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Washington, D. C.

PREDATOR CONTROL PROBLEMS IN ALASKA.

By: Dorr D. Green
Chief, Branch of Predator and Rodent Control
U. S. Fish and Wildlife Service

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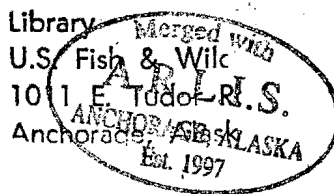
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In the minds of many who have not visited the Territory, Alaska is a magical land of vast distances, countless numbers of game animals and easy, do-as-you-please atmosphere where trappers, hunters and outdoorsmen could live off the country without worrying about trespass signs, bag limits and other regulations of modern civilization. Sometimes this dream is carried to greater extremes by those who picture Alaska as a wilderness paradise where the so-called "balance of nature" can be depended upon to maintain a good supply of the presumed abundance of game. Anyone who has viewed even a portion of Alaska knows that these are dreams and nothing more.

On Reserve

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In the light of what we can learn about prehistoric conditions, it is probable that primitive man found Alaska's wildlife resources ample for his needs. The white race changed that very rapidly, beginning with the Russian exploitation of fur seals and sea otter and continuing right up to the slaughtering of game during the recent World War II. The impact of civilization upon Alaska's resources has greatly altered the "wilderness paradise" picture, and has reduced game herds far below any possibility of spontaneous recovery. It is now apparent that the game herds can be maintained only by the most careful application of all suitable wildlife management methods.

During the period between the era of Russian exploitation and the beginning of the Second World War, Alaska's wildlife resources were not considered to be in great danger and in some respects were believed to be increasing under the management measures employed at that time. Even in those days, however, much concern was felt regarding the number of game animals killed by wolves and other predators. Concern was also felt, and is still evident in some quarters, regarding the predation upon fishery resources by hair seals and eagles and kill of waterfowl by gulls and other predacious birds. However, for the purposes of this discussion, comments will be limited to the major four-footed predators, chiefly, coyotes and wolves.

For centuries before the coming of white men, wolves and Natives had competed with each other for the annual wildlife crop without making any apparent dent in game populations. The competition became severe when white men introduced firearms into the Territory and was increased still more when supplies of high-powered rifles and ammunition were made freely available to the Natives. The combination of uncontrolled wolf

packs, skilled white hunters and game-hungry Natives who had been taught the white man's methods of destruction, but had received little instruction in game conservation, proved too much for Alaska's wildlife resources. It was apparent that the wolves, the white hunters, and the Natives all needed to be controlled.

In the more intensively developed and densely populated areas of the States, wildlife resources are managed not only by controlling predators and hunters, but by manipulating the environment as well. Habitat improvement is rightly regarded as one of the most important wildlife management measures in the States. In Alaska, however, there are serious climatic and economic barriers against any widespread or intensive manipulation of habitat. Even without climatic barriers, habitat improvement must necessarily take a secondary place in areas of vast distances and scanty population. The yield of game per square mile under conditions as they exist in Alaska simply is not large enough to warrant expenditure of funds on a scale that would result in appreciable habitat improvement, even if the knowledge existed as to how habitat could be improved. The so-called vast game herds of Alaska were vast only in total numbers and have never been numerous in terms of numbers of species or individuals per square mile. Under these conditions the limited facilities available for wildlife management must be directed towards controlling the actions of predators, both men and wolves, rather than in improving the game range. Both the Alaska Game Commission and the Fish and Wildlife Service regard predator control and enforcement of game laws as the two primary tools of game management in Alaska.

The background of the predator control problem in Alaska would be incomplete without mention of the relationship between wolves and livestock,

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especially the semi-domestic reindeer of the Natives. Much of the recent demand for wolf control in Alaska arose because of reported wolf depredations on reindeer herds. Although there is some controversy regarding the extent of such depredations, it is significant that control operations conducted in and around reindeer ranges on the Seward Peninsula and the vicinity of Kotzebue during the past two years have decidedly reduced the losses of reindeer. Even so, the major consideration in Alaskan predator control is the conservation of game.

Active measures to conserve game through predator control were begun in 1915 when the Alaskan Legislature made an appropriation for payment of wolf bounties. Since that time bounties of varying amounts have been almost continuously in use against wolves and other predators. Over half a million dollars has been spent on wolf and coyote bounties. Previous to 1925 wolves had the field practically to themselves. Coyotes, which apparently moved northward from the United States and Canada during or soon after the Gold Rush, were extremely rare in most of the Territory until the early 1920's. It was not until 1925 that coyotes were taken in enough numbers to be noted in the annual fur statistics. In that year 61 coyotes' pelts were exported from the Territory. Since then there has been a steady increase in the number of coyotes, as indicated by the accompanying graph, until now that animal ranks almost equal with the wolf in its depredations in some parts of Alaska.

In 1936 Alaskans began to realize that bounty payments were not accomplishing the desired purpose of increasing wolf control, and an attempt was then made to secure an appropriation from the National Congress in the amount of \$30,000. This was unsuccessful. Several specialists also were sent to study the control problem, but no funds were provided to carry out

their recommendations. Control continued for many years to be a matter of haphazard hunting by fur trappers and bounty hunters, supplemented by the slight assistance that Federal game agents were able to give.

In 1943 one of these agents, Hosea Sarber, began a series of experiments that were authorized by the Alaska Game Commission as a result of discussions in the Alaskan Legislature that year. These experiments related to the carefully controlled use of poison against wolves in southeastern Alaska, and were designed primarily to protect fur-bearing animals from harm and at the same time reduce the wolf population. As a result of this work, there has been developed an unusually ingenious method that has continued in use up to the present and which will be described later.

If it had not been for the rapid increase of population in Alaska during the Second World War, it is probable that early game management methods, including predator control by bounty, would have gone along without much change for many years. As it was, the tremendous influx of construction workers and armed forces personnel, coupled with a dearth of facilities for game law enforcement and game management, resulted in very serious damage to Alaskan wildlife resources. Also during this interval, a serious manpower shortage and a period of low prices for long-haired furs caused a great decrease in the amount of trapping and bounty hunting. This is reflected in the graph to which reference has already been made. Thus, the game herds were subjected to triple pressure resulting from increased numbers of wolves and coyotes, increased numbers of hunters, and decreased facilities for game management. Many of the newcomers had little regard for the conservation of Alaska's resources. Another side effect of the war was evident among the Natives who were organized into

militia and provided with unaccustomed abundance of rifles and ammunition. Here again, despite the experiences of past years, the indoctrination of Natives did not include adequate attention to the conservation of wildlife resources. What little work was done in this regard was left largely to an inadequate force of game management agents in their sporadic visits to Native villages.

When the costs of war were added up, it was found that victory over the enemy had been obtained in Alaska at the expense of a near-defeat in the field of wildlife management. The resources of the Alaska Game Commission and the Fish and Wildlife Service were mobilized to halt the depletion of the game herds and to take emergency steps for the rehabilitation of wildlife. At the insistence of Alaskan citizens and prominent conservation groups in the States, the National Congress in 1948 made additional sums available for initiating predator control and slightly expanding game law enforcement. \$104,000 was allotted for predator control, and during the year a force of nine men was put to work and planes, cars, traps and other equipment were purchased and put into operation.

The results of the first two years of organized predator control in Alaska may not be generally apparent on the basis of the cold statistics of official reports. These statistics show a relatively small take of predators as compared to previous activities of bounty hunters, yet, strangely enough, there has developed in some quarters an apprehension that predator control is being overdone in the Territory. The actual accomplishments are considerably greater than indicated by statistics and are certainly much more conservative than have been reported by certain alarmists who fear wholesale extermination of all predatory animals in the Territory.

During the start of the work in fiscal year 1949, major attention was necessarily given to surveying the problem--learning where predator control was most needed, and developing and applying methods of control that could be used without jeopardy to fur animals and other valuable forms of wildlife. Nearly 30,000 miles of airplane travel were logged during fiscal year 1949, resulting in the selection of 14 sites for controlling wolves in areas where game and reindeer destruction seemed most critical. In southeastern Alaska topographic and climatic factors made it necessary to rely upon boat transportation rather than planes, and surveys were made in the vicinity of St. Petersburg, on both Kupreanof and Mitkof Islands as well as other island and mainland coasts bordering on Frederick Sound and Sumner Strait. As a result of these surveys, it was possible to confine the work to critical areas, thus enabling a small staff of hunters to concentrate their efforts where they would count the most rather than having predator control spread in a haphazard manner wherever hunters might find wolves most easily captured. This single feature of the work is recognized by informed conservationists as a major accomplishment in the use of predator control as a game management measure. A critical, selective and localized plan of predator control was thus attained early in the program. The limited manpower and funds were concentrated upon reduction of wolf and coyote populations in caribou and reindeer ranges where the numbers of game animals had been reduced to a point that endangered the vital food supplies of Native communities. These included reindeer ranges on the Seward Peninsula, caribou and mountain sheep ranges in interior Alaska, especially the range of the small, non-migratory remnant of the Nelchina caribou herd in the Copper River drainage, the range of the vanishing caribou herd on the Alaska Peninsula, and the winter range of black-tailed deer along the beaches of southeastern Alaska.

The extensive use of airplanes in Alaskan predator control has thus permitted a rapid selection of key areas and a concentration of work on these areas that would not have been possible with ground transportation. It is somewhat ironical that this method of attaining selective predator control has been misunderstood in some quarters and has given rise to fantastic rumors. Some persons have even gained the impression that the vast Territory of Alaska was being blanketed with airplane flights, involving indiscriminate broadcasting of poison throughout the entire country. Such rumors have been so disturbing to several sincere conservation workers that it seems desirable to emphasize at this point the true role of the airplane in Alaskan predator control. It is simply a transportation method without which it would have been impossible to quickly attain the high degree of selective and localized control that now characterizes the Alaskan program and that is rightly desired by all who have a genuine interest in the conservation of wildlife.

Although the past two years' operations resulted in a recorded recovery of only 116 predators in the fiscal year 1949 and 260 predators in the fiscal year 1950, the results of these limited takes on limited areas are already apparent. Reports from Service personnel, professional guides and other informed persons show that the calving percentage has increased noticeably on the Nelchina caribou herd and other depleted herds where control has been concentrated. Reports from Indian Service officials and Native herders show even more promising results among reindeer, particularly the herds at Hooper Bay, Shungnak, Topkok, and Egavik. These results have become so well known among Alaskan citizens that wholehearted support of the program has already been voiced by the sportsmen's associations at Anchorage and Matanuska, the Anchorage and

Seward chapters of the Isaac Walton League, and the Ketchikan Sportsmen's Club. The latter organization has contributed funds to aid in the control of wolves endangering deer in areas around Ketchikan.

In addition to successes attained by limiting control on certain critical areas, even more significant selectivity in control operations has been achieved through methods that avoid damage to valuable fur animals. Great care has been taken throughout the Territory to place poison only in localities that do not harbor such animals. The open expanses of frozen lakes or streams and open tundra away from timber where airplane reconnaissance has revealed wolf and coyote trails, have been preferred locations for predator control. In southeastern Alaska where fur animals are more universally distributed, selectivity has been achieved by confining wolf control largely to the open beaches and tide flats where the wolves concentrate during the winter in their search for deer and other food. On these beaches a special method of using a poison has been developed by Mr. Sarber, as was previously mentioned. He and others in the Service, assisted by personnel from the Bureau of Animal Industry, have found that valuable fur animals, such as otter, mink, marten and weasel, are not attracted to poison baits containing fetid seal oil. The tracks of these animals have been observed passing very close to such baits without deviating from their course. On the other hand, wolves are very strongly attracted to such baits. Hence, this method has been the principal one in the organized predator control work of southeastern Alaska and has gone far towards solving the problem of how to control predators without damaging fur animals. Tests on caged marten and mink at the St. Petersburg Fur Experiment Station, conducted in cooperation with the Bureau of Animal Industry, show that marten and mink will eat fetid seal oil baits only when starved. These tests further

reveal that such starved animals will usually avoid eating the poison in the bait if it is encased in a gelatin capsule. These experiments are regarded as especially significant and are forming a basis of further improvement in control operations.

The Fish and Wildlife Service staff at Juneau and the men who are carrying on the actual control operations, with headquarters at Anchorage, have spent much time in planning future operations. The plan as now adopted is based upon the use of predator control as a primary game management measure directed chiefly to the protection of caribou and reindeer, which are vital to the survival of many persons in Alaska. A thorough study of caribou ranges, which was made during the past season by predator control and game management personnel, with the personal participation of Regional Director Clarence Rhode, has revealed some surprising and even alarming information and has formed a sound basis for setting up a system of priorities in future predator control work. It was found that Alaska's "millions" of caribou do not now exist. The sad state of this game animal, so essential to Arctic economy, is revealed in the following examples of depletion: The Alaska Peninsula, which once supported hundreds of thousands of caribou, has a herd that is now reduced to about 2,500 animals, of which 2,000 are probably reindeer-caribou hybrids. The Nelchina caribou herd is now down to about 4,000 head, or less, and is regarded as one of the most endangered of all the herds due to its ready accessibility by highways and the fact that it is now non-migratory. Even the famous Chandalar herd now apparently numbers less than 20,000 animals. Similar depletion has been observed in most of the other herds. The only herd that retains a semblance of its earlier numbers is the Noatak herd, which ranges on the Arctic drainage. Although it has been known for several years that the combination of

predators and inadequately controlled hunting was depleting the game herds of Alaska, and especially the caribou herds, the full extent of this depletion was not realized until results from the recent survey had been announced. On the basis of this survey, first priority has been given to the control of wolves in the Nelchina area, the Alaska Peninsula, and the areas designated as Fortymile, Steese Highway and Kobuk-Noatak. Of equal importance in the planned priorities is the program for controlling wolves on reindeer ranges on the Bering and Arctic coasts and on mountain sheep ranges in the White Mountains and Tanana Hills. Other priorities have been set up for other areas and species in accordance with the Territory-wide survey which has taken up much of the time and money available for control operations during the past two years. At the same time, provision is being made for continued testing of predator control methods to insure their most judicious application to Alaskan conditions. The findings of the Denver Wildlife Research Laboratory of the Fish and Wildlife Service in Arctic-Alpen habitats in the States are being applied to Arctic problems, and Alaskan personnel are continuing the search for improvements leading to increased selectivity of control.

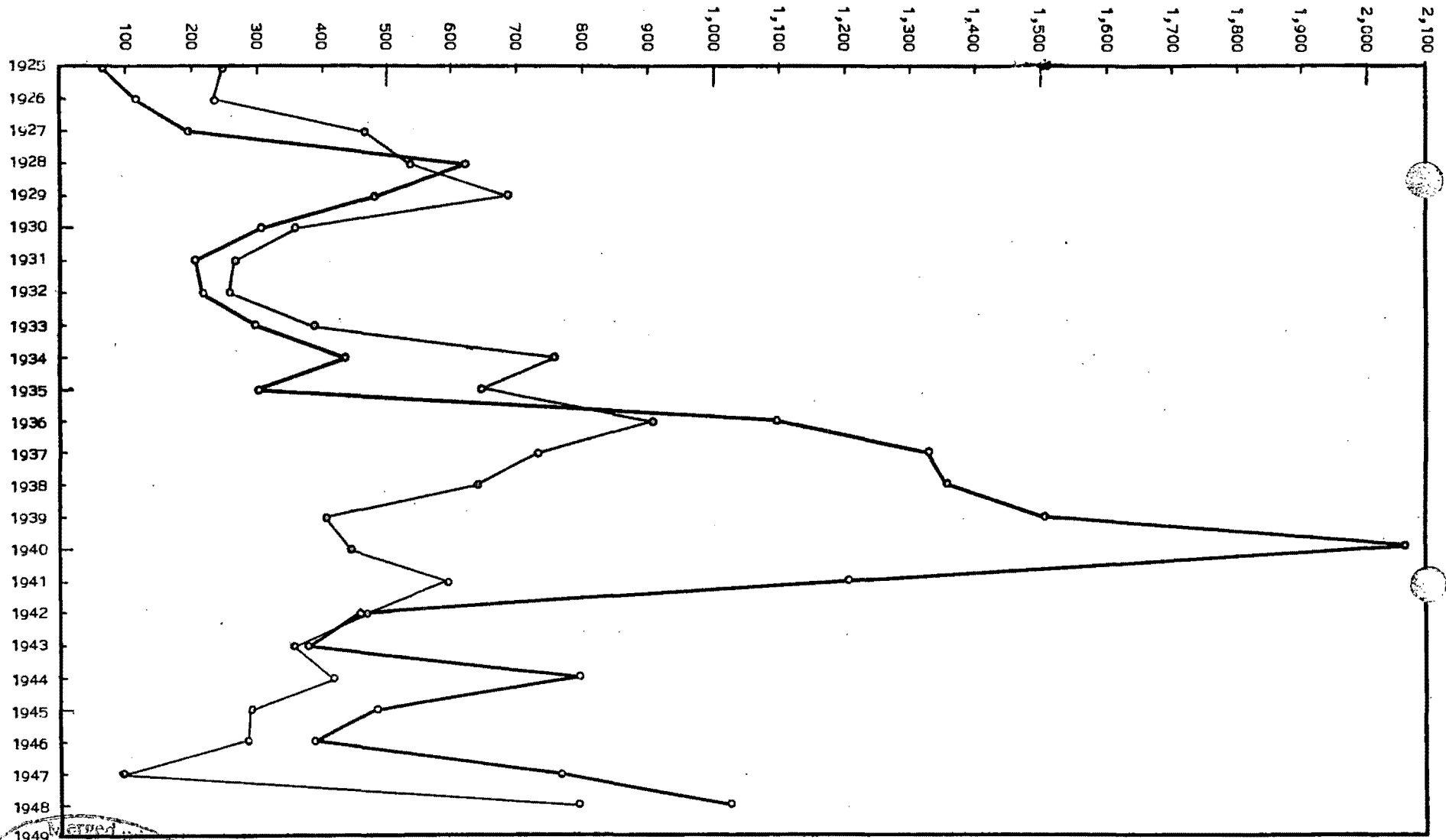
In conclusion, it should be emphasized that the predator control operation in Alaska is essentially a large-scale demonstration of a specialized wildlife management program applied on a strictly localized basis. The word "localized" is here used to mean not only geographic and environmental limitations, but also selectivity among species of animals. In addition, the limited funds and personnel available for the great expenses of Alaska compel close scrutiny of the economics of wildlife management and limitation of predator control, as well as other management measures, to the areas most in need of benefit. Operating on this basis,

it is the hope of the Fish and Wildlife Service that the two chief methods of game management--predator control and game law enforcement--may aid in the restoration of some measure of the wildlife abundance and wilderness attractiveness that characterized the earlier years. These features, in the last analysis, are among the most valuable resources of the Territory. In this connection, it should be emphasized that control programs operated by the Fish and Wildlife Service in cooperation with other agencies are not directed toward extermination of any species. The objective, in an area such as Alaska where game is paramount over livestock, is to bring predators and prey species into such a relationship that a reasonable amount of wildlife, of all species, may be available for the enjoyment and benefit of mankind. In Alaska the benefits of food and clothing derived from wildlife are of prime importance in Native economy and survival. Enjoyment implies not only the privilege of controlled hunting and the incomes and subsistence from furs, hides and meat, but also the intangible benefits obtained through close association with wildlife and through the pleasures of a wilderness vacation. The various aspects of this over-all benefit must receive appropriate consideration in any game management measure since all of them together form the lodestone which attracts travel and income to Alaska and which is a major part of the welfare of all Alaskan residents. It is on this philosophy that the predator control program in Alaska has been started, and it is the intention of the Fish and Wildlife Service to continue on this basis so long as the necessity exists and facilities are made available for the work.

EXPORTED FROM ALASKA

COYOTES —

WOLVES —



pg. 13

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