
PART XVI.

THE BLACKFISH AND PORPOISE FISHERIES.

By A. HOWARD CLARK.

1.—THE BLACKFISH FISHERY.

History, present condition, and methods of the fishery.

2.—THE PORPOISE FISHERY.

The porpoise fishery of New England and North Carolina.

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1.—THE BLACKFISH FISHERY.

HISTORY AND METHODS OF THE FISHERY.

THE FISHERY IN NEW ENGLAND.—Enormous schools of blackfish (*Globocephalus melas*) occur everywhere in the Northwestern Atlantic, and indeed, if identical, as is supposed by many, with the European species, throughout the North Atlantic. They often strand on the sandy beaches of Cape Cod, and when a school of them approaches the shore they may be driven in upon the beach with the greatest ease. In the year 1874 it is estimated that three thousand blackfish were stranded on the sandy shores of Cape Cod, and smaller schools have frequently been driven ashore at that cape and other places in New England, so that the entire number secured during the past twenty years will reach several thousand. As there is very little expense connected with their capture, the proceeds obtained from their sale is almost clear gain to the captors. Another species of blackfish (*G. Scammonii*) abounds in the Pacific, but is not a special object of pursuit.

The excitement which is created in the fishing towns of Cape Cod when a school of blackfish appears off the shore is illustrated by a story told by a correspondent of the Worcester Spy: "There are many amusing stories told about the appearance of blackfish. On one occasion when services were being held in the village church here, the minister being engaged in his sermon, some one in the street cried out, 'Blackfish!' Many in the congregation heard it, and a rush made for the door, when the minister cried out, 'Stop!' Some turned about, expecting to be reproved, but the minister in his excitement only said, 'Now all take a fair start,' and joined the crowd himself; and when pursuing the fish shouted out, 'Hallelujah! hallelujah!' He got his share, which amounted to \$25. At another time one man who had failed to put in an appearance until the fish were driven in claimed his share, as he had not heard the alarm as soon as the others. A town meeting had to be called to settle the matter, and though it was a unanimous vote that his share was forfeited, yet he pleaded his case so eloquently that 'half a share' was voted him."

Capt. N. H. Atwood, of Provincetown, says that when he was a boy he used to hear his grandfather talk about blackfish running ashore. His father, born in 1784, knew nothing about them, but when he, born in 1817, came to be a man grown, they began to come back into the bay.

This was doubtless in 1829 when, we are told, a school, about forty in number, was taken at Provincetown, being the first for many years. Sometimes there have been three or four years when they have not appeared, then for twelve or thirteen years they are abundant.

"In August, 1875," says Mr. G. Brown Goode, "news was received at the headquarters of the U. S. Fish Commission at Wood's Holl that a school of blackfish had been driven ashore at Dennis. A party was dispatched by the first train, with instructions to bring home some of the largest, to be molded in plaster of paris for the fishery collection then in preparation for the International Exhibition in Philadelphia, in 1876. They reached Yarmouth Station, and took wagons across the cape to Dennis, where an assemblage of great carcasses was found on the shore, while their owners, to the number of forty or fifty men and boys, comprising all who had been in the boats which drove them ashore, were standing about on the beach or sheltered in the lee of a row of fish-houses, the day being damp and drizzly. The blackfish varied in length from 6 to 20 feet, many of them being cows with sucking calves. A gash in the breast of one of the cows allowed a stream of rich, white milk, 2 or 3 gallons at least, to gush out. One of the pregnant females, not exceeding 12 feet in length, was dissected, and specimens of young blackfish of various sizes obtained from it, the largest at least 6 feet long. These unborn calves were bluish instead of black in color on the back, and grayish-white beneath. In every instance they were marked by a spiral line of lighter color, which wound about the body five or six times, and which were supposed to have been caused by the pressure of the placental envelope. The old males were the largest, and could be distinguished by the prominent hump between and over the eyes. The school numbered one hundred and nineteen, and were sold that evening to Provincetown oil-makers at the rate of \$11 each. The Fish Commission party had previously bought three, for which they paid \$14 each, making in all \$1,318, or perhaps \$25 or \$30 to each captor. All business negotiations were conducted by a committee of seven men, selected from the oldest and most reliable of the company. In the settlement a boy draws half a share, a man or a boat a full share. The blackfish are usually sold at auction, and if there are several buyers they usually bid off the bodies by deputy and then have a second auction, at which only those bid who wish to try out the blubber. We could not handle the largest and were obliged to be content with some about 14 feet long, which we had transported on wood-wagons to Yarmouth, and conveyed to Wood's Holl by special train, getting in after midnight. Dissecting and modeling were vigorously pursued for the next week, and many trophies of this day's work decorate the walls of the U. S. National Museum."

The following account of the manner in which blackfish are driven ashore and killed is from the pen of a veteran fisherman of Provincetown:

"They make their appearance about the shores of Cape Cod and Barnstable Bay from early in the summer till early in the winter, and when it becomes known that a school of blackfish is in the bay the boats are manned and proceed at once to get in their rear, and as the fish are on the surface of the water the most of the time, it is easy to tell how to manage to keep them between the boats and the shore. And while in this position the men in the boats will make all the noise with their oars they can, and that will cause them to go in the opposite direction from the boats and toward the shore; and when the fish find that they are in shoal water, by seeing the sandy bottom, they become alarmed and go with all their might till they run fast aground on the sand. The boats then row in their midst, the men, with lance in hand, jump out their boats in the water and butcher them as a butcher would a hog, and it becomes one of the most exciting occasions that it is possible to imagine, for the water flies in every direction and the blood flows freely until death puts an end to the great tragedy.

"When the water ebbs and leaves them dry upon the beach, then their blubber is taken off, cut in slices and the oil fried out, about 30 gallons of oil, upon an average, being obtained from each fish, besides about 6 quarts of extra oil from the melon. The melons are taken from the top of the head, reaching from the spout-hole to the end of the nose and from the top of the head down to the upper jaw, and when taken off in one piece they represent a half water-melon, weighing about 25 pounds, and when the knife is put into the center of this melon the oil runs more freely than the water does from a very nice water-melon; hence the name melon oil."

As may be inferred from what has already been written, blackfish oil is of considerable value, and a school of these cetaceans is no small windfall to one of the cape villages. The oil is rated as common whale oil, and for a few years has sold at from 30 to 50 cents a gallon. Cape Cod has two oil factories, established chiefly for the purpose of trying out blackfish blubber.

The head oil or melon oil, as also oil from the jaws, is refined in small quantities for the use of watch and instrument makers, and is sold under the name of porpoise-jaw oil. A history of its manufacture is given below in the discussion of the Porpoise fishery.

CAPTURE BY WHALERS.—Blackfish are not usually an object of pursuit by whalers, but when the larger prey is scarce their time is sometimes occupied in taking these animals.

In addition to the shore fishery for blackfish, Provincetown for many years sent three or four vessels of its whaling fleet to the east of the Grand Banks of Newfoundland in search of blackfish. They were equipped like the sperm whalers and employed the same methods of oil manufacture. It was by one of these vessels, the *Edwin and Rienzi*, that the Hatteras sperm-whale cruising ground was discovered in 1837. Captain Henry Clay, of New Bedford, tells me that the blackfish captured at sea average larger than those that are beached. The average yield of oil is about 40 gallons, but he has seen individuals that yielded 150 gallons, and has heard of some that stowed down over five barrels each. Few whalers take the trouble to separate the head and body oil. The method of capture practiced by the Provincetown whalers was as follows: As soon as a school was sighted, two boats' crews were lowered, and chased the fish as they would a school of whales. The boat-steerer fastened on to one or perhaps two at a time. The second fish he fastened to with the second iron. Number two would flounce about without drawing the harpoon. The boat-header killed either one he could reach first. Instead of towing the dead fish to the vessel, air-tight kegs or "pokes" were made fast to them so that the ship-keeper could pick them up, and the boats cut the lines and followed the school. When the water is bloody the fish apparently make no exertion to escape, and oftentimes a dozen or fifteen would be killed at a lowering. In removing the blubber, cutting-gear similar to that used for cutting in whales, but lighter, was employed. If the fish were small a strap was put round the flukes and they were hoisted in to be cut up on deck; but the large ones were decapitated in the water. The head was hoisted in, and the blubber cut lengthwise of the fish, and a circle round the body near the "small"; a long shanked hook attached to the cutting tackle was inserted in the blubber, and as the men heaved at the windlass the carcass revolved in the water, and the blubber, in one piece with the fins attached, was peeled off with one revolution. The blubber was also removed from the "small." The head was dissected on deck; first the melon was removed, then the throat, next the under jaw, and lastly the "head-skin," which is the whaleman's term for the blubber on top of the head. The sides and back of the neck are mainly "white-horse."

The method of capture by the Pacific whalers is thus described by Scammon: "When a ship's boat is lowered for blackfish, the chase begins as for other whales, although many masters have their boats all ready and run just ahead of or into a 'school' with the ship before lowering, by which means the animals are so frightened or 'gallied,' that they 'bring to,' or move slowly in

all directions, giving the boats, which are instantly lowered, a good chance to 'get fast.' The harpoon frequently kills the fish; if not, a few darts with the hand-lance dispatch it. As soon as it is dead the prize almost invariably sinks, and if the ship is close at hand, it is towed to the vessel at once; but if a considerable distance away, it is either made fast to the 'loggerhead' at the stern of the boat, or a buoy is tied to it and left, to be afterwards recovered, the boats still continuing the chase. In this way quite a number are captured from one school.*

The following list of arrivals, though incomplete, will give an idea of the quantity of black-fish oil, in addition to their regular cargoes, brought home by some of the whaling vessels:

Name of vessel.	Home port.	Date of arrival.	Quantity of oil.
			<i>Barrels.</i>
Factor	Nantucket	Sept. 12, 1832	9
Joshua Brown	Provincetown	Nov. 22, 1845	6
Troy	Bristol, R. I.	Condemned	3
Peru	Nantucket	Dec. 27, 1850	30
March	Yarmouth	Aug. 4, 1850	30
Gov. Hopkins	Dartmouth	May 28, 1851	14
James Lopez	Nantucket	May 19, 1851	40
Leonidas	Westport	Sept. 20, 1851	30
Mary	Nantucket	Nov. 17, 1851	30
Napoleon	do	May 16, 1851	13
Rambler	do	July 28, 1851	8
Sea Shell	Provincetown	Aug. 15, 1851	20
Catawba	Nantucket	June 17, 1852	29
Harvest	do	Mar. 20, 1852	50
Peruvian	do	Aug. 10, 1852	70
Hamilton	do	May 20, 1853	25
Do	do	June 25, 1853	34
Do	do	July 29, 1853	4
Walter K.	Provincetown	June 27, 1853	15
Hamilton	Nantucket	July 20, 1854	136
John and Edward	New Bedford	July 24, 1854	10
William P. Dolliver	Nantucket	June 26, 1854	97
Nautilus	New Bedford	Apr. 24, 1855	6
Nonpanel	San Francisco	Oct. 14, 1855	150
Peru	Nantucket	May 31, 1855	200
Do	do	May 7, 1853	12
Cetacean	Provincetown	Aug. 29, 1855	2
Maitapolaett	Westport	Aug. 5, 1855	30
Stella	New Bedford	Lost	8
C. H. Cook	Provincetown	Aug. 10, 1857	15
Hecla	New Bedford	May 29, 1857	11
Abby Bradford	Nantucket	Aug. 31, 1858	8
Oak	do	Sept. 20, 1859	15
Eunice H. Adams	do	June 14, 1870	19
Irving	New Bedford	May 18, 1870	2
President, 2d.	do	Sept. 20, 1874	19

HISTORICAL NOTES AND STATISTICS OF THE BLACKFISH FISHERY OF CAPE COD.—The following items, gathered from various sources, show the importance of the blackfish fishery during the past one hundred and fifty years:

1741.

In May, 1741, we are told a Spanish privateer, under Don Francisco Lewis, captured and carried away a whaling sloop from Barnstable. The season was unfavorable for whaling on the capes, but late in the summer and the early fall of 1741 the inhabitants were cheered by the advent of great numbers of blackfish and porpoises. By the end of October they had killed one

* SCAMMON: Marine Mammalia, p. 87.

hundred and fifty porpoises and over one thousand blackfish, yielding them about 1,500 barrels of oil, for the most of which they found immediate sale. "This unexpected success so late in the year put new life into some who had spent all the former season of the year in toil and labor to little or no purpose."*

1744.

In 1744, it is narrated by the Boston News Letter, a Nantucket Indian struck a blackfish, was caught by a foul line, carried down, and drowned. This and the preceding are the first instances of the use of the name which I have met with.

1753.

In 1753 it was voted, "for the time to come, if any person shall take a boy under ten years old to drive blackfish or porpoises, he or they shall have nothing allowed for the boy; and that when any blackfish or porpoise shall be driven ashore and killed by any number of boats of the inhabitants of this town, if one man or more shall insist on having the fish divided to each boat, it shall be done."

1770.

In 1770, it is said by Pratt in his History of Wellfleet, all the oysters in Wellfleet Bay died. "What caused this destruction is not certainly known, but it is supposed that, as, at this time, a large number of blackfish died and came on shore, where their carcasses remained, producing a very filthy condition of the water, it caused this mortality."

Another historian of Wellfleet, in the last century, remarks: "It would be curious indeed to a countryman, who lives at a distance from the sea, to be acquainted with the method of killing blackfish. Their size is from 4 to 5 tons weight, when full grown. When they come within our harbors boats surround them. They are as easily driven to the shore as cattle or sheep are driven on the land. The tide leaves them and they are easily killed. They are a fish of the whale kind, and will average a barrel of oil each. I have seen nearly four hundred at one time lying dead on the shore. It is not, however, very often of late that these fish come into our harbor." †

1828.

The Barnstable Journal of November 7, 1828, records that "Last week a shoal consisting of fifteen of these fish were surrounded by boats and driven on shore at Truro. The day following seventeen more were taken in like manner at the same place. A number have been taken at Orleans."

"A quantity of oil from the grampus lately caught at Harpswell, Me., has been sold at Bath, at \$18 per barrel." ‡

1834.

"The blackfish driven ashore at Sandy Neck, Barnstable, by several fish boats were stripped of their blubber, which was taken on board of the vessels to which the boats belonged on Friday last and carried to Provincetown for the purpose of trying it out. We learn from one of the men engaged in the business that there were about one hundred and forty driven on shore, of which one hundred and eight only were saved, the undertow of the next tide taking the others off again unexpectedly. It was thought that the blubber saved was sufficient to make 150 barrels, which is worth from \$10 to \$15 per barrel." §

* Starbuck, Hist. American Whale Fishing, p. 33.

† LEVI WHITMAN in Coll. Mass. Hist. Soc., 1794, iii, first ser., pp. 119-121.

‡ Gloucester Telegraph, November 8, 1825.

§ Barnstable Patriot, August 26, 1834.

1837.

"A small party of fishermen from Squam captured a school of thirty-six blackfish measuring from 12 to 20 feet in length. They were seen near shore, and the fishermen surrounded them in their wherries and drove them ashore, where they killed them with knives, pitchforks, &c. The oil worth \$300 to \$400."*

1843.

"July 20 about one hundred blackfish entered this harbor. Captain Baxter, keeper of light, discovered them. They were driven into shoal water by the splashing of the oars. Death blows were inflicted with all sorts of implements from a bowie knife to a rake handle, including rusty bayonets, blades of scythes, &c. Seventy-five barrels of oil were obtained. Some of the fish were from 20 to 25 feet long and 15 feet in circumference. If one of the school is lanced so as to bring blood the whole school will follow the track of the wounded fish, hence the first wounded must be driven toward the shore in order to capture the school."†

1850-1852.

"About one hundred and fifty blackfish were captured on Truro beach on Friday week, and one hundred and eighty at Eastham on Monday."‡

"Saturday night a school of blackfish was driven ashore at North Eastham, and twenty-eight were captured."§

1853.

"The Nantucket Inquirer and Mirror of the 4th August gives an account of the capture of blackfish on the 30th ultimo. They took ninety-one in all—the entire school. They attacked these fish in water up to their waists. They are from 10 to 20 feet in length and average half a ton each. The yield will be 150 barrels."

1855.

"On Saturday evening, 31st March, some gentlemen at Little Beach captured a blackfish 18 feet in length. The blubber produced 2 barrels of oil."||

"Ninety blackfish, the product of which was valued at \$1,500, were driven ashore at Wellfleet on Cape Cod, in June, 1855, by a number of boats and vessels that happened to be in the neighborhood. It is unusual for this species to be driven ashore before August, and their appearance so early would indicate their great abundance. Another school was sighted in Provincetown harbor in the same month but the people would not attack them on Sunday."||

"BLACKFISH.—On Sunday week a large school of very large blackfish were driven ashore at East Brewster and various other points in Orleans and Eastham, where they were nearly all captured. Another school came ashore Monday and were discovered by some fishermen near Wellfleet. The whole number taken was about two hundred and thirty. They were very large, and their oil is valued at \$4,000 or \$5,000."**

"BLACKFISH.—As the Orleans packet was on her way to Boston Monday she encountered a school of blackfish in the bay and drove them on shore, where they were nearly all captured. They were about fifty in number, and were not probably worth less than \$1,000. * * * Fishermen say that they always come in large numbers when mackerel are plenty in the bay, as they subsist on the same food as mackerel. Once in the bay and they are pretty sure to be captured, as they keep close into the shore, in shoal water, and have not the sagacity to find their way out again."

* Gloucester Telegraph, October 14, 1837.

† Barnstable Patriot, July 26, 1843.

‡ Gloucester Telegraph, September 11, 1850.

§ Barnstable Patriot, August 24, 1852.

|| Lewis & Newhall's History of Lynn, p. 463.

¶ Yarmouth Register.

** Barnstable Patriot, July 10, 1855.

"They are very frequently found in the flats and marshes, where they have been left by the receding tide, and it is customary for the finder to mark them by cutting his initials on their flesh until it is convenient; others, to make the matter doubly sure, drive down stakes and fasten them thereby. The keeper of Billingsgate light-house in Eastham a few mornings since found the shore for a long distance strewed with these fish, that had been frightened ashore during the night by being pursued by some fishing vessels during the day. He proceeded to mark them, according to custom, jumped in his boat and went over to Provincetown, where he sold out his right for \$1,000, and his purchasers made a good bargain at that.

"On Friday last Capt. Joseph Hamblin, of Yarmouth, with two or three other gentlemen, drove between seventy or eighty blackfish into our harbor. After pursuing them for a considerable distance they finally drove them ashore, and succeeded in killing seventy-one of their number, and they are now engaged in trying out the oil. This school will yield some \$1,500 worth of oil.*

"On the 2d instant about sixty blackfish were captured in Truro on the bay side. They were worth \$1,000."†

1859.

"BLACKFISH—LARGE HAUL.—On Saturday last four boats belonging to Brewster, Eastham, and Orleans succeeded in driving ashore at Brewster a large school of blackfish, and, with the aid of people on shore, they were slaughtered by spears, lances, scythes, and whatever came to hand. Nearly seven hundred were captured, the proceeds from which must be something near \$7,000, divided among about twenty persons."‡

1865.

Capt. Jonathan Cook, of Provincetown, says: "In November, 1865, I bought seven hundred and sixty-eight blackfish at Wellfleet, at \$12 apiece, and paid \$9,216 for them."

"BLACKFISH.—A school of blackfish was discovered off Provincetown on Monday night week by some fishing boats, which were immediately put on the chase, and the whole school, numbering two hundred and thirty-four, were driven on the beach at Brewster the next day. The fish as they lay on the beach were worth some \$10,000. About two hundred men and boats were employed in capturing them, and the shares were quickly sold at some \$50 each, making a good day's work. The beach was visited by hundreds of people to behold such a quantity of fish. This is probably the greatest catch of blackfish ever made in these parts."§

1870.

"A young blackfish, 8 feet long and weighing about 200 pounds, was captured at Ipswich on Friday by some fishermen."||

"The enterprising town of Wellfleet is in luck this year. Its inhabitants have been blessed with a rich harvest in the mackerel fisheries the past season, and last week the packet schooner Nellie Baker, when a short distance from that port on her passage to Boston, fell in with a large school of blackfish, and with the assistance of about twenty boats and seventy-five men from Billingsgate Point, succeeded in capturing seven hundred and forty-one of them. Some of the fish measured over 25 feet in length, and that reliable individual, the 'oldest inhabitant,' averred that there has been nothing like it since he can remember. It is estimated that these fish will yield fully 700 barrels of oil, and they have been purchased by Wellfleet and Provincetown parties at \$12 apiece, as they lie on the beach, thus realizing the sum of nearly \$9,000."¶

* Barnstable Patriot, July 17, 1855.

† *Ibid.*, August 14, 1855.

‡ *Ibid.*, August 16, 1859.

§ *Ibid.*, November 7, 1865.

|| Gloucester Telegraph, December 7, 1870.

¶ *Ibid.*, December 3, 1870.

"THE BLACKFISH AT WELLFLEET.—Mr. Cook, of Provincetown, who purchased the blackfish captured by Wellfleet fishermen a few days since, is in this city to-day and states that probably 1,000 barrels of oil will be obtained from the lot. It was the largest school of blackfish that was ever driven on the cape, and another remarkable circumstance is that there was only about a dozen calves among the lot of over seven hundred."*

1873.

"Ninety-three blackfish, yielding 100 barrels of oil, were taken in December at Scituate, near Sandwich, Mass."†

1874.

"In the clearing up of a snow-storm at Friendship, Me., one morning last week, the people living round the harbor were astonished to see it literally filled with blackfish. In a very short time every boat and dory was manned by hardy fishermen, who rowed to the mouth of the harbor, forming a line from shore to shore, and then commenced driving the fish slowly up the harbor, and through a narrow passage into Shipyard Cove. Then the work of killing them commenced. There were one hundred and eighty-one fish slaughtered, the largest 19 feet long, and probably weighing 2 tons; the smallest at least 10 feet; probable average length, 15 feet. It is estimated that they will make 150 barrels of oil, the blubber filling the decks of three large schooners. The oldest fishermen there never saw a blackfish that side of George's Island before."

"LARGE SCHOOL OF BLACKFISH.—Last Wednesday a school of twenty-eight blackfish went ashore near North Truro station. On Friday morning about 7 o'clock more were sighted from the shore. A great number of boats started in hot pursuit, and overtaking them it was discovered the school was a very large one. The driving toward shore immediately began amid great excitement on part of fish, and men too. It was with a good deal of difficulty that the fish were grounded, many having to be slaughtered in water 5 or 6 feet deep. Five hundred and forty-six were, however, landed; but before this was accomplished another school was sighted heading for shore; seventy-two were found to be in this lot, which were secured, making in all six hundred and eighteen fish landed that morning, and six hundred and forty-six during the week, lining the shore of North Truro for nearly a mile. There are, including boats, nearly three hundred shares to divide spoils among—clerks, printers, clergymen, veteran whalers, shipmasters, and photographers all participating in the fracas, and all coming in for a portion of the proceeds. The following gentlemen bought fish at the auction sale Saturday morning, Capt. Gideon Bowley, auctioneer: Eben Cook (for firms of E. & E. K. Cook & Co., and H. & S. Cook & Co.); Charles A. Cook; B. A. Lewis & Co.; Mr. Long, of Harwich; John Thompson, of Truro; George Holmes; Harvey S. Cook, and others. Several parties besides those named being associated with those bidding the fish in. They averaged \$9.25 each, distributing \$5,777.25 among the people of this town and Truro, many of whom it will materially assist in providing for their winter wants, aid well timed by an overruling Providence."‡

"In 1874 twenty-three hundred blackfish was driven ashore at Truro, stocking from \$20,000 to \$25,000. Two hundred and eight came on shore November 12, and were sold for \$1,300 as they lay."§ "Six hundred and eighteen blackfish were captured at North Truro September 8, 1874, and sold for \$5,805.25. The purchasers expect to make \$20,000 from the oil."||

1875.

In 1875 one hundred and nineteen were driven ashore in North Dennis, and sold for \$1,300.

* New Bedford Standard, December 6, 1870.

† Provincetown Advocate, December 24, 1873.

‡ Ibid., September 9, 1874.

§ New Bedford Mercury, November, 1874.

|| Cape Ann Advertiser, September, 11, 1874.

1876.

In 1876 one hundred and eighty blackfish were driven by Provincetown people, and grounded at Orleans. They sold at auction for \$2,200.

"October 27, 1876, one hundred and thirty were driven ashore at Yarmouth. The monsters were driven ashore by boat-hooks, axes, forks, &c. One hundred fish were captured, or nearly all the school. They were sold to out-of-town parties for \$8 to \$10 each."

1878.

In the first week in January, 1878, one school of one hundred and eleven, another of one hundred and fifty, blackfish were driven ashore at Cape Cod. The first were sold at an average price of \$6.25 each.

1879.

About the 1st of November, 1879, a school of blackfish visited Ipswich Bay, Massachusetts. The fishermen on the north side of Cape Ann, as soon as they found it out, set to work to capture some of them, and a number were driven upon Coffin's Beach and killed. On the 5th of November they heard that another school had entered the bay; nine dories, containing twenty men, immediately set out from the shore, and about eighty blackfish were driven upon the beach; the next day fourteen were driven ashore, and five more were captured at Plum Cove, making in all ninety-nine fish secured in three days, and by twenty men. The fish varied in length from 8 to 20 feet. The blubber was sold to Dodd & Co., of Gloucester, at 2 cents per pound, and the heads at \$1.25 and \$1.50 each, yielding \$1,000 to the fishermen.

A few blackfish had been taken here before this time. Capt. George Davis, one of the oldest residents in this vicinity, remembers a school of fourteen being driven ashore and captured in October, 1844 or 1845. He also says that a small number were taken here about ten years ago.

The following table shows some of the catches of blackfish on the New England coast during the past one hundred and forty years:

Year.	Month.	Locality.	Number taken.	Barrels of oil.	Value of oil.
1741	May to October	Cape Cod	1,000	1,300	
1828	November	Truro and Orleans	82	30	600
1834	August	Barnstable	140	150	2,500
1837	October	Cape Ann	36	40	250
1843	July	Barnstable	100	75	1,200
1844	October	Cape Ann	22	25	500
1850	September	Truro and Eastham	230	250	6,000
1852	August	North Eastham	28	30	600
1854		Nantucket	91	150	3,000
1855	March	Lynn	1	2	40
1855	July	Barnstable	71	75	1,500
1855	July	Wellfleet	230	250	6,000
1856	July	Eastham	50	45	1,000
1856	August	Truro	50	50	1,000
1859	August	Brewster	700	750	6,000
1865	November	Wellfleet	768	1,000	9,216
1870		do	725	1,000	10,000
1873	December	Sandwich	93	100	1,000
1873		Orleans	150	125	1,200
1874	September	Truro	245	630	5,777
1874	November	do	208	200	1,200
1874	December	Friendship, Me	181	150	1,200
1876	August	North Dennis	119	125	1,300
1876	October	Orleans	120	160	2,200
1876	October	Yarmouth	120	125	1,040
1879	November	Cape Ann	99	60	1,000

THE BLACKFISH FISHERY AT THE FAROE ISLES.*—At the Faroe Islands the blackfish (*Globiocephalus melas*) fishery is carried on in practically the same manner as at Cape Cod, on the Massachusetts coast. The schools of blackfish are driven ashore and killed, or are lanced and towed ashore. They are in some cases kept in the bays or fiords by a large net, a smaller one sometimes being used to gather the animals nearer together so as to drive them ashore. When impossible to drive them the crew of each boat kill as many as possible with lances or harpoons.

When a herd is discovered, a signal is given, and boats from the different islands meet at the place appointed by the signal fires or by the white-blanket signals displayed on the hills. The boats immediately form in half circle about the school, and by throwing stones in the water drive the animals to the fiord. A noise with tin pans is sometimes made to increase their confusion.

Leaders are elected, who give orders to the several boats, and every person is obliged to obey instructions given. Besides stones for throwing in the water, each boat has whale lances and hooks—the largest boats four lances and three hooks. The lances are 12 inches long and 4 inches broad, on a wooden shaft 6 feet long. The harpoon is seldom used, and only at the last extremity, when it is found impossible to drive the animals.

The net used for driving is 200 fathoms long, 8 fathoms deep, with meshes 6 inches square made of 9-yarn rope; lead sinkers on the bottom rope, and fifty oak barrels for floats.

The name "grind" is given to a herd of blackfish, a single whale being called a "grindshval" or "grindfish," the young ones being known as "Leiptur." In olden times these fish, sometimes known as "Huidingur," were a great source of food to the people of Iceland.

White-painted stones are useful to drive the whales. Tin plates beaten against stones are often used to scare the animals. A grind is sometimes held "at bay" in a fiord all night, or until the weather moderates so that they can be driven to the slaughtering ground. When thus "at bay" the herd is called "grinder," and lies quietly stowed together in a limited space as docile as a flock of sheep. The use of a harpoon is prohibited until it is evident that the animals cannot be driven, then each man "goes it alone." The net is trawled behind and about the herd so as to drive them into the fiord and keep them there. Sometimes they rush under or over the net. To avoid their loss in this manner a second net was devised, used within the first, and has been very successfully used for many years.

The smaller net, of 100 fathoms length, and "much easier to handle than the large one, is used to bar the grind upon a smaller portion of the harbor, by which means much time is saved when the grind breaks through the smaller net, as it has not a fourth part of the harbor to move in." Not a single fish has escaped since this plan was devised. From 1843 to 1878 six thousand and thirty whales were caught in this way, worth £20,100; while from 1584 to 1843, two hundred and sixty years, only two thousand one hundred and sixty-nine were caught.

"When the grind has arrived at the mouth of the whale voe the boats are arranged for the attack, generally in three rows, with a proper distance between each row, in order that if the grind should break through the first row the second may take its place and turn it, and so on."

The attack is called "holding a grind to." One of the boats in the first row approaches close to the herd as it swims about in 5 fathoms of water, and wounds one animal with a lance; the wounded animal rushes among the herd and frightens them, when they rush about, generally toward the beach, and many are stranded. The first row of boats rush among the herd and with lances and knives kill as many as possible. The second and third rows of boats keep outside, in clear water, until it is evident the animals are bewildered and seek the bloody water; they then join the other boats, and in a short time dispatch the entire herd.

* Compiled from prize essay by H. C. Müller, published in the Prize Essays of the Edinburgh Fisheries Exhibition.

The first animal is struck in the hind part of the body as the herd is headed toward the shore; if it be struck forward of the back fin it will roll on its side and swim obliquely, and the rest following will break through the rows of boats and perhaps escape.

“From the boats and from the shore the men rush into the shallow water and with a cut in the neck with knives kill the animals, and making fast with their hook and line drag the animals on the beach. On one occasion, in 1873, six hundred and fifty-seven whales were killed in four hours.”

“When landed, sworn appraisers mark each whale with number and value; the valuing is done after the old computation of gylden and heind. A whale of medium fatness measures 10 feet from eye to anus, and, according to the regulations, is worth one gylden (20 heind). Few are larger than that.”

Each whale yields on an average 1 Danish barrel of oil (30 English gallons), worth about 45s. The meat is worth half as much, so that a whale of medium size is worth £3 7s. 6d.

The division is next made as soon as possible, so that each may get his share of meat, which is wholesome and nutritious, and generally pickled.

One-tenth share goes to the Crown, the church, and the minister. The largest and best animal is next selected by the crew of the boat that first reached the herd, and the head of this whale goes to the man who discovered them. A compensation is then made to the village where the killing is done, for entertainment of valuers, and then an allowance for damage to boats and implements and personal injuries; another allowance for keeping watch and valuing; also for the poor box and school fund. The remainder is then divided into four parts. The owner of the land where the whales are killed gets a share, and the rest goes to the “Ragstesmand,” which includes the men who do the killing and also the villagers at the killing place.

About a tenth of the whales killed usually sink, and are within ten days fished up and sold at public auction, a salvage of one-tenth being deducted and expended in repairs of bridges and landing places, on the islands. After ten days the whales found are the property of the finder, with the tenth deduction. Each village and person entitled to a share receives a ticket with the number of the whale belonging to them, and they proceed at once to secure it. In the mean time dancing has been going on, and as each boat puts off with its whale or blubber and meat a song of praise is sung. Whales belonging to the public funds are sold at auction.

Number of blackfish taken at the Faroe Islands, 1813 to 1877, arranged by months.

[Add one-tenth for sunk whales.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1813 to 1850	223	205	348	873	798	7,132	16,431	16,499	6,605	1,607	897	721	52,480
1860								217	26		397		640
1861						10	111	73	147				341
1862			139				482	508					1,129
1863							315	180			205		709
1864	36								343	192			574
1865		182		146		92	95	468		270			1,254
1866					312	87	600	89	433	800			1,752
1867						2		40	171		177		390
1868										419	1		420
1869							203	409			98		711
1870	348								460			136	844
1871							239		618				769
1872						105		553	82	516	1,051		2,307
1873						142	25	1,389			101		1,667
1874							163	299		124			576
1875								506	237	26			769
1876					182					410	139		761
1877							252		125				377

2.—THE PORPOISE FISHERY.

THE PORPOISE FISHERY OF NEW ENGLAND AND NORTH CAROLINA.

The porpoise, though abundant along the Atlantic coast of the United States, is not captured except at a few places, and in limited numbers. In the Bay of Fundy the Indians shoot harbor porpoises to some extent for their oil. A very graphic description of porpoise shooting by the Passamaquoddy Indians appeared in Scribner's Monthly Magazine for October, 1880.

Along the North Carolina coast porpoises were formerly taken in considerable numbers, but the business was abandoned. There is a porpoise fishery of small importance on the Gulf coast of Florida.*

There appears to have been some interest taken in the porpoise fishery in the last century, for in 1740, according to the Annals of Salem, Mass., "Thomas Lee is on a committee to consider the proposal of William Paine, of Eastham, and his associates, to catch porpoise with a net. The report on this subject was accepted, and an order passed for granting the petition till the last of May, 1742, which was sent up and allowed. The conditions were, that 2s. should be paid by the province treasurer for each middle part of a porpoise's tail delivered, on oath, to the town clerk where the shipper or owner belonged, that it was caught in the vessel of the latter, and then the clerk gave a certificate that he had consumed the said part. One original certificate of 1740 declares that sixteen such parts had been consumed, and another that one hundred and ninety-one had been alike destroyed. As the fabled Venus is represented to have saved her life by assuming the shape of a fish, so many a porpoise experienced like preservation by the shortness of the above monopoly. The mode of securing this is among the curiosities whose practical existence has passed away. We love to have an occasional interview with them through the vision of memory and then dismiss them with a hearty good-bye."†

At various times numbers of porpoises have been taken at Cape Cod and other places, as in the summer of 1741 when one hundred and fifty porpoises as also a large number of blackfish were captured at Barnstable, Mass.

We are informed by Mr. Earll that the stretch of coast from Cape Hatteras to Bear Inlet, North Carolina, is a favorite run for the porpoise, and often immense herds of them may be seen moving along within a few rods of the shore. As early as 1810 parties engaged in this fishery, and from one to three crews followed it quite regularly up to 1860, when the fishery was discontinued and has not since been resumed.†

The method of capture consisted in having four seines of 200 yards each loaded in separate boats, and as the lookout gave the signal the boats took their positions, the two outer seines were lashed together, and at the next signal the seines were shot in the form of a semicircle to the shore, the inner ends of the shore seines reaching toward the land, while the outer ends met or overlapped the inner ends of the middle seines and were securely fastened. The distance between the boats was always about the length of the seine, and the boats always shot the outer ends of their respective seines first. While the ends of this united seine were being brought to land one or two boatmen would remain near by to pound on his boat or "jab" the bottom with an oar to keep the porpoise from escaping; but when the ends reached the shore and the porpoise securely penned, the net was

* Since the above was written porpoise fisheries have been resumed at New Jersey and North Carolina, and there is a prospect of the business increasing, as the skins have been found useful for leather, and the flesh may have a commercial value for food. See account by Frederick W. True in Bulletin U. S. Fish Commission, 1894.

† Felt: *Annals of Salem*, vol. ii, p. 226.

dropped and a smaller net, made of heavy rope, was used to drag them upon the shore. The outer nets were usually made with 11-inch mesh, while the inner was but 9 inches. Though the porpoise seldom tried to break through the net they often jumped over the cork line, and it is said that if one jumped it was difficult to keep the rest from following, and that they would often jump 4 to 6 feet out of the water.

An average catch in former years was from four to five hundred porpoise to the season, requiring from five to six for a barrel of oil. The crews usually numbered from fifteen to eighteen men, and the season lasted from the latter part of December to the 1st of April, some fishing as late as the 15th of April. There seems to be a growing disposition on the part of the fishermen to resume this fishery, but it requires an outlay of about \$400 for nets and boats, and few have the money to invest in this way. During April, 1880, the porpoise were very abundant, and it was a common occurrence to see droves of fifty to a hundred together, while the fishermen say that they were even more abundant earlier in the season.

WATCH OIL FROM PORPOISE AND BLACKFISH.—“About the year 1816,” says Caleb Cook, of Provincetown, “sailors and fishermen having caught a porpoise on their voyage, would sometimes extract the oil from the jaw-bone and give it to carpenters and those who used oil stones for sharpening their tools. Finding in this way that it did not gum or glue, suggested the idea that it was just what was wanted for a nice lubricator. It was noticed that the weather at zero would not congeal it, neither would it corrode on brass.

“Watchmakers were then using olive oil as the only fitting oil for watches; but by experimenting with the porpoise-jaw oil they found it superior to the olive or any other oil, consequently the sailors and fishermen found a ready market for all they were able to obtain.

“This state of things continued until the year 1829, when a shoal of blackfish, about forty in number, was taken at Provincetown, Mass., being the first for many years. Solomon Cook of that town took from the jaws of these blackfish a few gallons of oil and sent it to Ezra Kelley, of New Bedford, Mass., a skillful watchmaker, to be tested for watch oil. Mr. Kelley soon found that this oil was superior to the porpoise oil, as it had more substance and less chill. He contracted with Mr. Cook to supply him from year to year until 1840, when the latter died, and his son supplied Mr. Kelley until the demand was so great that the jaws of the blackfish were not sufficient to supply the market.

“Porpoise-jaw oil can be refined a little by exposure to the cold at zero, and in that state, with the atmosphere at zero, it is strained through a cotton-flannel strainer made in the shape of a cone, but when filtered through paper it is so limpid that it has no lubricating properties whatever, and becomes useless. This oil is called porpoise-jaw oil, but is taken from the blackfish, belonging in the family of whales, by a method known only to myself. It is warranted not to congeal at zero, though it will thicken and turn a little milky in appearance. It is warranted not to corrode on brass or rust on steel, and it will not glue on the finest watch. Ezra Kelley, of New Bedford, has made it a business for years to put it up for watch use, and has led in the market, while B. H. Tisdale, of Newport, R. I., and I. M. Batchelder, of Boston, are getting quite popular in the European market.

“Caleb Cook, youngest son of Solomon, from scientific experiments, did discover, about the year 1832, that the melon oil of the blackfish was far superior to the jaw oil in every respect, so much so, that Mr. Kelley, who had about this time become very popular in preparing this oil for the trade, would not buy it until he was told what it was produced from, and from that time to the present (1876) Caleb Cook's blackfish-melon (watch) oil has been refined by Kelley, of New Bedford, Batchelder, of Boston, Tisdale, of Newport, and many others on a smaller scale, for the world's use. Since

the year 1842 Caleb Cook, of Provincetown, Mass., claims to be the only person who understands the art of producing this oil free from all glutinous matter and fit for use. This, he says, is done by a process known only to himself—not by mixing other oils or liquids with it, but by extracting all the oil and gluten from it, and leaving the oil pure for the finest and most delicate machinery. This, he says, cannot be done by the chilling and straining process; for when it becomes perfectly transparent at zero, the lubricating properties are all gone, the oil runs off the pivots, spreads on the plates, dries up, the pivots cut, turn red, and the oil is worse than worthless, for the valuable timekeeper is no longer what it was once for the want of oil with more substance and lubricating properties.

“Porpoise-jaw oil and blackfish-melon oil are worth from \$5 to \$15 per gallon, according to supply. These oils are sold under the above trade names, and also under the names ‘watch oil’ and ‘clock oil.’ They are used largely by manufacturers of fire-arms, watches, and philosophical apparatus. Smith & Wesson, of Springfield, Mass., the Ethan Allen factory at Worcester, Bye & Johnson, of Worcester, the Howard Watch Company, the Elgin Watch Company, the Waltham Watch Company, and the clock factories in Connecticut, use them constantly. The philosophical instrument makers use them for air pumps, as they keep the leather soft and pliable. Telegraph instrument makers use them when they can get them. They are used in Government light-houses for the clocks of revolving lights. The color of the oils is very light, and can be made very white by placing in the window, where they will bleach in a short time. One drop of water in one pint of oil will injure it very much.”