

found in 1896, and 14,318 in 1897, or applying a count adopted by Professor Thompson, 14,743 in the latter year, there is evident a decrease of 9 or 12 per cent. within the twelvemonth in question. The count of pups is the most trustworthy measure of numerical variation in the herd. The counts of harems, and especially of cows present, are much inferior in value. The latter counts, however, point in the same direction. The harems on all the rookeries were counted in both seasons. In 1896 there were 4,932; in 1897 there were 4,418, a decrease of 10.11 per cent. The cows actually present on certain rookeries at the height of the season were counted in both seasons. Where 10,195 were found in 1896, 7,307 were found in 1897, a decrease of 28.34 per cent.\*

8. It is not easy to apply the various counts in the form of a general average to all the rookeries of the islands. We recognize that a notable decrease has been suffered by the herd during the twelvemonth 1896 to 1897, without attempting, save by setting the above numbers on record, to ascribe to the decrease more precise figures.

9. The methods of driving and killing practised on the islands, as they have come under our observation during the past two years, call for no criticism or objection. An adequate supply of bulls is present on the rookeries; the number of older bachelors rejected in the drives during the period in question is such as to safeguard in the immediate future a similarly adequate supply; the breeding bulls, females, and pups on the breeding rookeries are not disturbed; there is no evidence or sign of impairment by driving of the virility of males; the operations of driving and killing are conducted skilfully and without inhumanity.

10. The pelagic industry is conducted in an orderly manner and in a spirit of acquiescence in the limitations imposed by the law.

11. Pelagic sealing involves the killing of males and females alike, without discrimination and in proportion as the two sexes coexist in the sea. The reduction of males effected on the islands causes an enhanced proportion of females to be found in the pelagic catch; hence this proportion, if it vary from no other cause, varies at least with the catch upon the islands. In 1895 Mr. A. B. Alexander, on behalf of the Government of the United States, found 62.3 per cent. of females in the catch of the "Dora Steward" in Behring Sea, and in 1896 Mr. Andrew Halkett, on behalf of the Canadian Government, found 84.2 in the catch of the same schooner in the same sea. There are no doubt instances, especially in the season of migration and on the course of the migrating herds, of catches containing a very different proportion of the two sexes.

12. The large proportion of females in the pelagic catch includes not only adult females that are both nursing and pregnant, but also young seals that are not pregnant, and others that have not yet brought forth young, with such also as have recently lost their young through the various causes of natural mortality.†

13. The polygamous habit of the animal, coupled with an equal birth-rate of the two sexes, permits a large number of males to be removed with impunity from the herd, while, as with other animals, any similar abstraction of females checks or lessens the herd's increase, or, when carried further, brings about an actual diminution of the herd. It is equally plain that a certain number of females may be killed without involving the actual diminution of the herd, if the number killed do not exceed the annual increment of the breeding herd, taking into consideration the annual losses by death through old age and through incidents at sea.

14. While, whether from a consideration of the birth-rate or from an inspection of the visible effects, it is manifest that the take of females in recent years has been so far in excess of the natural increment as to lead to a reduction of the herd in the degree related above, yet the ratio of the pelagic catch of one year to that of the following has fallen off more rapidly than the ratio of the breeding herd of one year to the breeding herd of the next.‡

\* The extreme irregularity of the number of cows present on the rookeries from day to day, and the consequent invalidity of any comparison of their number is shown by the counts made on Lukianin and Kitovi rookeries during the season of 1897. See Appendix 11.

† Statements on which to base an estimate of the relative numbers of these several classes are necessarily incomplete, but the following notes may serve as a partial guide:—

Townsend, Report 1895, pp. 46, 47. Alexander, Report 1895, pp. 142, 143. Macoun, Report 1897, MSS. Lucas, Report 1897, MSS.

‡ The catch of the pelagic fleet, Canadian and American, in 1897 in Behring Sea was 16,667 seals. In the summer of 1896 it was 29,500. The aggregate catch which directly influenced the herd of 1897 was 38,922, a number made up by adding to the summer's catch of 1896 the north-west coast catch in the spring of 1897. Up to the present time, accordingly, the pelagic catch already taken (16,667) and operating directly against next year's supply, is 57.12 per cent. less than the pelagic catch which operated against the supply of 1897 (see, also, Appendix I); or, if we compare merely the summer catches, inasmuch as the possible spring catch of 1898 is an unknown factor, we have a reduction of 43.46 per cent.