ALASKA DEPARTMENT OF FISH AND GAME

JUNEAU, ALASKA

STATE OF ALASKA
Bill Sheffield, Governor

DEPARTMENT OF FISH AND GAME
Don W. Collinsworth, Commissioner

DIVISION OF GAME
W. Lewis Pamplin, Jr., Director
Robert A. Hinman, Deputy Director

ANNUAL REPORT OF SURVEY-INVENTORY ACTIVITIES

PART IX. SMALL GAME/UPLAND GAME

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Barbara Townsend, Publications Technician

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STATEWIDE HARVEST AND POPULATION STATUS

Data on small game in Alaska are sporadic and often consist of personal observations by the public or department staff. Reports in this volume include data on small game abundance in Interior units, results of the Statewide Upland Game Abundance Questionnaire, and unit reports for Units 18, 22, 23 and 26A. In Interior units, grouse (ruffed, spruce, and sharp-tailed) were moderately low, ptarmigan were fairly low in most areas, and snowshoe hares were low near Fairbanks, but moderate to high in the Porcupine River drainage.

Statewide, grouse appear to be moderate to low, and stable. Ptarmigan were variable: moderate to low with increasing trends in western and Kodiak areas, but down in the Interior, Brooks Range and western areas. Snowshoe hares were low, except for the Gulf coast, Kodiak, and portions of the Interior.

Few data are gathered on harvests of small game; results of the Small Game Harvest Questionnaire for the Interior are presented. Except in very localized areas, harvests are not considered a significant mortality factor on small game.

Robert A. Hinman
Deputy Director

SMALL GAME ABUNDANCE

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNITS: 12, 19, 20, 21, 24, and 25

GEOGRAPHICAL DESCRIPTION: Interior Alaska

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Hunting Regulation No. 25.

Population Status and Trend

Observations by Department personnel, reports from sportsmen, and responses to annual small game abundance and trapper questionnaires provided information for assessment of fall and winter small game populations, on a regional basis. Data from these sources suggested that during the 1984-85 season, ruffed, spruce, and sharp-tailed grouse were moderately low in Interior Alaska, and abundance was little changed from 1983-84. Grouse were moderately abundant in the Ruby, Rampart, Fort Yukon, Central, Manley, and Fairbanks areas, and some cooperators thought there were more ruffed grouse near Fairbanks than during the last several years.

Ptarmigan populations remained fairly low throughout the Interior, especially near Fairbanks. Moderate to high numbers of ptarmigan were reported in the Tok, Anaktuvuk Pass, and Cantwell areas. One person reported high numbers of ptarmigan in the Faith Creek drainage. The nearby upper-Steese/Eagle Summit area has had low numbers of ptarmigan for several years, so it is unknown whether the report from Faith Creek truly reflected a high population or if it represented increased ptarmigan numbers in comparison with previous years. Rock ptarmigan were scarce during late fall and early winter 1984 at Murphy and Ester Domes near Fairbanks, and few if any ptarmigan were seen in the immediate Fairbanks area during winter. Some years, ptarmigan have frequently been seen at the Creamer's Waterfowl Refuge.

Snowshoe hare populations remained moderately low in the Fairbanks area, but moderate to high numbers of hares were reported by Fort Yukon area trappers. Hunters from Chalkytsik and other scattered locations reported high hare populations. Some cooperators thought hares were slightly more abundant in the Fairbanks vicinity during spring 1985 than previously.

Mortality

Figures for harvest by hunters (the only small game mortality factor monitored), were obtained through a questionnaire sent to hunting license holders in the Interior. The Small Game Hunter Questionnaire, designed to assess hunter interest and harvest, was initiated on a statewide basis in 1978. The 1984-85 questionnaire was mailed to residents of Units 12, 19, 20, 21, 24, and 25. Names were randomly selected from a list of license holders at the rate of every 3rd name (rural areas) and every 10th name (urban and road system areas).

Unfortunately, an oversight in computer programming precluded comparisons between responses from rural and urban road system hunters.

In December 1984, 3,520 questionnaires were mailed and 1,106 hunters returned the questionnaire. Among respondents, 398 (36%) hunted small game during fall 1984, and 356 reported harvesting at least 1 species of small game. On the average, hunters hunted on 13 days for small game, and 24% indicated that members of their family who are under 16 years of age also hunted small game.

For the most part, hunters did not travel far in search of small game. Fairbanks hunters stayed within Subunit 20B on 62% of their hunting trips, with the most popular area being the Chena River valley, including Eielson Air Force Base and the Chena Hot Springs Road; Murphy Dome; and the Richardson Highway west of the Salcha River.

Questionnaire responses pertaining to harvest are summarized in Table 1. During the entire 1984-85 season each successful hunter took an average of 14 grouse, 11 ptarmigan, and 8 snowshoe hares. Tanana area hunters averaged the most grouse during the 1984-85 season (25 per hunter). Delta hunters averaged the most ptarmigan (18 per hunter). Hunters from the Fort Yukon-Venetie area reported the highest rate of success for hares during the season (20 per hunter).

The species breakdown of the harvest within the sample for grouse was as follows: spruce grouse, 59%; ruffed grouse, 24%; and sharp-tailed grouse, 7%. The species of 10% of the harvested grouse were not identified.

Ptarmigan hunting was extremely poor in the Fairbanks area during the 1984-85 season. Consequently, the Murphy Dome check-station was operated on only 2 weekends; no hunter activity was noted on those days. Hence, we have no harvest information for the 1984 season, but from all indications, few ptarmigan were shot at Murphy Dome or elsewhere in the Fairbanks area.

Management Summary and Recommendations

Grouse, ptarmigan, and hare populations fluctuate markedly in abundance. While hunting is thought to have little effect on small game population trends over broad geographical areas, hunting can influence local abundance. Currently, grouse populations are moderately low to moderate; ptarmigan populations are low; and hare populations are moderately low, except in the upper Porcupine drainage where moderate to high hare populations occurred.

It is not known if hunting is the major factor responsible for low ptarmigan numbers at Eagle Summit. Efforts should also be directed toward determining the winter range of ptarmigan breeding at Eagle Summit. This information would aid in evaluating the biological significance of ptarmigan harvests in areas near Fairbanks that are heavily hunted in some years.

PREPARED BY:

Jeannette R. Ernest
Game Biologist II

SUBMITTED BY:

Jerry D. McGowan
Survey-Inventory Coordinator

Table 1. Summary of 1984-85 small game harvest reported by hunters, Region III.

Hunter residence	Number[a] successful hunters	Number grouse taken	Grouse[b] per hunter	Number ptarmigan taken	Ptarmigan[b] per hunter	Number hares taken	Hares[b] per hunter	Total animals taken	Total animals taken per hunter
Unit 12									
Tok, Northway	13	200	18.2	63	15.8	16	8.0	279	21.5
Unit 19									
Subunit 19A	16	299	19.9	22	4.4	26	5.2	347	21.7
Subunit 19D	15	305	20.3	15	15.0	59	5.9	379	23.5
Unit 20									
Chicken	3	28	9.3	6	3.0	10	10.0	44	14.7
Delta	14	176	12.6	72	18.0	12	6.0	260	18.6
Fairbanks	199	1998	11.8	844	12.4	164	4.7	3006	15.1
Healy, McKinley	3	20	6.3	24	8.0	19	9.5	63	21.0
Nenana, Clear	9	138	15.3	11	5.5	41	6.8	190	21.1
Manley, Minto	4	76	19.0	0	0.0	10	10.0	86	21.5
Tanana	5	124	24.8	3	3.0	0	0.0	127	25.4
Unit 21									
Subunits A&E	10	153	15.3	30	4.3	29	4.8	212	21.2
Subunits B&D	20	426	23.7	85	14.2	111	12.3	622	31.1
Unit 24									
Allakaket, Bettles	6	14	2.8	0	0.0	42	8.4	56	9.3
Huslia, Hughes	5	56	11.2	8	8.0	7	2.3	71	14.2
Unit 25									
Beaver-Stevens Village	3	61	20.3	6	3.0	27	9.0	94	31.3
Central, Circle	8	79	19.8	11	5.5	10	10.0	100	18.8
Fort Yukon, Venetie	10	61	7.6	68	11.3	120	20.0	249	24.9
Unknown	13	169	16.9	11	5.5	56	14.0	236	18.2
Total	356	4383	14.0	1279	10.9	759	8.0	6421	18.0

[a] Total number of hunters who reported harvesting any species of small game.
[b] Average based on the number of hunters reported having taken the given type of small game.

SMALL GAME

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 18

GEOGRAPHICAL DESCRIPTION: Yukon-Kuskokwim Delta

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Hunting Regulations No. 25.

Population Status and Trend

The arctic hare population in Unit 18 has increased slightly since last year. Hares, or their tracks, were observed last winter on upland tundra near Bethel, on bluffs near the village of Napakiak on the Kuskokwim River, along the Johnson River west of Bethel, near Kotlik at the mouth of the Yukon River on Nelson Island, in the Askinuk Mountains, and near the Mud Volcanoes northwest of Bethel. The largest population of arctic hares near Bethel is found on open tundra west of the Johnson River. The local population of artic hares apparently does not have the recovery potential of snowshoe hares, but most reports suggest increasing numbers. Arctic hares were not affected by riparian flooding in Unit 18 because of their habitat preference for open upland tundra.

The snowshoe hare population was reported to have "crashed" in Unit 18 in 1982, and to have recovered slightly in 1984. Observations during winter 1984-85 indicate continued recovery from previous lows, although hare distribution remained patchy. Some populations were at fairly high levels; others showed little increase. Until spring flooding of riparian habitat where these hares were concentrated, most populations were probably increasing. Snowshoe hares were reported as fairly common in late winter near Bethel on the Kuskokwim River and near Kotlik and Russian Mission on the Yukon River. Spring flooding of the Kuskokwim River and its tributaries below Aniak may have inflicted heavy mortality because hares in those areas are primarily found in riparian willows. This possibility will be investigated in fall when snow and tracking conditions are suitable.

Grouse are confined to forested northern and eastern portions of Unit 18, including the lower Kuskokwim River between Bethel and Aniak, and the Yukon River above Pilot Station. Grouse were common in riparian habitat in the Paimiut Slough area in Fall

1984. Spruce grouse were more common than ruffed grouse. Spruce grouse are occasionally seen near Bethel, and are hunted by residents of Aniak on the Kuskokwim. Both spruce grouse and ruffed grouse are reported to be fairly common along the Yukon River at least as far west as Marshall. Reports from local residents suggest little change in the status of these birds over the last year.

Willow ptarmigan remained in the vicinity of Bethel throughout the winter of 1984-85, apparently because snow accumulation was light until March 1985. Willow ptarmigan increased markedly near Bethel in late March 1985 and remained high until the 1st week of May when flocks dispersed after the spring thaw. Most observers reported an increase in willow ptarmigan abundance in the Bethel area compared with early spring 1984. Ptarmigan moved sporadically through the Bethel area in March, and a major buildup occurred during the last 2 weeks of April as snow began to melt. Ptarmigan moved through Bethel in spring 1985, about 1-1/2 months later than in 1984. Peak movement occurred during 24-30 April 1985, when ptarmigan were frequently seen flying around town. The willow ptarmigan population apparently continues to increase in Unit 18.

In fall 1984, U. S. Fish and Wildlife Service pilots reported very large numbers of ptarmigan on Nelson Island. As was the case near Bethel, snow accumulation was light on Nunivak Island until late winter, and flocks of several thousand willow ptarmigan were observed in riparian willow habitat at the south end of the island in March. Lack of snowfall permitted ptarmigan to remain on Nunivak Island throughout winter, an unusual occurrence.

Aerial surveys in the Kilbuck Mountains east of Bethel revealed that ptarmigan were abundant, but distribution was patchy and confined to upper riparian and upland willow habitat. Some of these birds may have been rock ptarmigan; large numbers of rock ptarmigan are reported in the Kilbuck Mountains during winter, and some are taken by hunters. However, rock ptarmigan are clearly not as common as willow ptarmigan. During the breeding season rock ptarmigan remain on the upper alpine slopes of the Kilbuck Mountains, in the Andreafsky Mountains, on Kusilvak Mountain, and in a few locations on Nunivak Island. Rock ptarmigan may also occur in the Askinuk Mountains.

Not all populations of ptarmigan are doing well in Unit 18; reports from the village of Marshall on the Yukon River suggest a decline in ptarmigan in that area during winter 1984-85.

Mortality

Hunting mortality only significantly affects small game populations near settlements and villages in Unit 18. Little is known about other types of natural mortality affecting small game

populations; spring flooding of Kuskokwim River riparian habitat may be an important mortality factor. Fox populations remain high, and continued predation on a depressed population of snowshoe hares could further slow population recovery.

Management Summary and Recommendations

Reports from biologists and local residents indicate increasing populations of arctic hares in upland tundra regions of Unit 18. The snowshoe hare population apparently was in the late "lag" phase of recovery from a previous "crash"; late winter observations suggest population growth in certain areas, but flooding of the Kuskokwim River system is believed to have significantly reduced this population. Grouse remain fairly common in northern and eastern portions of Unit 18, and willow ptarmigan are abundant although their distribution is patchy.

We do not believe that hunting is a significant mortality factor affecting small game populations in Unit 18 and suggest no regulatory changes.

PREPARED BY:

Sam Patten
Game Biologist III

SUBMITTED BY:

David A. Anderson
Survey-Inventory Coordinator

SMALL GAME

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 22

GEOGRAPHICAL DESCRIPTION: Seward Peninsula

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Hunting Regulations No. 25.

Population Status and Trend

The 4 species of small game known to inhabit Unit 22 are snowshoe hare, arctic hare, willow ptarmigan, and rock ptarmigan. As in past years, information on small game was gathered from local hunters, trappers, and biologists conducting big game aerial surveys.

With the exception of Subunit 22A, ptarmigan populations (particularly willow ptarmigan) were markedly higher than in the last 3 years in all major drainages within Unit 22.

Hares significantly increased in some parts of Unit 22 during 1984-85 but are still not abundant. Hares or hare tracks (although spotty) were observed in most major drainages within the unit; the fewest were observed in Subunit 22A and the most in Subunit 22D, particularily in the Kuzitrin and Kougarok drainages.

Mortality

Natural and man-induced mortality and their effects on small game populations of the Seward Peninsula have not been quantified. Although hunting mortality on most species remained low throughout the unit, hunting is believed to have significantly impacted small game populations within the immediate vicinity of most villages.

Management Summary and Recommendations

With the exception of Subunit 22A, ptarmigan were rather abundant. This may be due to a low number of predators and ideal spring conditions throughout most of the unit in 1984. Hares, although numerous in portions of many drainages, remained at a relatively low level unitwide.

Major changes in small game populations of the Seward Peninsula are believed to be more directly related to weather, natural predation, and other natural phenomena, than to hunting. I am therefore not recommending any changes in small game seasons or bag limits at this time.

PREPARED BY:

Robert R. Nelson
Game Biologist II

SUBMITTED BY:

David A. Anderson
Survey-Inventory Coordinator

SMALL GAME

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 23

GEOGRAPHICAL DESCRIPTION: Kotzebue Sound

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Hunting Regulations No. 25.

Population Status and Trend

No information was collected on grouse populations during the reporting period; historically, grouse have been much less widespread and abundant than ptarmigan in Unit 23.

Snowshoe hare populations were low in most of Unit 23; hares were moderately abundant only in a few areas on the northern Seward Peninsula. Local residents reported increasing numbers of snowshoe hares in some areas such as the Kobuk River drainage. These reports suggest that the hare population is beginning to recover from its cyclic low. The population cycle on the northern Seward Peninsula has apparently lagged behind the cycle in northern portions of Unit 23 by 2-3 years.

No arctic hares were observed during spring moose surveys on the northern Seward Peninsula; however, tracks and feeding craters were observed in the drainages of the Goodhope and Cripple Rivers. It seems unlikely that arctic hares could have escaped observation if they had been as common as they were during 1982 moose surveys. This decline is almost certainly due to natural environmental influences rather than to hunting.

Observations made during spring moose surveys suggest that ptarmigan populations increased this year, as well as in 1983-84.

Mortality

No effort is being made to document or estimate small game harvests; however, I believe hunting has a relatively small impact on small game populations in Unit 23.

Management Summary and Recommendations

A minimal survey-inventory program for small game is appropriate in Unit 23 at this time. The current level of monitoring is adequate to detect gross problems that would require a more active program.

PREPARED BY:

David D. James
Game Biologist III

SUBMITTED BY:

David A. Anderson
Survey-Inventory Coordinator

SMALL GAME

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 26A

GEOGRAPHICAL DESCRIPTION: Western Arctic Slope

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Alaska Hunting Regulations No. 25.

Population Status and Trend

Willow ptarmigan are the only conspicuous small game in most of Subunit 26A. These birds inhabit willow bottoms on the Colville River and other drainages on the North Slope, and regularly occur inland on the Meade and Inaru Rivers near Barrow. Small flocks spend some of the winter months on the windswept bluff edges of the Beaufort and Chuckchi Sea coastline. No willow ptarmigan counts were conducted during the reporting period; however, willow ptarmigan tracks and flocks of birds continued to appear abundant on the Colville River drainage system. These observations were made during 23-25 April in conjunction with late winter moose counts on standardized areas.

Mortality

Willow ptarmigan were probably harvested by residents of most communities on the western North Slope. However, most of this harvest appears to be either sporadic or incidental to other activities such as snowmachine travel between communities. No harvest data are available.

Management Summary and Recommendations

I believe willow ptarmigan populations are generally unaffected by human harvest on the western North Slope at this time. Although more precise information on harvest levels and population status is desirable, these needs cannot compete with more pressing management issues in Subunit 26A.

No changes in seasons or bag limits are recommended at this time.

PREPARED BY:

John N. Trent
Game Biologist III

SUBMITTED BY:

David A. Anderson
Survey-Inventory Coordinator

UPLAND GAME ABUNDANCE

SURVEY-INVENTORY PROGRESS REPORT

STATEWIDE

PERIOD COVERED: 1 July 1984-30 June 1985

Techniques

The standard small game abundance questionnaire was mailed in early December 1984 to 350 people throughout the state, and by the end of May 1985, 150 replies had been received. As in the past, the bulk of replies came from the Interior and Gulf regions. Replies were tabulated and analyzed as in previous years (see Game Bird Report, March 1966; pages 3-4 in Fed. Aid in Wildl. Rest. Rep. Vol. VII. Proj. W-6-R-6, Work Plan I; and Proj. W-13-R-1, Work Plan B). A summary of responses was mailed to cooperators. Replies to the questionnaire are summarized in Table 1.

Findings

Replies to the 1984-85 questionnaire indicated that grouse populations were moderately low in most of the state. Cooperators from the Brooks Range and Gulf regions reported moderate populations of grouse, but other regions reported low numbers. Little change in population levels was reported for most areas.

Numbers of ptarmigan (all species) were reported to be moderately low to low in most areas. Ptarmigan populations were thought to have increased slightly in the Western, Kodiak, and Alaska Peninsula areas. Lower ptarmigan numbers were reported for the Brooks Range, Interior, and Western regions.

Snowshoe hare populations were reported to be low everywhere except in the Gulf region and Kodiak. Cooperators from the Gulf and Kodiak areas reported moderate numbers of hares and an increase in population levels. Cooperators from the Brooks Range and Western regions reported low but increasing hare populations. Responses from the Alaska Peninsula indicated low numbers of hares with little or no change from last year. Elsewhere in the state, a slight decline in numbers of hares was reported.

Management Summary and Conclusions

The standard small game abundance questionnaire has repeatedly indicated that grouse, ptarmigan, and hare populations fluctuate considerably throughout the state. Hunting pressure has little effect on fluctuations over broad geographical regions of Alaska.

The management goal of providing the maximum opportunity to participate in small game hunting is being met under the current long seasons and liberal bag limits.

Therefore, no changes in the current approach to small game management are recommended.

PREPARED BY:

Jeannette R. Ernest
Game Biologist II

SUBMITTED BY:

Jerry D. McGowan
Survey-Inventory Coordinator

Table 1. Summary of replies to questionnaire on grouse, ptarmigan, and hare populations, 1984-85.

Area and species	Present abundance[a]				Comparison with 1982[a]			
	High	Mod.	Low	Index[b]	More	Same	Fewer	Index[b]
Brooks Range-6 replies								
Grouse (general)	1	1	1	5.0	1	1	2	4.0
Spruce Grouse	0	2	0	5.0	1	1	1	5.0
Ptarmigan (general)	1	2	3	3.7	2	2	2	5.0
Rock Ptarmigan	0	0	1	1.0	0	0	1	1.0
Willow Ptarmigan	0	1	2	2.3	0	1	2	2.3
Snowshoe Hare	0	1	4	1.8	2	2	1	5.8
Western-13 replies								
Grouse (general)	0	4	3	3.3	1	6	0	5.6
Ptarmigan (general)	0	2	10	1.7	2	6	3	4.6
Willow Ptarmigan	0	1	4	1.8	3	2	0	7.4
Snowshoe Hare	1	3	9	2.5	5	5	1	6.5
Alaska Peninsula-18 replies								
Ptarmigan (general)	1	7	5	3.8	4	6	1	6.1
Willow Ptarmigan	1	6	5	3.7	6	3	2	6.5
Snowshoe Hare	1	5	7	3.2	3	6	3	5.0
Kodiak-4 replies								
Ptarmigan (general)	0	0	3	1.0	2	0	1	6.3
Snowshoe Hare	0	4	0	5.0	3	1	0	8.0
Southeastern-21 replies								
Grouse (general)	0	8	6	3.3	1	7	1	5.0
Spruce Grouse	0	2	5	2.1	1	2	2	4.2
Blue Grouse	0	12	4	4.0	1	8	2	4.6
Ptarmigan (general)	0	0	10	1.0	0	7	0	5.0
Willow Ptarmigan	0	1	4	1.0	1	2	1	5.0
Snowshoe Hare	0	1	8	1.4	2	2	2	5.0
Gulf-33 replies								
Grouse (general)	1	11	6	3.9	4	11	3	5.2
Ruffed Grouse	0	0	4	1.0	0	2	2	3.0
Spruce Grouse	1	18	9	3.9	7	16	4	5.4
Sharp-tailed Grouse	0	0	2	1.0	0	2	0	5.0
Ptarmigan (general)	0	10	11	2.9	4	13	4	5.0
Rock Ptarmigan	1	1	6	2.5	2	4	2	7.0
Willow Ptarmigan	0	7	12	2.5	3	10	6	3.1
White-tailed Ptarmigan	0	0	5	1.0	0	3	2	3.4
Snowshoe Hare	12	13	5	5.9	12	16	1	6.5

Table 1. Continued.

Area and species	Present abundance[a] High	Mod.	Low	Index[b]	Comparison with 1982[a] More	Same	Fewer	Index[b]
Interior-52 replies								
Grouse (general)	1	12	32	2.2	15	18	13	5.2
Ruffed Grouse	0	11	30	2.1	14	14	13	5.1
Spruce Grouse	3	14	28	2.8	15	18	12	5.3
Sharp-tailed Grouse	0	7	25	1.9	3	17	11	4.0
Ptarmigan (general)	0	5	37	1.5	3	19	19	3.4
Rock Ptarmigan	0	7	17	2.2	2	11	11	3.5
Willow Ptarmigan	0	7	21	2.0	2	13	13	3.4
White-tailed Ptarmigan	0	1	14	1.3	0	5	1	2.4
Snowshoe Hare	0	5	40	1.4	6	19	21	3.7
Statewide-148								
Grouse	3	36	48	2.9	22	41	22	5.0
Ruffed Grouse	0	13	41	2.0	15	19	15	5.0
Spruce Grouse	4	43	49	3.1	27	45	21	5.3
Sharp-tailed Grouse	0	18	39	2.3	7	34	16	3.4
Ptarmigan (general)	2	26	79	2.1	17	53	29	4.5
Rock Ptarmigan	1	12	29	2.3	9	18	15	4.4
Willow Ptarmigan	1	23	48	2.4	15	31	25	4.6
White-tailed Ptarmigan	0	2	21	1.4	1	8	13	2.8
Snowshoe Hare	14	32	73	3.0	34	51	29	5.2

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).