

7.—REMARKS ON THE MOVEMENTS AND BREEDING-GROUNDS OF THE FUR-SEAL, BASED ON OBSERVATIONS MADE WHILE ON THE UNITED STATES NAVAL PATROL OF BERING SEA IN 1894.

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Under the terms of the award of the Bering Sea arbitration tribunal, as enacted into law by the act of Congress of April 6, 1894, the fur-seal received the following protection while absent from its breeding-grounds on the Pribilof Islands:

(1) Immunity from pursuit or capture at any time and in any manner in Bering Sea within a radius of 60 geographical miles of the seal islands.

(2) Further immunity from pursuit or capture in any manner between May 1 and July 31, inclusive, in that part of the Pacific Ocean, including Bering Sea, north of the thirty-fifth degree of north latitude and east of the one hundred and eightieth degree of longitude from Greenwich continued as far north as the sixtieth degree of latitude; thence the protected area is bounded by a line drawn northeast to the center of Bering Strait.

(3) Immunity from pursuit by any other than sailing vessels and canoes or undecked boats propelled by sails or oars.

(4) Immunity from capture by nets, firearms, air guns, or explosives, except that shotguns may be used outside of Bering Sea during the lawful season.

The migrations of the fur-seal are so regular and well marked that they are easily taken advantage of by sealers, who know where the seal herd may be looked for at any given time. The seal is thus differently, and much more unfavorably, placed as regards natural protection than are some other marine mammals that are sought by man, the whales, porpoises, and sea-otter, for instance, whose movements are either irregular or not fully understood by the hunters.

The movements of pelagic animals are influenced to a very great extent by the temperature of the water in which they exist. The migratory instinct, whether leading them to feeding-grounds or to breeding-grounds, appears to be dominated by the water temperature. In the case of oceanic fishes like the cod and mackerel, and of anadromous fishes like the salmon and shad, the determination of the time and general course of their migrations by the water temperature is

well recognized. This same influence is not less strikingly exemplified in the extensive migrations of the Alaskan fur-seal, which cover diagonally 25 degrees of latitude, and, following the route of the herds, embrace a distance of over 2,500 miles, which is traversed when the seals are bound north to their breeding-grounds in Bering Sea and again when they seek the coast of the United States after the breeding season.

The fur-seal, although usually described as having almost human intelligence, is really a rather stupid animal, whose reputation for intelligence is based largely upon appearances (especially its soft, beautiful eyes, which appeal to one in their apparent innocence) and upon the cleverness displayed in finding its way over immense distances in the ocean. Great stress has been laid on the latter faculty, which has been a matter of more or less speculation. In this and most other movements, however, the fur-seal is very largely governed by the temperature of the water, and is controlled by circumstances rather than guided by intelligence, as it requires but little mental capacity to carry out the laws that nature has provided for it by which it finds its way to distant points in the ocean. When compared with the subtle instinct displayed by many species of migratory birds on their way to and from the same regions resorted to by the fur-seal, the movements of the latter are rather commonplace. Combined with the directing influence of the temperature of the water is the wonderful rapidity of action which enables the animal to cover with little effort a vast area of ocean in a remarkably short time.

The lonely and remote islands of St. Paul and St. George are admirably adapted for the breeding purposes of the fur-seal, and are the only islands in the eastern part of Bering Sea or the North Pacific Ocean suited to the requirements of this animal. Owing to the stupidity of the seals they are almost defenseless when on shore, and many would fall an easy prey if the islands were infested with predatory mammals or birds, while their timidity would probably cause the eventual abandonment of the islands if, while on the rookeries, they were liable to the sights and sounds of modern civilization.

The seals leave the rookeries in the fall and are driven out of Bering Sea by the decreasing temperature of the water as winter approaches. They then seek the more genial waters off Vancouver and California. On withdrawing from Bering Sea, they follow its current south through the passes in the Aleutian Islands and then meet with the Japan current, which leads them to the coast of Alaska, where there is an abundance of food. Thence they follow the cold current down the coast to Vancouver, off which land the old male seals remain and disperse over the adjacent ocean, having found a temperature suited to their condition in a region well stocked with fish food.

The old male seal is six or eight times larger than the female, and, having a superabundance of fat, requires a lower temperature of water

in which to live than do the female and young male seals. This fact accounts for the separation of the old males from the rest of the herd. The females and small seals of both sexes continue their southward movement in the cold Humboldt current off the coast of California, where, having found the slightly higher water temperature adapted to their needs, they disperse over the ocean in search of food.

The same laws govern the seals on their way to the breeding-grounds, combined with the strongest instincts in all animals—propagation and care of the young. In spring the old males are the first to become uneasy under the increasing temperature of the water, which has risen from about 42° F. early in February to 50° late in April, the normal temperature sought by the seals being between 40° and 46°. To seek relief by reducing the temperature, they start toward the north (the only direction in which this object can be attained), and, guided by the cold stream which flows along the coast of Alaska and Vancouver, they are led in the direction of the rookeries.

The course of the seal herd to the Pribilof Islands, by the cold currents which flow from that direction through the passes in the Aleutian chain, is only interrupted near the "Fairweather Ground" off Sitka, where the influence of the warm water of the Japan current causes some confusion in the progress of the seals. This region is much resorted to by the pelagic hunters and is a vast slaughtering-ground. Off Sitka large portions of the herd are often found, in their bewilderment, heading in various ways, and sometimes they make considerable progress in the direction from which they have come; but finally the seals get within the influence of the cold stream in the vicinity of Kadiak and then, through the passes in the islands, they enter Bering Sea and are virtually on the breeding-grounds.

The females and young males are influenced in their northern movements by the same conditions which affect the old males. The females, however, on account of their being with young, make slower progress than the others, and are easily approached and killed when fatigue compels them to rest at the surface of the water. The presence of food off the coast and estuaries of the rivers also affects in some degree the course of the seals.

The feeding habits of the breeding males are similar to those of some fish, as, for instance, the salmon. During their absence from the rookeries they accumulate a vast amount of energy and food in the form of fat, which is deposited under the skin, in the muscles, and about the viscera; so that after the breeding season begins they abstain wholly from food and, during a period of more than three months, retain their vitality by assimilating the stored fat, while the other seals are obliged to make frequent excursions to the fishing banks. In like manner, after the salmon leave the ocean, enter the rivers, and commence their long journey to the spawning-grounds, they eat nothing, but maintain their strength on the fat with which they were fortifying themselves while at

sea, together with the supply of nourishment from the disintegration of the oil-bearing tissues surrounding the ovarian and spermatie parts, which begins as soon as the fish enter the streams.

Aside from the destruction of the females and young by sealing in Bering Sea, the animals are disturbed or harassed at a time when they have sought seclusion to rear their young. Already a restlessness and a change in the habits of the seals have been observed which are indications of the breaking up of the herd. The use of firearms for killing seals in Bering Sea being prohibited by law, the spear has been substituted. The silent destruction of the latter instrument does not frighten the seals, and its aim is more certain and deadly than the rifle or shotgun. The warning noise of the firearm renders the seals more shy and wary as the season progresses, but with the spear the slaughter of unsuspecting animals continues uninterruptedly from the commencement to the end of the season. As a proof of this, it is only necessary to cite the wonderful catch of the sealing schooners this year by means of the spear. Notwithstanding the comparative unfamiliarity of most of the crews with the use of the spear, the number of seals secured by the pelagic sealers was greater than ever before, and the catch is almost certain to increase year by year, as the men become more dexterous in handling the spear, provided the supply of seals holds out. Instead, therefore, of the prohibition of firearms in Bering Sea being a serious restriction on the depredations of the sealers, it really aids them and renders the rookeries even more liable to rapid decimation than they were under previous regulations.

It is reported that the catch of seals by predatory sealers in 1894 was in the neighborhood of 105,000. Of this number about 57,000 seals were taken from the herds belonging on the Asiatic shores of the North Pacific Ocean and the remainder, 48,000, from the Alaskan herd. In the previous year the seals secured from the herd rendezvousing at the Pribilof Islands numbered about 36,000, and in 1892 about 25,000. Of the seals from the Alaskan rookeries taken by pelagic sealers in 1894, about 80 per cent were killed by vessels clearing from Victoria, B. C., and 20 per cent by vessels from United States ports.

The prohibition of pelagic sealing between May 1 and July 31, during which time the seals are moving northward off the coasts of the United States, British Columbia, and southeast Alaska and entering Bering Sea, necessarily concentrated the operations of the sealers on Bering Sea—that is, during the breeding season. The numbers of seals killed beyond the 60-mile zone in Bering Sea between August 1 and August 15, 1894, were large, and perhaps 75 or 80 per cent were nursing females that had left their pups on the Pribilof Islands and gone for food to the cod banks lying from 75 to 200 miles from the rookeries. The death of a female seal under these circumstances meant also the death of her young by starvation. It is therefore evident that more harm is

done to the seal herd in the few weeks of sealing in August than at any other time.

Permission was given by the Treasury Department to the lessees of the seal islands to kill 20,000 young male seals in 1894. Notwithstanding that only 7,500 seals had been killed there during each of the preceding years and only 14,000 and 20,000, respectively, during the third and fourth years before (against 100,000 annually for many years without any detriment to the herd before the ravages of the poacher began), the lessees were able to obtain only 16,000 marketable skins of young male seals.

The preservation of the Alaskan fur-seal under existing conditions and regulations rests on the very slender contingency of the prevalence of tempestuous weather during the month of August. Two or three weeks of good weather at this time, by permitting the sealers to operate without interruption outside the 60-mile zone and on the feeding-grounds of the female seals, mean the ultimate and rapid destruction of the seal herd on the Pribilof Islands.

The Bering Sea question, when stripped of the maze of minor points and diplomatic usages incident to its discussion and adjustment, offers the following definite alternatives of settlement:

(1) Shall the United States Government effectually and forever terminate this international dispute by absolutely annihilating the Alaskan seal herd as the animals arrive on the seal islands? or

(2) Shall the United States permit the pelagic poachers of British Columbia to destroy the seals on their way to the rookeries and in the vicinity, and thus ultimately destroy the legitimate industry of killing selected seals on the islands? or

(3) Will the British Government enact laws to protect an industry which is now generally conceded in America to have from the outset been of more commercial interest to Great Britain than to the United States?

The first proposition may seem needlessly harsh and cruel, but the action indicated is indeed humane and is fully warranted by the facts that no amount of protection under existing regulations is adequate to preserve the seal herd and that the patrol of Bering Sea by American naval and revenue vessels does not prevent the havoc wrought by the pelagic hunters in killing annually 25,000 or 30,000 nursing female seals and leaving their pups to die of starvation, besides sacrificing the same number of unborn seals. No one who has had the opportunity to visit the seal islands during the breeding season and witness the distressing spectacle of thousands of young seals in various stages of starvation will fail to acknowledge the merciless barbarity of pelagic sealing and the humane principle involved in the proposition to wipe out the Alaskan seal herd at one blow.