

Wild reindeer of Yakutia

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Abstract: Three major herds of wild reindeer (*Rangifer tarandus tarandus* L.), totaling over 200,000 animals, occur in the tundra and taiga of northern Yakutia. These herds have been expanding since the late 1950s and now occupy most of their historic range. In addition, several thousand wild reindeer occupy the New Siberian Islands and adjacent coastal mainland tundra, and there are about 60,000 largely sedentary forest reindeer in mountainous areas of the southern two-thirds of the province. Wild reindeer are commercially hunted throughout the mainland, and the production of wild meat is an important part of the economy of the province and of individual reindeer enterprises which produce both wild and domestic meat.

Key words: commercial harvest, density, economic importance, industrial development, Lena-Olenek, movements, Russia, Sundrun, Yana-Indigirka

Introduction

Three major herds of wild reindeer (*Rangifer tarandus*) occur on the continental tundras of the autonomous province of Yakutia. These herds are the Yana-Indigirka, Sundrun (Indigirka-Kolyma) and Lena-Olenek (Bulun) (Fig. 1; Table 1). A separate herd also inhabits the New Siberian Islands in summer but winters extensively on the adjacent mainland tundras (Fig. 1). In addition, there are about 60,000 sedentary wild forest reindeer distributed primarily in the mountains of the southern two-thirds of Yakutia, but these have not been extensively studied. Syroechkovskii (1984) believed that about 600,000-800,000 wild reindeer were present in northern Yakutia during the 1800s. These wild herds were drastically reduced at the beginning of this century by overhunting in connection with the expanding domestic reindeer industry. Domestic reindeer were raised throughout the province. This decline continued until the 1950s. Subsequently, herds began to rebuild, and the present herd distributions were recognized. The recovery of the wild populations occurred because domestic reindeer herding and distribution of the human population became more centralized around towns. Northern Yakutia remains largely roadless and undeveloped except for some mining development in the Yana River basin, and habitat for wild herds remains intact. It is the purpose of this paper to briefly review the distribution and movements of these herds and describe their

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population dynamics, economic importance, and conservation.

Yana-Indigirka herd

Movements and distribution

The current range of the Yana-Indigirka herd covers about 400,000 km² (Fig. 1) and is similar to the range of this herd at the turn of the century (Mikhel, 1938). In summer, the herd spreads out over the Yana-Indigirka lowland, except the extreme northwestern part adjacent to Yana Bay and the Yana River. Males and females are generally separated during summer, but use the seacoast for insect relief. About 1,000-

Table 1. Estimated^a size (thousands of animals) of the 3 major herds of wild reindeer in north Yakutia.

Year	Yana-Indigirka	Sundrun	Lena-Olenek
1963-64	50	10	20
1975	109	22	50
1978	87	28	53
1981-82	113	27	61
1985	121	-	55
1987-88	130	29	73
1989-90	116	-	77
1991	101	-	-
1992-93	85	40	80

^a Estimated by extrapolation from line transect surveys and aerial photography during July.

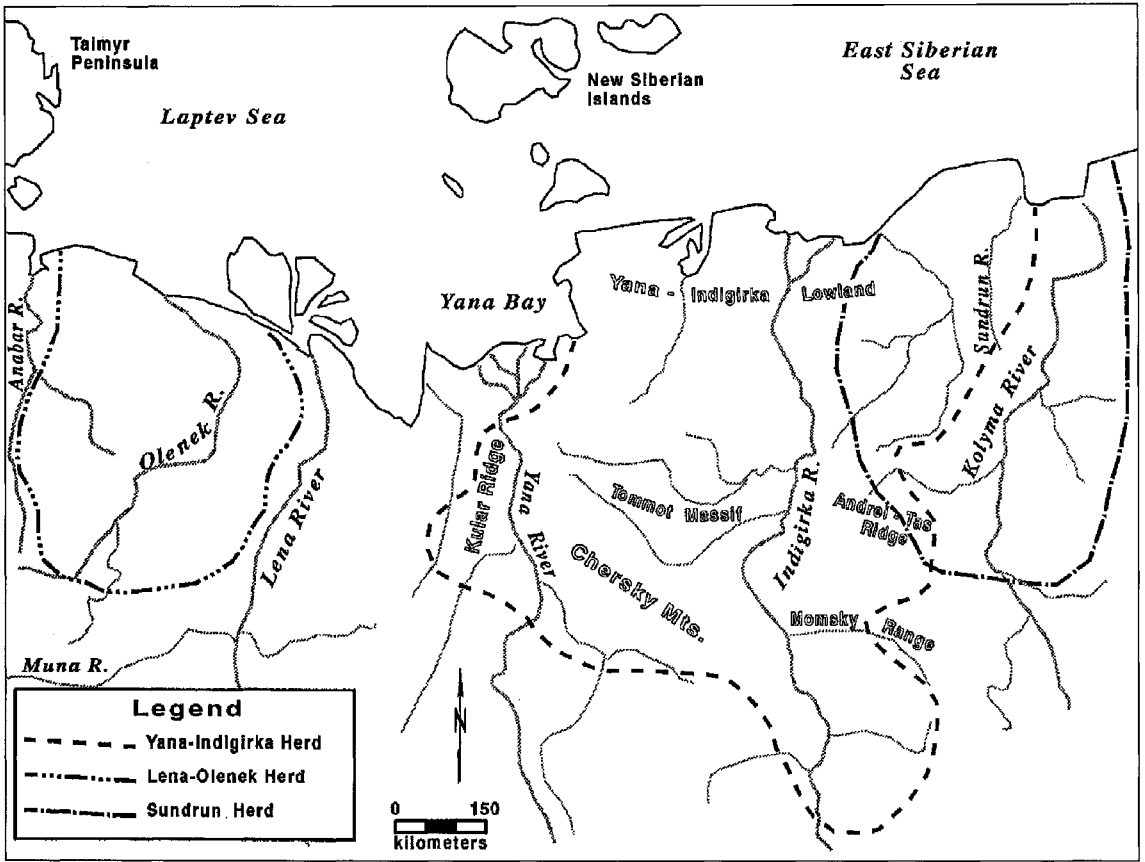


Fig. 1. Map of northern Yakutia with approximate ranges of Lena-Olenek, Yana-Indigirka and Sundrun herds.

2,000 wild reindeer from this herd also use adjacent mountain areas for insect relief. Aggregations occur until late July when the animals disperse widely over the tundra. Group sizes increase in mid-September but migration to winter ranges does not begin until early October. Four main migration routes leading to separate winter ranges are used: Andrei-Tas Ridge and Momsky Range, Tammot Massif, right bank of the Yana River basin, and Kular Ridge (Fig. 1). Timing of migration seems to depend on weather, and the rut often occurs during migration, and does not necessarily occur in the same place each year. The direction of movement may be altered in areas of the upper Yana River basin because of mining development and associated intensive hunting.

From north to south, migration routes extend for about 1,000 km, and reach far into the taiga zone. In years of early migration, the rut occurs far into the forest, but there is no evidence that the Yana-Indigirka reindeer reach the rutting areas of wild forest reindeer or domestic reindeer in time to interbreed. Yana-Indigirka reindeer mix with both wild forest reindeer and domestic reindeer in winter. Their

preferred foods during winter are terrestrial lichens which make up about 44% of rumen contents.

In spring, migration begins in March or April, and females leave males and many yearlings behind as they move north. Calving begins in late May or early June when snowcover is usually still complete. The peak of calving (date by which 50% of calves have been born) occurred during 11-15 June in 1989. During the snow-free period the preferred food of the Yana-Indigirka wild reindeer is sedges and leaves of shrubs (43% of stomach contents).

Sex and age structure, and harvest

The age structure of the Yana-Indigirka herd has probably changed over time, as the herd has become more productive. In 1975, the male:female ratio was high and calves and yearlings composed only 31% of the population (Table 2). Subsequently, after heavy hunting occurred, herd numbers stabilized or decreased and the proportion of calves and yearlings increased (Table 2). Selective hunting of males during spring migration in May and June has been proposed as a method of reducing the male:female ratio and the effect of hunting on herd growth.

Wild reindeer of the Yana-Indigirka herd (and other herds) have been commercially harvested in the past with helicopters, drive fences and corrals, and snowmobiles. Hunting has been more difficult to control than in the Taimyr herd because the harvest is dispersed. Meat, hides and antlers were previously sold. In order to control harvest more closely and conserve wild reindeer, helicopter hunting was eliminated in 1980, and sale of antlers was prohibited in the early 1990s. Presently, the main methods of harvest are hunting during migration and on winter ranges from snowmobiles. There are no major water crossings as there are in the range of the Taimyr herd. Because of the expansion of wild reindeer, they now occur on most of the domestic reindeer farms in Yakutia, and are commercially harvested. In 1988-89 about 44,000 wild reindeer were harvested in Yakutia. On some farms, the production of wild meat makes up about 45% of the total production of meat. In the province as a whole, wild reindeer meat makes up 70-85% of the reindeer meat sold. Because herders are able to profit from the sale of wild reindeer, they are presently much more tolerant of the presence of wild reindeer among domestic reindeer than previously. The production of wild meat is much cheaper than the production of domestic reindeer meat.

Sundrun, Lena-Olenek and New Siberian Island herds

In general, ecology of the Sundrun and Lena-Olenek herds is similar to that of the Yana-Indigirka, but migratory movements are shorter (Fig. 1). These

herds are more lightly harvested than the Yana-Indigirka, and their numbers have continued to increase slowly during the 1980s and early 1990s (Table 1). Wild reindeer on the New Siberian Islands have not been surveyed thoroughly since 1981, and biologists are concerned about their status. This population is interesting because it spends summer on the islands but then many animals move to the adjacent coastal mainland tundra to winter on a part of the summer range of the Yana-Indigirka herd.

Research direction

At present, research on wild reindeer in Yakutia is concentrated on monitoring numbers and population dynamics through aerial surveys, and determining how to maintain stable, productive populations as industrial development increases in the north.

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