

## 3.—NOTES ON THE SEAL AND WHALE FISHERY OF 1886.

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[From the Zoologist, London, England, May, 1887.]

We must go back many years in the history of the seal and whale fishery before we shall find so disastrous a season in all respects as the past has been; certainly it is unparalleled in the history of the Dundee fishery. A season of great severity has resulted in poor catches, still poorer prices for produce, and in the loss of one ship at Newfoundland and four in Davis Strait. It is not likely, with the present prospects, that any of these will be replaced, and it is even doubtful whether all the vessels which returned from last season's fishing will repeat the venture in 1887. In addition to this there are rumors of a partial desertion of the northern fishing grounds for the purpose of exploring the polar seas of the Southern Hemisphere.

The first disaster occurred on March 27, when the Dundee steamer, *Resolute* was crushed in the ice in Notre Dame Bay, off Newfoundland, the crew having barely time to save themselves by jumping on the ice, where they suffered intensely from cold and exposure, having to travel 70 miles over ice before they reached a place of safety, while three of their number, at first believed to have been lost, were subsequently picked up by the sealer *Hector*, and landed safely at Saint John's. The *Resolute* at the time of her loss had 20,000 seals on board. Another Dundee vessel, the *Aurora*, had a narrow escape. Four days after leaving Saint John's she discovered the main pack of seals, and had every prospect of securing a full cargo, but a gale of great violence coming on, which continued for several days, she was driven before its force a distance of about 100 miles, ultimately to be stopped by an iceberg off Cape Bonavista, where she remained in a position of great danger from the falling ice. Soon after, a second iceberg floating down upon her crushed one of her boats, and injured the ship so much that she began to leak; all this time the weather was of great severity, and the snow and mist were blinding. Ultimately the ice eased, to the intense relief of her crew, and with the loss of one of her men the *Aurora* returned to Saint John's to refit. On her second trip she secured 640 old seals.

The total result, so far as the 21 British vessels which took part in the Newfoundland fishery were concerned, was one lost, two clean, and among the remaining 18 vessels a take of 195,396 seals, against 211,587 for 19 British vessels last year. Of these the *Ranger* took 35,894, the *Falcon* 24,768, the *Wolf* 19,521, the *Leopard* 15,954, and the *Greenland* 15,000. Of the remaining 13 vessels the total catch was 84,259, or an average of 6,481; the average of the whole 18 being 10,855 seals, the produce of which was worth about £18 10s. (\$90) per ton.

Taking the Dundee portion of the above fleet alone, which consisted of 6 vessels, one, the *Resolute*, before mentioned, was lost, and the remaining 5 vessels brought home only 41,606 seals (as against 71,272 for the previous season), or an average of 8,321 each. It will thus be seen that for the whole of the Dundee vessels and 10 of the Saint John's fleet the voyage, so far, must have been a most unprofitable one, even if the price of produce had been much higher than it now is. Practically, only the 5 vessels enumerated as having taken 15,000 seals and upwards made paying voyages.

The Greenland sealing has this season been an entire failure, not so much, perhaps, from the absence of seals as from the severity of the weather and the state of the ice preventing an approach to the breeding pack. The passage out was a fair one, and the seals were found on April 2 in latitude 74° north, longitude 2° east, but the weather proved so tempestuous that they could not be reached until the 7th, and the strong gales had then broken up the ice into small patches, and thus dispersed the seals. Three Scotch vessels only were present, the *Erik*, *Hope*, and *Earl of Mar* and *Kellie* (the *Eclipse* did not take part in the young sealing), and they captured about 4,500 "white-coats;" there were also 21 Norwegians, who secured some 31,500 others, in addition to which there were also about 4,000 old seals killed, making a total of, say, 40,000 old and young seals. In consequence of the lateness of the season the young seals were in very fine condition, and probably 16 days old, as the parents generally take to the ice about March 22. The old sealing later in the season was equally bad. The total number of old and young seals brought in from the Greenland and Davis Strait fishery was 7,964, against 32,302 in the season of 1885.

I regret that in my last year's notes, by an error, I stated that there were 18 Scotch vessels present at the Greenland sealing; this was the total number both at Greenland and Newfoundland. I should have stated that 10 Scotch vessels took part in the Greenland and Davis Strait sealing, capturing 26,448 seals, and that the proceeds of 5,852 other seals were brought home by the *Germania* from a station in the Cumberland Gulf.

At Newfoundland and Greenland together, the 13 Scotch sealers last season killed 49,570 seals (against 103,574 in the season of 1885). These, at 6s. per skin, would represent a sum of £14,871 (\$72,273); and the yield of 582 tons of oil, at £20 per ton, a further sum of £11,640 (\$56,570); gross total, £26,511 (\$128,843), against an estimate in 1885 of £57,412 (\$279,022)—a sad falling off, which in this branch of the fishery must represent a considerable loss to those engaged in it.

In the article "Seal Fishery," in the 21st volume of the *Encyclopædia Britannica*, p. 582, are some remarks with regard to what is there termed the "Jan-Mayen Seal Fishery," which are likely to be very misleading. It is stated that the British, Norwegians, Swedes, Danes, and Germans all take part in the fishery, and that the number of seals taken by the

British vessels "about equals that taken by all the others together." If by the "Jan-Mayen Fishery" the author means the capture of young saddle seals at the Greenland west ice, this is certainly not correct; the foreign vessels at present greatly outnumber the British, and the number of seals taken by them is proportionately larger. It will be seen that in the season of 1886 the number of British and foreign vessels present were respectively three of the former and twenty-one of the latter, and for many years past the disparity has been almost equally great. The Norwegians, who did not commence sealing till 1845, now outnumber all the other nationalities. Previous to that time there were more Germans, Danes, and Dutch than there are Norwegians at present. The author is also incorrect in stating that the Scotch steamers are chiefly manned by Shetlanders. It is usual for the whalers to complete their crews at Lerwick, and last season the *Eclipse* added to her crew of 40 men 15 Shetlanders, bringing the number up to 55, and this, I believe, is about the usual proportion. Again, although it is stated that a close time has been established in the Jan-Mayen fishery, the writer goes on to say that "the vessels make the ice from the 15th to the 20th of March, and commence the chase in the destructive way already described." The way "already described" happily refers to what has, since 1877, become a thing of the past. In that year the close time came into operation, and now, within an area included between the parallels of  $67^{\circ}$  and  $75^{\circ}$  north latitude, and between the meridians of  $5^{\circ}$  east and  $17^{\circ}$  west longitude from the meridian of Greenwich, not a seal is killed till April 3. That date is still believed by some to be too early, but this restriction has completely revolutionized the mode of sealing; the mother seals are no longer killed without mercy when they come to suckle their young, and the latter left "to die in thousands of starvation." As a matter of fact it is the young "white-coats" which are now so much valued. The German vessels made a business of sealing many years before the English took any decided part in it, the latter only picking up a few seals occasionally, but about the commencement of the present century seals begin to figure largely in the returns of the British ships. It was not, however, till the year 1840 that the port of Dundee first sent out ships to the Greenland sealing; but this date by no means coincides with the commencement of the Jan-Mayen seal fishery, as stated by the writer in the *Encyclopædia Britannica*.

The Davis Strait whaling voyage was a very disastrous one. On April 5, during a most terrific gale, the *Triune* was forced upon a reef in latitude  $66^{\circ}$  north, where she remained frozen up till the 18th, when she was released, but in steaming through the ice-floe she received a very severe nip, which ultimately resulted in the crew being compelled to abandon her off Scott's Island in latitude  $71^{\circ}$  north, on August 16. At the same time and place as the *Triune*, the *Jan Mayen* was also

caught in the squeeze, and sunk shortly afterwards. The Star was likewise lost in Cumberland Gulf, making, with the Resolute before-mentioned, four Dundee vessels which fell victims to the "thick-ribbed ice" last season. Nor was this all, for the Catherine, of Peterhead, a sailing brig of 190 tons, after various adventures on reefs and rocks, was finally beached and abandoned on September 30 in Cumberland Gulf. Fortunately, the crews in all cases were rescued.

In Davis Strait plenty of whales are reported to have been seen both in the early and late fishing; but the weather was so bad, combined with heavy seas and ice-floes of a very dangerous character, that fishing was impossible; and during the summer months, when the best fishing is usually met with, the young whales which, as a rule, are then found in Lancaster Sound, although the ships were through Melville Bay in good time to meet them in passing, were altogether absent, having, it is conjectured, taken some other passage.

The Davis Strait and Cumberland Gulf vessels, ten in number, killed 19 whales. These are said to have yielded 380 tons of oil and 290 cwt. of bone, giving an average of 20 tons of oil and 15 cwt. of bone each, a very high average for the Strait whales, which is probably to some extent accounted for by the summer fishing of the young whales being a failure, those taken being in consequence all adults. Of this I shall have something more to say presently.\*

The seal fishery offering no temptation for an early start, and consequent greater outlay on the voyage, Captain Gray, of the Eclipse, deferred his departure from Peterhead until April 20, with the intention of devoting his energies to whaling and shooting old seals; of the latter he obtained 700 and of the former 7. In the Greenland seas the Eclipse and Erik, from Peterhead, and the Pole Star, from Dundee, captured 15 whales, yielding 88 tons of oil, and 80 cwt. of bone—the whales averaging just over  $5\frac{3}{4}$  tons of oil and  $5\frac{1}{3}$  cwt. of bone. The Hope and Aurora, as also the Earl of Mar and Kellie, which paid a short visit to the Greenland whaling, were unsuccessful. Fourteen of the above whales were taken early in the season, and in about the same locality, the remarkable feature about them being their small size.

The relative size of the whales taken in Davis Strait and Cumberland Gulf, compared with those usually taken in Greenland, has in the past season been quite reversed. A large number of Davis Strait and Cumberland Gulf whales, taken over a period of years, produced an average of  $9\frac{1}{2}$  cwt. of bone each; whereas the Greenland whales, capt-

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\* The disparity between the quantities of bone and oil as stated above is certainly too great; there is always a remarkably constant proportion of one hundredweight of bone to each ton of oil, and this holds good with whales of all sizes. The Traveller brought home from Cumberland Gulf some whale oil which had been left out last season; but in addition to this I think there must be some inaccuracy in the reported quantity of oil; possibly some of the white-whale oil has been accidentally entered as whale oil.

ured during the same period, yielded 11 cwt. each; but in the past season the averages have been 15 and  $5\frac{1}{2}$  cwt. respectively.\*

This may at first sight appear very remarkable, but it is quite intelligible to those acquainted with the habits and seasonal distribution of these creatures. We have seen that the Strait fishermen, owing to circumstances of weather and ice, missed the young whales, which would have reduced their average; whereas the Greenland fishermen, likewise, from force of circumstances, could only get among young whales early in the season, and later on, owing in a great measure to the ice being so closely packed and its edge so far west, they missed the south fishing altogether. But this is not all. From long experience of the habits and migration of the whales, the regularity of which is remarkable, the whalers know precisely where they should be found, under favorable circumstances, at certain definite periods, and not only so, but also the age and size which may be expected. I am not at liberty to enter more fully into this subject, fearing to commit a breach of confidence, as it is the application of accumulated experience on such points which enables one man to succeed in capturing whales, when a less accurate observer would fail; but I may add—to show that the migratory habits of the whales have not changed—that the celebrated capture of 44 whales by Captain Suttar, of the *Resolution*, in 1814, was effected in the same latitude as produced the Greenland whales of the past season. Captain Suttar's average was 5 tons 13 cwt., and 14 of the Greenland whales last season, taken by two vessels fishing together in the same latitude as Suttar's, gave precisely the same average.

It is difficult to say what is the value of commodities which are hardly marketable; but at £20 per ton, the 477 tons of oil brought home by the Dundee and Peterhead vessels would be worth £9,540 (\$46,364), and the  $18\frac{1}{2}$  tons of bone at, say, £1,100 per ton all round, † another £20,350 (\$98,901), or a total of £29,890 (\$145,265), against £31,800 (\$154,548) in the season of 1885.

There has been a further considerable falling off in the British bottle-nose fishery, only 23 whales, yielding 22 tons of oil, having been brought in, against 84 killed in 1885; but I am informed that the Norwegians have in the past season killed the enormous number of 1,600 or 1,700 of these creatures, which has so flooded the markets of London and Glasgow with their oil that it has been sold as low as £17 or £18 per ton—a circumstance which will account for the neglect of this branch

\* As before stated, the yield of bone is more reliable than that of the oil for purposes of comparison; I therefore prefer to give that of the bone only, but each cwt. of the latter may be taken as representing an equivalent of one ton of the former.

† Some "size bone" (*i. e.*, bone the slips of which are 6 feet and upwards in length) has recently been sold at £1,550 per ton; but as the "undersize" bone produces only half the price of the "size," the price for the average is largely reduced. This must have been particularly the case in the past season, many of the whales being very small, and the proportion of undersize bone being consequently unusually large.

of the fishery by the Scotch vessels, the owners of which not many years ago realized £50 or £60 per ton for the same oil.

Some of the vessels brought home very miscellaneous cargoes—1,033 white whales, 320 walruses, and many narwhals and bears—the scarcity of big game, I presume, rendering the pursuit of such small deer the more keen.

During his voyage to the Greenland fishery, when in latitude 70° N.; longitude 16° W., or about half way between Jan-Mayen and Greenland, Captain Fairweather, of the *Aurora*, reports a singular phenomenon. On August 16, about midday, his vessel received a sudden shock, caused by what he considers must have been an earthquake (or seaquake). "The sensations," he says, "felt by those on board were as if the ship was moving over a rocky bottom with great velocity." The officers and crew immediately rushed on deck, thinking a boiler had burst, or that the ship had gone aground, but the boilers were all right, and the lead failed to find bottom at 100 fathoms. The weather was foggy, with slight rain and wind from ESE.; no upheaval of the water was noticed, the sea being unusually calm. About two hours later, a second but much lighter shock was experienced, which, however, only caused the vessel to tremble.

NORWICH, ENGLAND, *May*, 1887.

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#### 4.—RESULTS OF PLANTING SHAD IN THE KENNEBEC RIVER.

By EVERETT SMITH.

[From a letter to Prof. S. F. Baird.]

In 1880 I accompanied and personally directed the disposition of the shad fry planted in the Kennebec River at Waterville, the first plant, I believe. My interest officially as State Commissioner of Fisheries at that time did not exceed my interest as a naturalist in the experiment, which interest has been continuous. This month there have been caught at Cape Small Point, at the mouth of the Kennebec River, a considerable number of shad of such large size, and of such general proportions and appearance as to show a marked contrast with the native Kennebec shad. As distinctive as the 3 to 5 pound shad of the Kennebec from the 2 to 4 pound shad of the Nonesuch River, of Cumberland County, Maine, are these large shad of 5 to 7 pounds weight lately caught, which I believe to be Chesapeake Bay shad, hatched in 1880. I have examined a number of 6 and 6½ pounds in weight and one of 7 pounds. They were caught together, evidently from one school, with none of the usual sized Kennebec shad of less weight and appearance.

PORTLAND, ME., *May* 26, 1887.