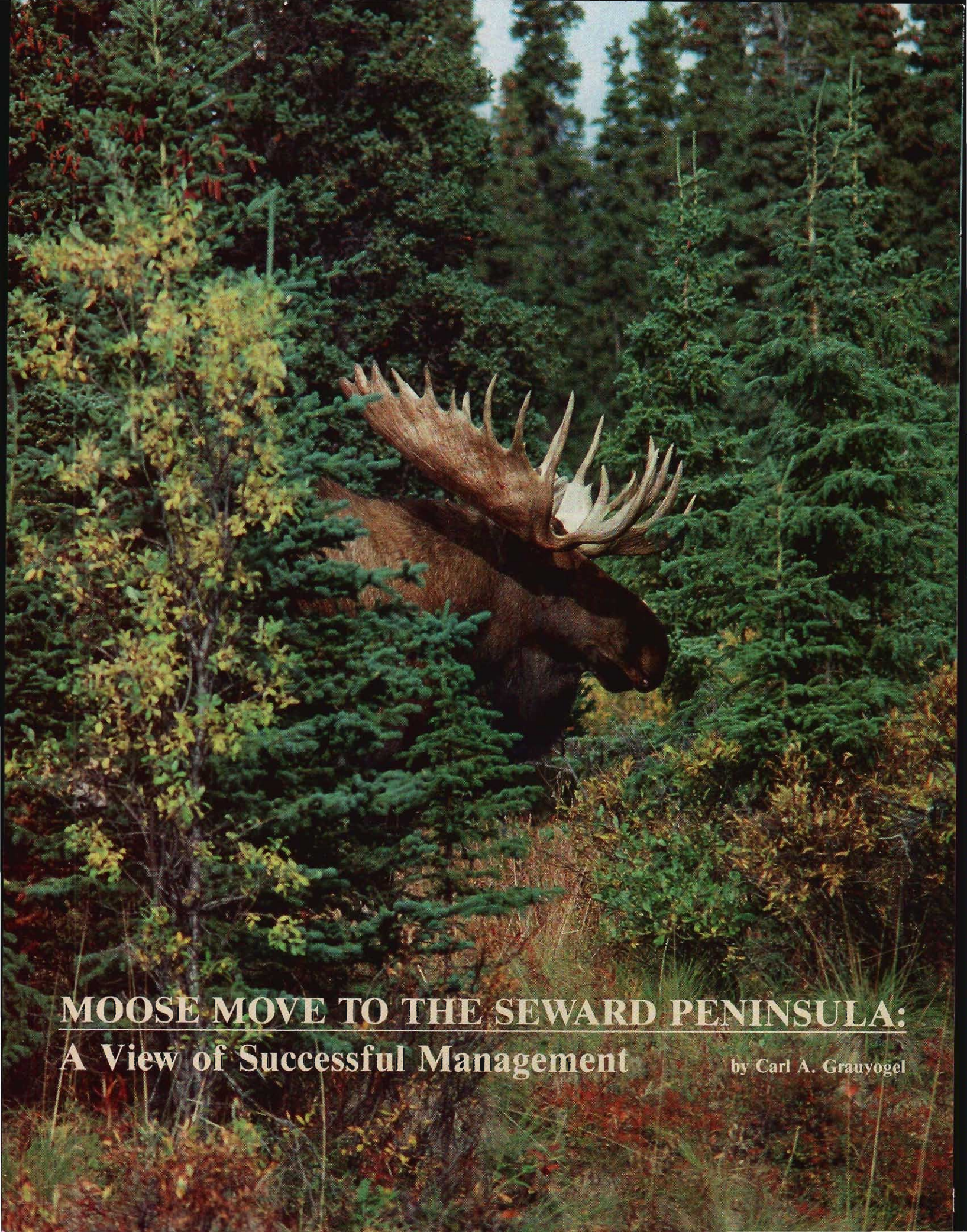


MOOSE MOVE TO THE SEWARD PENINSULA:

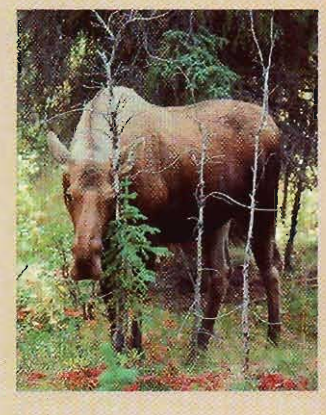
A View of Successful Management

by Carl A. Grauvogel

The Bering Sea hunter crouched in wait as the large shape in the distance broke into movement. The animal came toward him in a trotting gait, weaving in and out of the short scrubby willows along the river bank. As the animal closed to within effective rifle range, it stepped out in plain view, offering a clear shot. Instead of shooting, however, the hunter lowered his rifle and stared in amazement. It was not the caribou he had expected. Never, in fact, had he seen such an animal. It was several times larger than a caribou, with a long, prominent nose. Towering above the creature's head was a huge set of dark antlers. He had heard stories of such an animal living along the Yukon River, but no one yet had seen this animal called a "moose" near his home on the Seward Peninsula. The Yukon River was over 200 miles away across a major mountain range. How had the moose traveled so far and why?

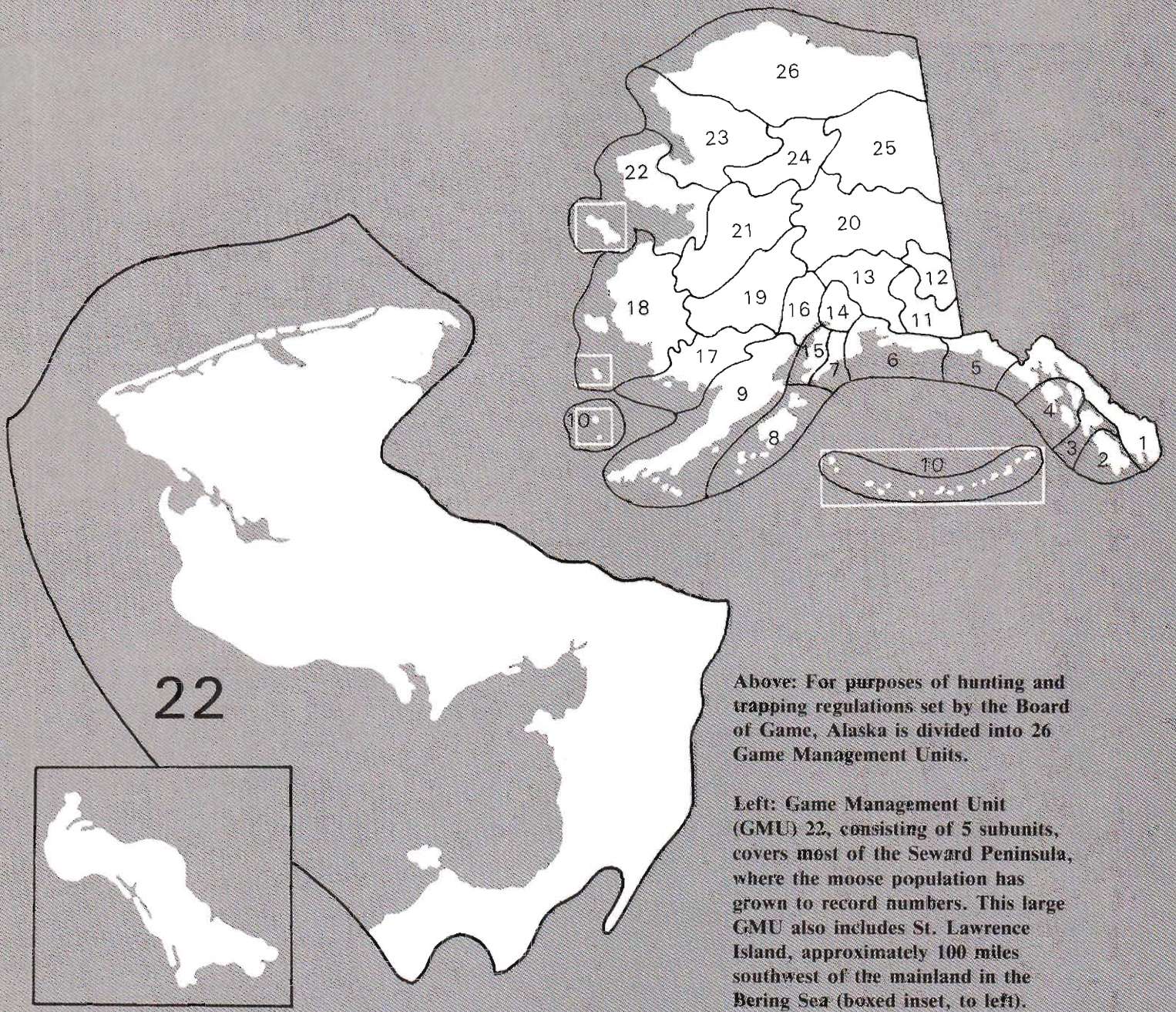
Since the 1940s and 1950s, many people have had similar encounters and pondered the same questions. Moose have been in Alaska for thousands of years; why did they recently colonize the Seward Peninsula?

It is clear that moose by their very nature are a colonizing species. When forests have been ravaged by fires, the successional stages of willows, aspen, and birch that follow provide exceptional food and cover. Over thousands of years, the species has adapted to take advantage of favorable habitats created by fires and other natural processes. The periodic abundance and retreat of glaciers in Alaska during the last 10,000 years produced dramatic changes in climate and vegetation. Moose learned to live successfully with these changes by moving from location to location according to conditions.



Alaska is now in a stage where climate has gradually warmed and glaciers have retreated. This change has produced favorable conditions for moose expansion. In the last 80-100 years, moose have extended their range throughout northern and northwest Alaska. Movement of moose onto the Seward Peninsula is one of the most recent and dramatic examples of this range expansion. ADF&G began conducting aerial surveys during the late 1960s, documenting the record of this movement and the growth of the population.

All photos by J. Faro



Above: For purposes of hunting and trapping regulations set by the Board of Game, Alaska is divided into 26 Game Management Units.

Left: Game Management Unit (GMU) 22, consisting of 5 subunits, covers most of the Seward Peninsula, where the moose population has grown to record numbers. This large GMU also includes St. Lawrence Island, approximately 100 miles southwest of the mainland in the Bering Sea (boxed inset, to left).

Historical records and interviews with early miners and other long-time residents have added other important pieces of information to the story.

In the 1800s moose extended their range in Alaska, moving down the Yukon River towards its mouth. At the turn of the century, they were crossing the Yukon drainage divide to the north and west. Moose may have ventured onto the Seward Peninsula in the early 1900s, but thousands of miners, trappers, and reindeer herders were well dispersed through the area at this time. Certainly, any moose traveling through the region was quickly converted to the stew pot. Protection from hunting and an effective management program to ensure growth of the moose population did not exist. It was only after the backcountry became less settled, following the decline of the mining and reindeer industry and consolidation of people into close-knit communities, that conditions were ripe for colonization.

Frequent but widely scattered sightings of moose occurred in late 1940s and mid-1950s. Moose began to make gains on the Seward Peninsula during this period, but hunting probably kept their numbers in check. It wasn't until the advent of statehood that the situation began to shift in favor of moose. Regulations were implemented that set established hunting seasons, and enforcement was increased to help ensure compliance. More importantly, though, ADF&G began to educate people, and people began to listen. In the 1950s moose expanded into all the suitable riparian habitat (willow communities). As awareness of game regulations increased, moose began to increase in numbers.

It was the 1970s, however, when moose numbers exploded

on the Seward Peninsula. Conditions for population growth were nearly ideal. Plenty of nutritious willows grew along all the major drainages, and predation by wolves and grizzly bears was initially very low. Cow moose were successfully breeding at 1½ years of age and giving birth to a healthy calf on their second birthday. Twinning rates were high, and triplets were not unknown. Moose numbers doubled every 3-4 years in spite of established hunting seasons. A management program was in place, and it was producing results. The first official ADF&G survey recorded 13 moose in 1960; by 1970, this figure had grown to 360 moose (these figures are partial counts and represent minimum numbers only). In 1985, ADF&G staff actually counted 2,727 moose and estimated that the population in Game Management Unit 22 numbered 3,260-4,150.

The annual moose harvest is also indicative of the tremendous growth of the population. In 1969, hunters killed 70 moose; that figure has now grown to 400-500 annually. Moose hunting is probably now the most popular outdoor activity on the Seward Peninsula during late August through early October. People spend thousands of hours trying to fill their freezers with a winter supply of moose meat.

A high demand of moose by an increasing number of hunters has meant that ADF&G has had to obtain better population information to help make more precise management decisions. A giant step in this direction was taken in 1981 with the initiation of a moose research study in the central Seward Peninsula. Forty moose were fitted with radio collars, and their movements were monitored monthly over a three-year period. This work answered some important management questions. It is a common belief among many local residents that most moose migrated to the Seward Peninsula from the Yukon River after a number of large fires in the 1940s and 1950s. Like all stories this one probably has an element of truth. Fires may have been one stimulus for moose to immigrate to the Seward Peninsula, but it is unlikely that moose migrated en masse as caribou often do. The radio-collaring work has shown that most moose (if not all) now living on the Seward Peninsula were born there. Further, Seward Peninsula moose are not just one large homogeneous population. Movement data indicated several "subpopulations." Moose were radio-collared in two different drainages—the Kuzitrin and the Agiapuk Rivers—each area separated by approximately 35 miles. ADF&G biologists followed these animals for three years and found the area overlap for each group was only 13%. Each population used separate wintering and summering areas, and each moose almost always returned to the same location year after year. From this information, it is apparent that any moose born in the eastern half of the Seward Peninsula seldom, if ever, visits its cousins in the western half. In fact, once a moose has established a home range, it seldom leaves that area. Much like people, most moose tend to "stay at home" living in those areas with which they're most familiar. However, the study revealed that the area (home range) a moose uses varies considerably among individuals ranging from 35-750 square miles. Some moose are "sedentary" fellows moving a straight-line distance of only 5-10 miles between winter and summer. Other moose could be classified as "wanderers" or highly migratory, moving as much as 60 miles in each direction between seasons.

If moose always return to the same wintering and summering places, how is it that moose are able to colonize new areas?

One way is through the young of the species. Calf moose remain with their mothers for nearly a year, and then are left to fend for themselves when the cow gives birth to a new calf. Some of these yearling moose are prime candidates to strike out and find new areas suitable to their liking. There is ample evidence to support this theory. Young moose are commonly observed in the most unlikely of places—trotting along a deserted beach, standing on top of a barren hill, and walking across open tundra, miles from the nearest patch of willow.

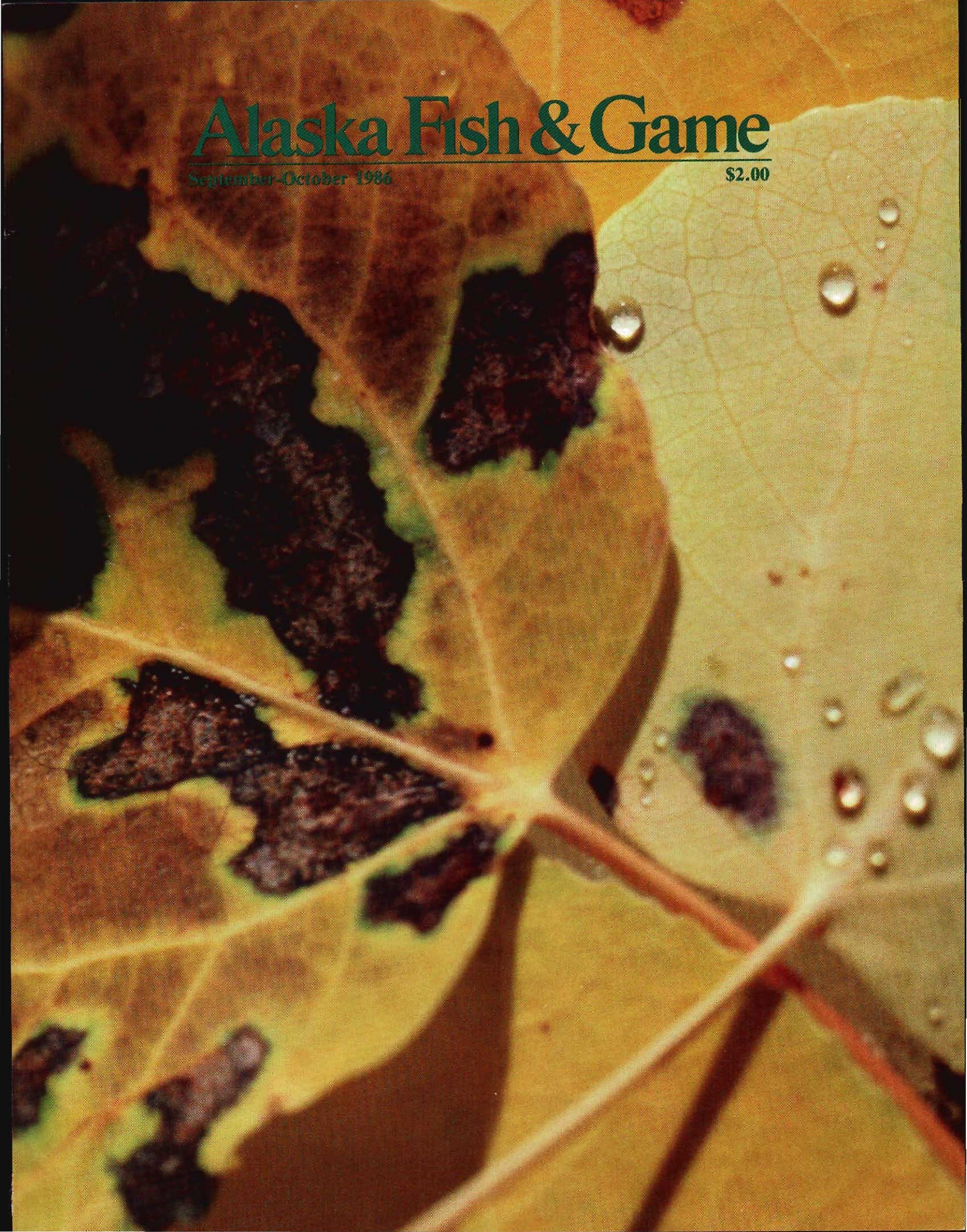
Adult moose may also colonize new areas, especially if such individuals move long distances between winter and summer. Two of the highly migratory moose in the study used two different winter ranges which were separated by more than 30 miles. Alternate winter ranges were in areas where moose density was relatively low. When moose density is high, competition for food is keen. There may be a tendency among highly migratory moose to relieve some of this competition by seeking areas where food is more abundant. Certainly when an area is burned by fire, moose in the general vicinity readily move to take advantage of these favorable sites. Therefore, adult moose with large home ranges may occasionally immigrate to new locations.

When moose colonize new areas, it appears that they follow a "leap-frogging" pattern. First, a few moose move into a new area and take up permanent residency. From this point, the population increases primarily by self-reproduction rather than from a host of new immigrants. When the established population becomes denser, a few moose move out and colonize a new area. This process continues indefinitely. New areas of favorable habitat are colonized continually as long as predation and harvest remain low.

The hunters who first observed moose on the Seward Peninsula probably thought they were experiencing a once-in-a-lifetime event. No one in those early days believed that thousands of moose would one day reside on the Seward Peninsula.

People make the difference. In the case of the Seward Peninsula moose, nature provided the opportunity for moose to expand, but people exhibited restraint through an active management program based on observation and regulation. Thanks to cooperation by thousands of residents, management of moose on the Seward Peninsula has been a tremendous success. This success is a model of what can happen when the public and game biologists work together in a cooperative spirit for the benefit of wildlife. ADF&G looks forward to continued success with its many management programs on the Seward Peninsula and throughout Alaska.

Carl A. Grauvogel first began work with Seward Peninsula moose when he came to Nome in 1972 as Assistant Area Biologist for ADF&G. As Area Biologist from 1975 until 1986, he worked primarily with moose. He is now based in Anchorage.



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