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1981 ROCK PTARMIGAN CENSUS,
ADAK ISLAND, ALASKA .

by Mark Masteller ✓

Key Words: Rock Ptarmigan
Aleutian Islands
Spring Index ✓

On Reserve

ALEUTIAN ISLANDS UNIT
ALASKA MARITIME NATIONAL WILDLIFE REFUGE
U.S. FISH AND WILDLIFE SERVICE
ADAK, ALASKA
ALASKA REGION



December 1981

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Most of the Aleutian Islands support populations of rock ptarmigan (Lagopus mutus), where their abundance is believed to be greatly influenced by the abundance of arctic fox (Alopex lagopus). The ptarmigan census on Adak was developed to provide information on ptarmigan density which can be used in comparison with other populations. The original proposal included a census on Attu Island, but this was not done due to personnel and budget constraints. This study will provide basic background and long term trend data necessary for making recommendations regarding ptarmigan management in the Aleutians.

STUDY AREA

The census area was located on an 11.9km² (4.6 sq. mi.) area in the Mt. Adagdak region of Adak Island (Fig. 1). Elevation ranged from approximately 60-600 m, with vegetation consisting of mainly heath (Empetrum spp) and sedges (Carex spp), with some tall grasses (Elymus spp) on steep hillsides.

METHODS

Territorial male ptarmigan were censused during 13-15 May 1981. Males were identified either by plumage or vocalization. The observers, using binoculars, made an intensive search of the area by walking 100-200 m apart, depending on topography. The area east of the road to the former Coast Guard Loran Station was traversed from west to east and vice-versa. The extreme southwest corner of this section was censused in a similar manner, while the remaining area west of the road was censused by moving along the contour and working higher with each pass, since the birds tend to fly downhill when flushed. Investigators in the census were M. Masteller, B. Reiswig, P. Beach and S. Kendall.

ALASKA 1:50,000

ADAK

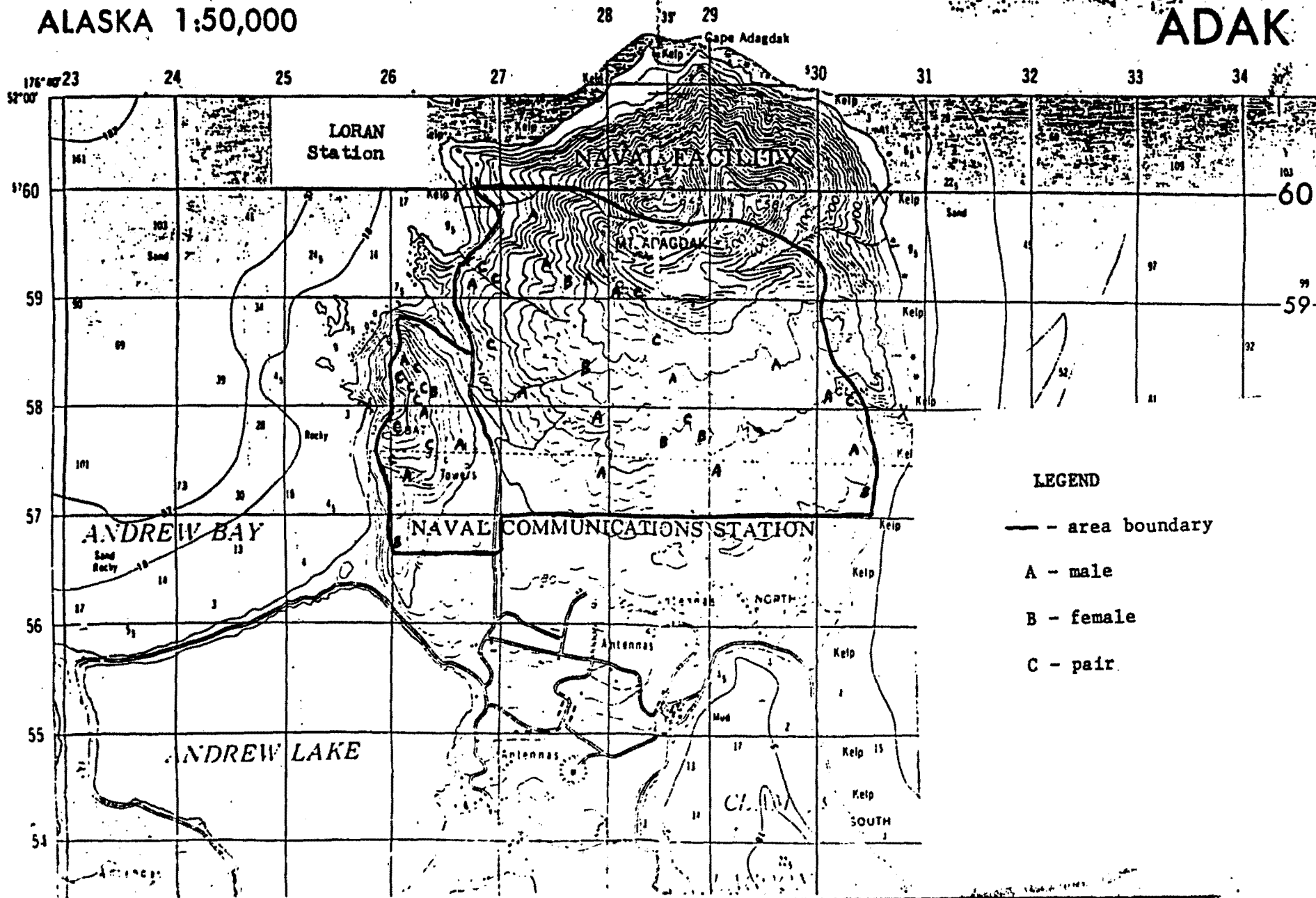


Fig. 1. Ptarmigan census area, Adak Island, Alaska. Letters indicate location of May, 1981 sightings.

RESULTS

Thirty-three males, believed to be occupying territories, were seen out of 56 total birds (which included 15 pairs); or 3 males per km^2 (7.7 males per sq. mi.). Birds were seen between elevations of 80-410 m, with most males (26) seen between 100-300 m (Table 1).

Table 1. Elevational distribution of rock ptarmigan during the May 1981 census; Adak Island, Alaska.

<u>Elevation (m)</u>	<u>Number of birds</u>	<u>Number of males</u>
0-100	2	0
100-200	18	12
200-300	25	14
over 300	11	7
	—	—
TOTAL	56	33

DISCUSSION

The density of 3 males per km^2 is close to the density of 3.3 males per km^2 reported in central Alaska by Weeden (1965). McGowan (1975), also working in central Alaska, reports an average of 7.6 males per km^2 . A study done on Amchitka Island, Alaska, found 6-7 males per km^2 (Emison et. al. No Date) and Watson (1965), working in Scotland, reported a density of 7 males per km^2 . A density of 0.4 males per km^2 was reported for Bathurst Island, Northwest Territories, by MacDonald (No Date). It should be noted also that ptarmigan populations, at least on the mainland, are cyclic.

Predation by arctic fox may be responsible for the low ptarmigan density on Adak, when compared to Amchitka. Arctic fox were eliminated from Amchitka by 1960, after which the ptarmigan population showed a notable increase (Emison et. al., No Date). The dynamics of the Adak population cannot be discussed without long term data.

Immediately following the Mt. Adagdak census, observers looked for ptarmigan in the Hidden Bay area of the island. This search was incidental to a caribou calving survey, so no permanent census area was set up,

and therefore no data concerning density was collected. However, it was felt that the birds were seen mostly at lower elevations than in the Mt. Adagdak region. This difference may be due to topography. Birds are most easily seen in steep terrain, where they spot the observer and flush at greater distances. In the Mt. Adagdak area this terrain occurs at higher elevations, whereas in the Hidden Bay area the topography at lower elevations is continually dissected by steep drainages. A permanent census in this area would aid in determining if there are quantitative differences between Hidden Bay and Mt. Adagdak.

RECOMMENDATIONS

It is suggested that the entire area west of the road be censused by moving along the contour and working higher with each pass. The census technique for the area east of the road should remain unchanged. In the future, if possible, it would be useful to census the Hidden Bay area as well as the Mt. Adagdak region to determine if differences, both in elevational distribution and in density, do exist.

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