

ways: First, by the establishment of auxiliary field stations in those river basins which are to be stocked with shad. These stations should be properly equipped to give them a capacity of six or eight million eggs at one time. To these at the proper season a car can be dispatched carrying a full complement of eggs in one shipment, in this way quadrupling the present capacity of the cars in the work of distribution and reducing the cost of distribution per million *pro tanto*. Second, to increase the capacity of the producing stations so as to enable us to take care of all eggs at these stations until hatched. This would necessitate an increase in the number of cars for distribution; one or two at least in addition would be needed to provide for the anticipated increase in the volume of this work. Full details of distribution by stations, showing the streams stocked, the locality of the plant, and the number planted in each case are herewith given.

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35.—THE FINWHALE FISHERY ON THE LAPLAND COAST IN 1886.

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The finwhaling season of 1886 off the north coast of Norway and Russia proved a good one as far as the number and size of the whales were concerned, but, owing to the continued low prices of oil and baleen, the result is not entirely satisfactory.

Rudolphi's rorqual, which in 1885, for the first time on record, appeared in such large numbers to the eastward of the North Cape, in 1886 confined itself again to its usual habitat, only 8 individuals being taken by ships of the companies having their stations to the east of that headland; and it is quite likely that some, and possibly all of this small number, were actually killed to the west of Cape North. None were even seen by the Russian boats.

The blue whale reappeared last year in more like its former numbers; but there was an appreciable falling off in the catch of this species as regards the Norwegian coast, though apparently this was not the case in the eastward portion of the Russian waters. A comparison for 1884, 1885, and 1886 of the numbers of common rorquals killed will show a steady increase, the totals for each company in 1886 averaging more than double the number obtained in 1884. The totals of humpbacks killed during each of these three years were very nearly the same.

With regard to the time when the different species of finwhale appear on the North European coast it may be stated that probably the first whale killed last year was a humpback, yielding about 39 barrels of oil, which was taken on February 24. Humpbacks are said to arrive on the east Finmark coast every February, but the weather was so bad

this year as to hinder the fishing; but it is probable that their numbers are recruited towards the end of the fishing season. A few common rorquals were seen in March. Most of the catch of whales, however, during the season was made during the three summer months.

The apparent considerable excess of males over females among the humpbacks captured this season was quite noticeable. Out of 37, of which the sex is recorded, 28 were males. This is not to be accounted for by supposing that male animals are selected where there is a choice on account of greater size, for the contrary is the case. The average for the males recorded is under 35½ feet, while that of the females is just over 40½ feet.

Most of the blue whales obtained were of large size and in very good condition. The sex of a blue whale (and in a less marked degree it is, I believe, true of other species of *Balænoptera* and possibly of other whalebone whales) may be distinguished by the shape of the baleen plates, which in a male are long (up to 4 feet including gum) and narrow but thick, while in a female they are short and broad, but thinner.

The common rorqual is extremely variable in some of its peculiarities, which has led to the multiplication of species and great confusion, but it seems now as if these differences might be classified under three constant varieties. Nearly universally recognized among the finwhalers is the so-called "bastard whale," from its having been supposed to be the offspring of mixed parentage of a blue whale and a common rorqual. This variety appears to attain to larger dimensions than the typical form, and is described as gray rather than the usual white on the underside, and on one side the baleen plates are for a short distance at the anterior end entirely white, while the remaining portions are darker than the normal color. Capt. S. A. Nilsen, of the *Murmanetz*, says that he sees common rorquals pairing during May up to about June 1 every year, and that in the spring they have calves by their sides not more than 8 or 9 feet long.

The following prices offered for baleen about the middle of the season show the relative values per ton of each species, the plates to be not under 35 centimeters (13¾ inches) long: Blue whale, £65 (\$316); Rudolphi's rorqual, £40 to £45 (\$195 to \$219); common rorqual, £30 (\$146), and humpback, about £30 (\$146).

Some idea of the size of the harpoons used may be gathered from the weight of one. Including the wire grummet, cord, and spun-yarn lashings, but without the shell or whale-line, it weighed 56 kilograms (over 123 pounds). The cost of each is 80 crowns (\$21.44) as it leaves the blacksmith, and nearly 100 crowns (\$26.80) when ready for use.

During the season the catch obtained by the different companies (having about 22 establishments) amounted to 954 whales, of which there were, it is believed, 152 blue whales, 646 common rorquals, 62 Rudolphi's rorquals, and 94 humpbacks. These were taken by 39 whalers, and yielded very nearly 30,000 petroleum casks of oil.