wings coming from the Southcentral region. The proportion of juveniles in the sample from Southcentral was similar in RY23 (0.50) compared to RY22 (0.47). Again, due to the large geographic extent of the sample it is very difficult to make meaningful inference from the harvest data alone.

Despite the limited data at time of publication, the warm and dry weather throughout Southcentral and the Kenai Peninsula may have helped production and recruitment of white-tailed ptarmigan in 2024.

### **Willow Ptarmigan**

Willow ptarmigan spring breeding surveys occurred from 23 April to 19 May, 2023 throughout the Kenai Peninsula, Anchorage Bowl, the Alaska Range, Nome, and White Mountains. The 2024 spring breeding estimate (2.5 males per stop) was up from 2023 (1.6 males per stop) within the Anchorage Bowl. The spring breeding estimate for willow ptarmigan along the eastern Denali Highway (Unit 13B) in 2024 (1.4 males per stop) was above the 2023 estimate (1.2 males per stop), and slightly above the previous 5-year-average (1.2 males per stop). The 2024 estimate (1.2 males per stop) from the western Denali Highway (Unit 13E) was also above the 2023 estimate (0.8 males per stop), and higher than the previous 5-year-average (0.7 males per stop). The Denali National Park (DNP) estimate for 2024 (3.9 males per stop) was above both the 2023 estimate (3.1 males per stop) and the previous 5-year-average (3.3 males per stop) and is the highest estimate recorded since surveys were initiated in 2014. Surveys of willow ptarmigan near Delta Junction within the Donnelly Training Area (DTA) and near Mount Fairplay near Tok suggest numbers are likely increasing. Only 1 willow ptarmigan survey was completed near Delta Junction in 2024 (0.4 males per stop) and the relative abundance estimate changed little from 2023 (0.4 males per stop) suggesting willow ptarmigan numbers near Delta Junction continue to remain relatively stable at low density. The 2024 estimate (2.0 males per stop) for willow ptarmigan near Mount Fairplay showed a large increase over the estimate from 2023 (0.8 males per stop) and is above the previous 5-year-average (0.6 males per stop). Willow ptarmigan numbers throughout Southwestern Alaska appear to be rebounding according to field staff reports from early 2024.

Summer brood surveys were completed between 15 July and 1 August 2024 along the Denali Highway, Sheep Mountain, Hatcher Pass, CSP, and the Kenai Peninsula. Denali Highway brood surveys documented 17 willow ptarmigan brood groups on transect where age composition could be determined. An additional two brood groups flushed before observers could determine the age composition of the group. For the brood groups with a known composition, the number of chicks per brood (4.5 chicks per brood average) was lower than the number recorded in 2023 (8.3 chicks per brood average) but is likely impacted by a much higher sample size of total broods observed. At the time of publication, data from the majority of the Southcentral brood survey locations was unavailable. However, willow ptarmigan populations in these areas likely benefitted from warmer and drier weather during the brood-rearing period of 2024.

Hunter harvested willow ptarmigan wings were collected statewide ( $n = 306$ ) during RY23. Samples were collected primarily from the Seward Peninsula ( $n = 83$ ), Southcentral ( $n = 78$ ), and the Alaska Range ( $n = 55$ ). Only 6 willow ptarmigan wings were donated from the Interior in RY23. The proportion of juveniles in the wing donations was the same for Southcentral and the Alaska Range at 0.64, and 0.78 for the Seward Peninsula.

Overall, in 2024 hunters are likely to encounter more willow ptarmigan throughout much of the Alaska Range and Interior and possibly fewer in Southcentral. There may be fewer willow ptarmigan on the Seward Peninsula in 2024 due to cool and wet weather that occurred during the brood rearing period (mid-June through early July).

### **Alaska Hare**

Currently there is no active monitoring effort underway for Alaska hare. Based on field reports from hunters and ADF&G staff, it appears that the hare populations continue to remain at low density in Southwest and Western Alaska.

Beginning in 2018, a large research project was initiated, attempting to estimate Alaska hare movement and identify a viable population estimation method. In April 2022, field work for this project was completed and data analysis and report writing has begun. A final report is anticipated in 2024.

### **Snowshoe Hare**

In the Interior, snowshoe hare populations peaked in 2018-19 and have hit the low of their normal 10-year population cycle and annual counts indicate those numbers continued to remain low through spring 2024. However, field reports from ADF&G staff this summer suggest snowshoe hare numbers are increasing in the Interior. In Southcentral hare populations peaked in 2020-21 and likely remain near the population low as no surveys were completed for snowshoe hare in 2024.

## **Regulatory Changes**

At the Western Arctic/Western Region BOG meeting in January of 2024 the BOG passed a proposal that increased the bag and possession limit for ptarmigan in Unit 18 from 15 per day and 30 in possession to 25 per day and 50 in possession. This regulation will take effect during the upcoming 2024-25 hunting season.

The next BOG meetings are scheduled for January 2025 in Wasilla (Central and Southwest Region) and March 2025 in Anchorage (Statewide). There were 6 proposals submitted for consideration at the Central and Southwest BOG meeting in January and 0 submitted for the Statewide meeting in March. For the upcoming BOG meeting schedule and the list of proposals to be considered please visit the BOG webpage at: [www.boardofgame.adfg.alaska.gov](http://www.boardofgame.adfg.alaska.gov) and select "Meeting Information" from the list of options.

## **Public Involvement and Support**

The dedication of numerous veteran and new volunteers and their trained pointing dogs continues to allow the annual volunteer-based brood survey project to grow. This collaboration between the SGP and volunteers documents annual chick survival for sharp-tailed grouse and rock, white-tailed, and willow ptarmigan throughout the road system of Alaska. Engaged volunteers and their highly trained pointing dogs are recruited to locate and enumerate broods along survey routes. Survey locations include Eagle Summit (Steese Highway), Delta Junction, Denali Highway, Hatcher Pass, Sheep Mountain, Chugach State Park, and the Kenai Mountains. Since 2021, volunteer hours have been used to match federal Pittman-Robertson funds that have allowed and will continue to allow the SGP to further increase overall population monitoring efforts and research. New

participants are always welcome and encouraged to join the project. If you are interested in participating in this program as a future volunteer, please contact Cameron Carroll in Fairbanks (907.459.7237) or Tim Spivey in Anchorage (907.267.2897).

The statewide wing collection program continues to have widespread support among hunters. This program allows biologists to gain valuable insight into the harvest composition (age, sex, species, and Unit of harvest) of numerous hunted populations of grouse and ptarmigan. Please consider donating your harvested grouse and ptarmigan wings, it is often the only way the SGP can gather important biological information across Alaska. If you're interested in participating, at no cost, please contact your local ADF&G office or SGP staff for free wing envelopes.

## References

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