

Alaska

Small Game Summary 2015

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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, Storch 2000) including ruffed (*Bonasa umbellus*), sharp-tailed (*Tympanuchus phasianellus*), sooty (*Dendragapus fuliginosus*), and spruce (*Falciipennis 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 9 species of small game can be legally harvested in Alaska with liberal seasons and bag limits for all game management units (GMU).

The statewide Small Game Program has three primary components including research, management, and outreach. Recent research results are briefly described within the specific species sections. Management efforts largely focus on annual springtime abundance monitoring, harvest composition, recommendations to the Alaska Board of Game regarding regulation changes, and addressing concerns from staff and the public. Specific abundance survey methods are fully described in Carroll and Merizon (2014). Abundance survey and research efforts to date have focused on the more heavily hunted road system from the Steese Highway south to the Kenai Peninsula. The programs outreach and education component are described below.

This report details the activities conducted by the Small Game Program during the 2014 regulatory year (1 July, 2014–30 June, 2015). Specifically, it addresses: 1) 2015 spring weather and brood production, 2) species status including abundance survey results and basic research updates, 3) regulatory changes for the 2015-2016 season, and 4) a summary of the programs outreach efforts. A more thorough multi-year report will be published in summer 2016 highlighting these topics in more detail.

2015 Spring Weather and Brood Production

The winter and spring of 2015 experienced unusually low snowfall across the state and an early arrival of spring. The city of Anchorage set a record for least snowfall in a winter with nearly 1/3 the normal annual total. Much of Southcentral Alaska remained 25-50% of normal snowpack in April as measured by the National Water and Climate Center (http://www.wcc.nrcs.usda.gov/cgibin/ak_snow.pl?state=alaska) while portions of the Interior were closer to average. What snow was present began melting by late March in Southcentral and early April throughout the majority of the Interior. A combination of low snowfall throughout the winter and virtually no rainfall into early July created severe fire danger across much of the state. As of 31 July, over 730 individual wildfires (total of 4.8 million acres) had sparked throughout the state (Alaska Interagency Coordination Report; <http://fire.ak.blm.gov/>). This warm and dry weather pattern was very favorable for breeding activity, nesting, and early chick survival. Statewide breeding activity of male grouse and ptarmigan occurred either near the historical average or was early for several populations (e.g., peak drumming activity of Matanuska-Susitna valley ruffed grouse occurred in late April). Based on a sample of closely monitored rock ptarmigan in the Alaska Range, incubation began between 24-30 May with clutches hatching between 17-23 June. Broods of ruffed and spruce grouse and rock and willow ptarmigan in Southcentral and the Alaska Range were documented with between 7-11 chicks per

brood which is average to slightly above average. Weather conditions across much of Alaska have been very favorable to early chick survival with low rainfall, moderate to warm temperatures, no snow below 6,000', and good insect production (based on numerous field visits and staff reports). Based on all of these variables we anticipate strong chick survival and recruitment into the hunting population for both grouse and ptarmigan across much if not all of Alaska.

Species Status

Ruffed Grouse

Springtime breeding surveys were conducted from 25 April to 3 May in Interior Alaska and 22 April to 11 May in the Matanuska-Susitna valley (Mat-Su). Survey conditions were excellent with ideal temperatures and relatively calm winds. Surveys were conducted at long-term monitoring sites near Palmer, Delta Junction, and Clear Air Force Station and in an effort to increase monitoring efforts new survey routes were established near Tok and Fairbanks. Overall, counts of drumming males in the Interior and Mat-Su indicated a modest increase in ruffed grouse abundance. Harvest composition from wing collections throughout the Interior from fall 2014 to winter 2015 was limited (n=50) and we detected no change (z-test for proportions, $p>0.50$) in the proportion of juveniles in the harvest compared to the 2013. The proportion of juveniles in the harvest is used as an index of juvenile recruitment (Carroll and Merizon 2014). However, general observations of ruffed grouse broods in the Interior and the Mat-Su this summer indicate strong brood production during summer 2015. This coupled with higher counts of drumming males heard during spring surveys, hunters should expect to see as many if not more ruffed grouse this fall than fall of 2014.

Sharp-tailed Grouse

We conducted our annual springtime surveys near Delta Junction from 21-25 April and initiated monitoring of several leks near Tok on 26-30 April. Survey conditions were excellent with light winds and very little snow cover. The count of males in Delta Junction was up from 3.60 males/lek last year to 4.13 males/lek although the change was not statistically significant (two-sample t-test, $p>0.50$). Harvest composition from wing collections (n = 88) throughout the Interior from fall 2014 to winter 2015 did not show a statistically significant difference (z-test for proportions, $p>0.20$) in the proportion of juveniles in the harvest compared to 2013. However, increased observations of sharp-tailed grouse on leks this spring and across much of the Interior during the winter 2014-15 as well as good brood production this summer suggest abundance of sharp-tailed grouse is likely increasing in the Interior.

Spruce Grouse

Limited data are available for spruce grouse. All abundance projections are limited to inference made from wing collections donated by hunters and field observations. Harvest composition (n = 82) throughout the Interior and Southcentral from fall 2014 to winter 2015 showed no statistically significant change in the proportion of juveniles in the harvest (z-test for proportions, $p>0.50$). However, abundance in the fall of 2014 appeared to be up from the same time in fall 2013. As with many other grouse species in the Interior and Southcentral there are numerous reports of highly productive broods suggesting higher abundance of spruce grouse this fall.

Sooty Grouse

In April and May 2015, sooty grouse surveys were established in Juneau and Petersburg. Surveys were created along popular hiking trails in Juneau and Douglas Island and on the Mitkof and Kupreanof island road systems in Petersburg. Data collected this spring reflects relatively high abundance in both locations although being the first year of data collection it is difficult to make intra-annual comparisons. Hunters reported good hunting in April and May 2015. However, too few wings were collected to estimate proportion of juveniles in the harvest.

Rock Ptarmigan

Rock ptarmigan springtime surveys documented a stable trend in the count of territorial males for most survey locations (two-sample t-test, $p > 0.50$) including locations along the Denali Highway, Anchorage bowl, and Donnelly Dome. This trend has been modestly increasing for the past 3-5 years particularly along the eastern Denali Highway. However, counts of territorial males were up modestly from 2014 along 12-mile and Eagle Summit on the Steese Highway from previous years. A new survey route along the Taylor Highway was created this spring and will be monitored annually. In June 2015, researchers revisited and created several new abundance survey locations in the central and western Aleutian Islands that began in 2003 (Braun et al. 2014). In 2015, rock ptarmigan abundance was relatively high in the central Aleutians but declined considerably on the far western islands (Personal Communication William Taylor).

Few hunter harvested rock ptarmigan wings were collected during the 2014-15 hunting season ($n=22$). Chick production in the Alaska Range and portions of Southcentral was likely poor as a result of a late spring snowfall in June 2014 that documented numerous hens abandoning their nests just prior to hatching in the Alaska Range. However, the early snowmelt and warm spring in 2015 has had a positive impact on chick survival which has resulted in large broods (3-6 chicks per brood) going into the hunting season in the Alaska Range and likely the same in the Interior.

Beginning in 2013, research was initiated on rock ptarmigan in Alaska. Two studies documenting annual movement and mortality are underway. One within GMU 13B (2013-present) and a second at Eagle Summit on the Steese Highway (began in April 2015). The study on Eagle Summit also involves a spring survey to estimate density of breeding males, an index of the breeding population. We expect that this information will enable us to better inform the public of population changes which will affect ptarmigan hunters. The study in GMU 13B has begun to reveal that in general females tend to disperse greater distances than males during the fall and winter. Males tend to stay close to breeding territories throughout the winter and flock together. Also, both sexes have a high degree of breeding sight fidelity. Results from the first year of the Eagle Summit study should become available in spring 2016.

White-tailed Ptarmigan

Little is known about white-tailed ptarmigan other than wing collections and hunter reports. This is a difficult species for which to complete abundance surveys. Wing collections revealed nearly 50% juveniles from samples collected exclusively within the Chugach and Talkeetna mountains. Hunters reported generally encountering fewer white-tailed ptarmigan during fall 2014 than in previous years. Much like other grouse and ptarmigan, we anticipate good chick production based on summer 2015 weather patterns.

Willow Ptarmigan

Willow ptarmigan springtime surveys documented a stable to modestly increasing trend in the count of territorial males although the change was not statistically significant (two-sample t-test, $p > 0.50$). Areas with the greatest increase were along the eastern Denali Highway (GMU 13B). Other survey locations along the road system documented stable trends from 2014 including the Kenai Peninsula and the western Denali Highway. A new survey route along the Taylor Highway was created this spring and will be monitored annually.

Fewer than normal willow ptarmigan wings were collected statewide ($n=136$) during the 2014-15 hunting season likely due to poor snow conditions throughout February and March making any meaningful population level inference about juvenile production difficult. Samples were collected from primarily GMU 7, 13, and 14; however, few juveniles were in the sample. This suggests that despite their slightly lower elevation nesting preference than rock ptarmigan they may still have been negatively affected by the late spring snowfall in June 2014 throughout much of the Alaska Range, Chugach, and Talkeetna mountains. However, the early snowmelt and warm spring had a positive impact on chick survival which has resulted in large broods (3-6 chicks per brood) going into the hunting season in the Alaska Range and likely the same in the Interior.

Beginning in April 2013 a study was initiated to examine movement and mortality of willow ptarmigan in the proposed Watana Hydroelectric study area. This has been a joint study with the Alaska Energy Authority, University of Alaska Fairbanks, and ADF&G. This project has entered its third and final year and results should be available by summer 2016. Much has been learned about annual willow ptarmigan movement patterns.

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 population is fairly stable at a low density in Southwest and Western Alaska.

Snowshoe Hare

Snowshoe hare experience a predictable and significant population cycle that lasts 8-10 years. The previous high in this cycle occurred between 2008 and 2010 depending on location. The low in the cycle was likely reached in 2014 for the Interior and portions of Southcentral and can be expected on the Kenai Peninsula in 2015. Based on roadside counts in the Interior as well as staff observations while completing other field work in spring 2015, snowshoe hare are increasing near Fairbanks, Delta Junction, and Tok. Snowshoe hare are also increasing in the Mat-Su and Anchorage. Abundance is still quite low and the next population high is not expected until approximately 2018-2020 however, Interior hunters can expect to see a modest increase during the winter of 2015-16.

Regulatory Changes

During the 2015 Board of Game regulatory meetings (January-March 2015) several proposals were voted upon that will affect small game hunters during the 2015-16 season. First, a small game youth hunt was created within the new Hatcher Pass Management Area (HPMA) north of Palmer. This hunt will open for youth hunters, ages 16 and younger and will occur between 10 and 25 August annually. Youth must be accompanied by an individual 18 years or older who has

completed a hunter safety course. The area within the HPMMA encompasses primarily ptarmigan and snowshoe hare habitat. Second, the ptarmigan hunting season within a portion of GMU 15C west and north of Kachemak Bay (Caribou Hills) has been shortened and will be open between 10 August and 31 January. The daily bag limit has been reduced from 10 per day to 5 per day for the duration of the season in that area.

For further details on each of these changes please visit the Small Game Program webpage (www.smallgame.adfg.alaska.gov) or refer to the 2015-16 Alaska Hunting Regulation booklet.

Outreach

The Small Game Program has also been active in trying to better inform the public through web media, paper handouts, and outreach programs. New handouts include several tools to assist hunters. A new pocket guide to aging and determining the sex of Alaska's grouse and ptarmigan is available at most ADF&G offices. Also new this year is a handout describing the existing youth small game hunts currently available (Palmer and Sterling). This handout is available at the Anchorage, Palmer, and Soldotna offices.

The program continues to participate in the Becoming an Outdoors Women (BOW) workshop in Chickaloon every March and the Beyond BOW Small Game Hunting weekend northeast of Palmer in September. New in July 2015, is the development of small game hunting related classes in both Palmer and Fairbanks as part of Alaskans Afield, one of ADF&G's education outreach programs. Both Alaskans Afield and BOW offer an introduction to Alaska's small game species, hunting regulations, techniques, and recommended gear through a 3-4 hour class along with hands on field dressing instructions. Visit the ADF&G website for upcoming classes (<http://www.adfg.alaska.gov/index.cfm?adfg=outdooreducation.main>).

Our statewide wing collection program continues to have strong support among hunters. This program allows biologists to gain valuable insight into the harvest composition (age, sex, species, and GMU of harvest) of numerous hunted populations. Providing your harvested grouse and ptarmigan wings is extremely helpful in collecting valuable information that is otherwise unavailable. If you're interested in participating, at no cost, please contact your local ADF&G office, Rick Merizon in Palmer (907.746.6333), or Cameron Carroll in Fairbanks (907.459.7237).

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