

RETURN of the MUSKOX

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ALASKA'S MUSKOXEN were originally found only along the narrow coastal fringe of the North Slope. Probably never abundant, they disappeared during the mid-1880s, apparently a result of overhunting by Eskimos and/or marginal climatic conditions. No white man ever saw an animal from Alaska's original muskox population. Records of their distribution occur only as fossil remains and Eskimo traditions.

Reintroduced to the state during the early 1930s by the U.S. Biological Survey, 31 Greenland muskoxen (*Ovibos moschatus*) were placed on Nunivak Island, a 1.1 million acre National Wildlife Refuge. Although outside the muskoxen's natural range within Alaska, the animal nevertheless prospered on Nunivak Island, partly because of the absence of large predators. In 1941 the herd had 76 animals, and since 1947 has increased at an annual rate of about 16 per cent. In 1968, the Nunivak Island muskox census conducted by the Bureau of Sport Fisheries and Wildlife revealed about 760 animals.

Muskoxen were introduced to Nunivak Island to establish a herd to supply stock for eventual reintroduction to their historical range along Alaska's arctic coast. The first transplant was attempted in 1967 in a joint effort by the Alaska Department of Fish and Game and the Bureau of Sport Fisheries and Wildlife. In this transplant eight animals were moved to Nelson Island, 35 miles northwest of Nunivak.

The muskoxen, all 11-month old short yearlings weighing about 170 pounds, were captured with ropes. Snowmobiles split muskoxen desired for transplanting from the herd and men on foot lassooed the animals.

Following capture, the animals were secured with ropes, placed on sleds and towed by snowmobile to the Eskimo village of Mekoryuk to await transport to Nelson Island. Some animals were sledged distances up to 35 miles. Wild rye grass and snow provided food and water. Periodic injections of a tranquilizer kept the animals tractable. Before being flown to Nelson Island the animals were placed in plywood crates and sledged five miles to the airport.

The following year, 15 more

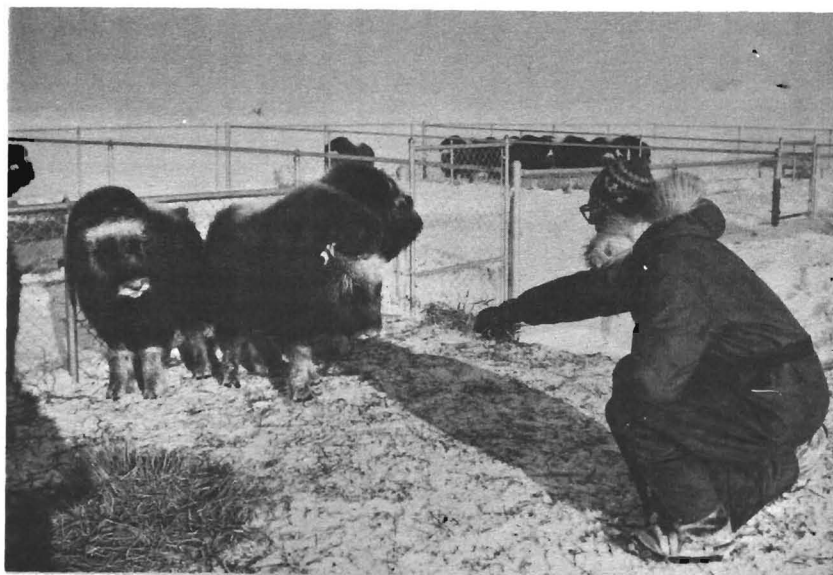
animals were moved to Nelson Island in another joint federal-state transplant. Except for one yearling bull, all animals moved were short yearlings. Most of the animals were captured after being shot with an immobilizing drug from the helicopter. Brome hay from Fairbanks provided food for the captive muskoxen. Four trips in a charter plane were required to fly the animals to Nelson Island.

By 1969, sufficient experience capturing and handling muskoxen had been gained to attempt a full scale transplant to the North Slope. Surveys indicated that the eastern portion of the arctic coast offered the most suitable range conditions for muskoxen. Because of the availability of a good runway, navigational aids and full support facilities, Barter Island, located about 940 miles northeast of Nunivak Island, was chosen for the release site.

each were flown to the Seward Peninsula and Cape Thompson on Alaska's northwest coast, and 13 went to Kavik, an oil company camp located 75 miles southwest of Barter Island. Two animals were shipped to the Children's Zoo in Anchorage.

In addition to drug and lariat capture, some muskoxen were taken by throwing a large net over them. The net capture method proved to be the most efficient means of taking animals and at least half the muskoxen transplanted in 1970 were caught by this system. Only subadults and younger animals could be taken with the net as adults are too powerful and dangerous to be captured by hand. Drugs were used to immobilize and capture eight animals.

The muskoxen were released in excellent condition and followup observations indicate that survival was high. Reproduction is known



HOLDING PENS — Captured muskoxen are kept in wire holding pens pending movement to new ranges.

The transplant began during early March and took six weeks to complete. About half of the animals were taken via the helicopter/drug method. The remainder were caught by Eskimo helpers with lassos and snowmobiles.

Fifty-two animals consisting of 25 short yearlings, 22 subadults (ages 23 and 35 months) and five adults, were moved by Alaska Air National Guard C-123 aircraft in four trips spaced approximately 10 days apart.

The biggest and most recent muskox transplant was conducted in March and April 1970 when 97 animals were moved. Thirty-six

to have occurred in all of the transplanted herds and biologists are optimistic about the success of the reintroduction program.

The natural world distribution of muskoxen is confined to the extreme northern fringe of tundra, that area known as the high arctic. Characterized by low precipitation, annual snowfall may be less than 15 inches and is seldom more than 30.

Found in Greenland and northern Canada, muskoxen have been successfully introduced to Norway, Spitzbergen and Alaska. The world population is estimated to

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BOXED IN — Young muskox is released from plywood crate used to carry it from capture site to temporary holding pens.

MUSKOX (cont'd. from page 7)

number fewer than 15,000 head.

The Nunivak Island herd reached a peak in 1968 of about 760 animals and evidence indicated more muskoxen were present than the island could support. A government-owned herd of about 10,000 reindeer shared the island, although competition between the species for food was believed to be low.

During normal winters muskoxen are confined to the dune and cliff edges of Nunivak where the terrain is kept windswept and forage is available. The result is that the muskoxen's 4,000-acre wintering area has become badly overgrazed and in some locations beach rye, the animals' primary winter food, has disappeared. It is believed that the safe carrying capacity of the island is about 500 muskoxen and the population preferably should be kept under this figure. The population there now numbers about 550 and is again increasing.

During the winter of 1968-69, when the population numbered about 760, an estimated 150 animals died. Most of these were cows and younger animals. Calf crops the following year were also diminished. Beach rye growing in the windswept dune areas still shows little sign of recovery from overuse that occurred prior to the 1968-69 die off.

Management objectives of this herd have always placed transplanting as the number one priority. Because Nunivak Island is the only source of transplant stock, the reintroduction program hinges on the health of this herd. Far more

cows than bulls have been removed for transplants and approximately 43 per cent of the herd is now made up of mature bulls. The herd is becoming less and less productive and the sex ratio will become more imbalanced as transplants continue.

Ideally, the sex ratio should be approximately one bull per three cows since the animals are polygamous, but instead the ratio is nearly reversed. During the winter, bulls occupy valuable range which could be better used by cows or younger animals more suited for transplants. While a few mature bulls have been transplanted the results have not been favorable.

For one thing, mature bulls are

difficult to handle because of their size, strength and temperament. Their reaction to immobilizing drugs is unpredictable. Another factor, more important, is that so far mature bulls have not contributed anything beneficial to transplanted herds because of their tendency to stray great distances following release. For instance, at least three bulls from the Barter Island transplant moved east about 150 miles. Most of the other animals in that release, which consisted mostly of younger animals, remained within 20 to 25 miles of the release site. So far no satisfactory solution has been found for the disposal of these excess animals.

It is anticipated that despite problems with the imbalanced sex ratios on Nunivak and the high transplant costs incurred (from \$500 to \$1,300 for each animal moved) muskox transplants will continue to suitable locations along Alaska's arctic coast. These transplants are designed to supplement earlier introductions, to introduce herds to new locations and to partially relieve the overpopulation problem confronting the Nunivak Island muskox herd. ■

DEFENSE TACTIC — Muskoxen awaiting transplant form typical defensive circle. This tactic was effective against all predators except man.

ADF&G photos



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ALASKA DEPARTMENT OF FISH AND GAME

