na*m*e to a bag or hood on the nose of the males, which they can inflate at pleasure for protection, are much larger than the harps, but their oil is not of such good quality. But few square flippers are taken; they are large seals from 12 to 16 feet in length, and are believed to be identical with the great Greenland seals. The seals frequenting these seas are migratory. In May, attended by their young, they commence their northerly movements to the Greenland seas, where they spend two or three months, and in September begin their southerly migration, moving along the coast of Labrador, feeding in its fiords and bays. One division passes through the Straits of Belle Isle into the Gulf of St Lawrence, the other along the east coast of Newfoundland. By the close of the year they reach the Great Banks, their southern headquarters, and early in February commence their northerly movement to meet the ice on which their young are to be brought forth.

The Newfoundland fishery was of slight importance till the be­ginning of the 19th century. At first the seals were taken in nets ; the next method was shooting them from large boats, which left shore about the middle of April. Afterwards small schooners were employed, and a rapid expansion of the fishery followed. Over 100 of these small vessels used to leave the port of St John’s, and as many more the ports of Conception Bay. In 1795 the whole catch of seals was but 5000. In 1805 it reached 81,000 ; in 1815,126,000 ; in 1822, 306,983. The largest catches on record were in 1830, when 558,942 seals were taken ; in 1831, 686,836 ; 1843, 651,370 ; and in 1844, 685,530. The following table shows the number of seals taken in some recent years :—

|  |  |  |  |
| --- | --- | --- | --- |
| Years. | No. of Seals. | Years. | No. of Seals. |
| 1856 | 361,317 | 1881 | 447,903  200,500 |
| 1861 | 375,282 | 18S2 |
| 1869 | 359,821 | 1883 | 300,350 |
| 1876 | 500,000 | 1884 | 238,587 |
| 1880 | 223,793 |  |  |

Of late years an increasing number of steamers from St John’s have resorted to the Gulf of St Lawrence as well as small sailing vessels from the southern ports of Newfoundland. A few residents of the Magdalen Islands also pursue the seals on the Gulf ice, and the Canadians carry on a seal fishery along the shore by means of nets both in spring and autumn. The nets are made of strong hempen cord, some of them very large and costing with the anchors and gear as much as £1500 each. This fishery is carried on from Blanc Juberlis Bay to Cape Whittle. The number taken averages about 70,000 to 80,000.

Next in importance is the seal fishery carried on between Green­land, Spitzbergen, and the island of Jan Mayen,—between 68° and 74° N. lat. and 3° E. and 17° W. long. In most years, however, the seals are taken mainly in the vicinity of Jan Mayen. The fishery is carried on by the British, Norwegians, Swedes, Danes, and Germans. The number taken by the British vessels about equals that taken by all the others together. The species taken are the same as on the Newfoundland coast, the harp or saddleback and the hood or bladder-nose. The breeding season is about three weeks later than in the case of the Newfoundland seals, the young being brought forth between the 16th and the 22d of March. The method of capture is almost the same as that of the Newfoundland hunters. Steamers are now almost exclusively employed. The only British ports now engaged in the enterprise are Dundee and Peterhead. During the twelve years 1873 to 1885 the number of British vessels taking part in it was from 14 to 21, the number of men varying from 900 to 1200, and the number of seals taken ranging from 35,000 to 75,000. The total number of seals taken by these vessels during the ten years ending 1884 was 452,013. Formerly, from 1500 to 2700 men were employed, and the number of seals taken ranged from 50,000 to 125,000. The decline has been largely caused by the reckless and barbarous way in which the fishery has been con­ducted, the practice of seal-hunters of all nations having been to reach the seals soon after the young were born, and then to watch for the mothers as they came to suckle them and shoot them with­out mercy, leaving the young to die in thousands of starvation on the ice. The consequence is that the herds are not now a twentieth part of their former size. Newfoundland hunters, on the other hand, do not disturb the seals till they are grown and about to leave their mothers, the old seals not being killed till a later date. By an international treaty between England and Norway—the two nations most interested—a “ close season ” has been established in the Jan Mayen fishery. The Dundee and Peterhead steamers are chiefly manned by Shetlanders, who are taken on board at Lerwick. The vessels make the ice from the 15th to the 20th March and commence the chase in the destructive way already described. They follow up the capture of the young seals in April, when they are better worth taking. Then they proceed to separate the skins from the fat. The former are salted on board, and the fat is stowed in tanks. In May the pursuit of the old seals on the ice commences and continues till the 16th, when it is time to proceed to the whale fishery. The oil is not manufactured till the vessels reach home late in the autumn. As the blubber undergoes decay in the tanks, the oil is not so good in quality as that made in New­foundland from the fresh fat.

The Jan Mayen fishery commenced in 1840. In that year 13 British vessels and 650 men engaged in it, and 17,300 seals were taken. The Norwegians and other nationalities also took part in it. Steamers were introduced in 1858. The following table shows the growth and decline of the fishery :—

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | |
|  | Year. | No. of British Vessels. | No. of Men. | Seals  taken. | Year. | No. of British Vessels. | No. of Men. | Seals taken. |
|  | 1840 | 13 | 650 | 17,300  94,830 | 1875 | 20 | 1200 | 71,640 |
|  | 1845 | 39 | 1950 | 1880 | 14 | 810 | 41,468 |
|  | 1850 | 32 | 1600 | 74,058 | 1881 | 14 | 840 | 23,9S4 |
|  | 1856 | 54 | 2700 | 81,500 | 1882 | 15 | 900 | 21,092 |
|  | 1861 | 46 | 2300 | 10,350 | 1883 | 17 | 1020 | 49,806 |
|  | 1865 | 26 | 1300 | 112,000 | 1884 | 20 | 1200 | 42,120 |
|  | 1870 | 22 | 1320 | 128,000 |  |  |  |

The Norwegian vessels are all steamers, sheathed with wood and iron, the crews averaging forty-six men. They belong principally to Tönsberg, but Tromsö also sends out a number of small vessels to hunt adult seals. The total annual product has reached $300,000. Over twenty Norwegian and Swedish steamers are engaged in this fishery. Since about the year 1873 or 1874 the Norwegians and Swedes have discovered a new fishing-ground for adult seals off the coast of Greenland between Iceland and Cape Farewell. It is carried on in the months of June and July. The seals taken are all of the hood kind. At one time the Jan Mayen fishery averaged 200,000 seals annually among all the nationalities engaged. It does not now exceed 120,000 to 130,000.

The Danes, the Eskimo, and the half-breeds carry on a seal- fishery off the western coast of Greenland between Cape Farewell and 79° N. lat. The seals taken are chiefly the floe or spotted seal and the square flipper. Rink, in his *Greenland,* estimates the annual number taken at 89,000, but at present it does not exceed 50,000, as the seals are becoming scarcer. The oil is made at the Danish settlements on the coast, and the skins are dried, not salted, and both are shipped to Denmark.

The fisheries of Nova Zembla, once productive, have declined in value, and are now carried on by only five vessels, which reach the island about the end of June. The fishermen commence with hunt­ing the seal and the walrus and afterwards fish for the common trout. Five kinds of seals are found here, the chief being the *Phoca vitulina* and the *Phoca grœnlandica.* The number taken is small.

The Russians carry on a seal-fishery on the eastern and western coasts of the White Sea, in the bays of the Dwina and the Mezen and on the coast of Kanin. The species is the *Phoca grœnlandica.* These seals live in the high regions of the polar seas from May till September, and appear later in the gulfs and bays of the Arctic Ocean, where the young are born on the floating ice early in February. Soon after the hunt commences and lasts till the end of March. On the eastern coast of the White Sea the chase is pursued over a space of 230 miles. Two thousand hunters assemble at Kedy, near Cape Voronoff. High wooden towers are erected along the shore, whence observers watch the movements of the seals. Hunting sheds for the men are also erected. When a herd of seals is observed, the men go out on the ice, drawing small boats after them, and kill the young and old with clubs and guns. To approach the seals without being discovered, the hunters muffle themselves in long white shirts and advance slowly and noiselessly over the snow. They are often exposed to the greatest dangers, owing to the sudden movements of the ice. In following up the chase in April they use sailing boats 22 feet long, with an iron- plated bottom, which they draw up on the ice, where a vast en­campment is formed, and shooting-parties search for the seals. On the western shore of the White Sea the seal-hunt is less pro­ductive than on the eastern. The hunters meet at Devyatoe, a few miles north of the river Ponoi. About 500 men engage in the chase. The Russians take each year in the Arctic Ocean and the White Sea from 2,500,000 to 3,000,000 lb of seal blubber. Allow­ing an average of 40 lb per seal, this would imply the capture of 65,000 to 75,000 seals. The skins are made into leather.

The most extensive and valuable seal-fishery of the Russians is in the Caspian Sea, where the seals *(Phoca caspica)* are plentiful. They pass the summer in deep water, and in the autumn resort to the eastern basin, where the ice forms earliest and breaks up latest. Here the pairing takes place on the ice in December and January. The seals are also hunted at the mouths of the Volga and the Ural, and in the southern part of the sea, on the islands of the Gulf of Apsheron. There arc three methods of hunting the seals,—killing them with clubs (the commonest and most successful way), shooting them on the ice, and taking them in nets. From 130,000 to 140,000 are taken annually.

A few seals are taken off the coast of California and Washington Territory. In the South Pacific, off the coast of Chili, only a few are now taken where formerly they were captured by the thousand.

The elephant seal or sea elephant *(Macrorhinus leonina)* was formerly taken in great numbers at various places for the sake of