THE WINTER HADDOCK FISHERY OF NEW ENGLAND.

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The winter fishery for the capture of the haddock, *Melanogrammus æglefinus*, is carried on chiefly from the ports of Gloucester and Portland, though participated in to some extent by vessels from Portsmouth, Swampscott, and Boston. Although haddock are caught in large quantities, from spring to fall, by numerous vessels and boats employed in the inshore fisheries between Portland and Philadelphia, the winter haddock fishery is peculiar in its methods. It is of comparatively recent origin, dating back about thirty years. We are told that in 1850 immense quantities of haddock were caught on the trawls in Massachusetts Bay, and that a petition was prepared by the Swampscott fishermen asking for a law which should prohibit trawl-fishing, on the ground that this method would soon exterminate the haddock. It is impossible to trace with any degree of certainty the steps in the history of this fishery, since it is pursued for a few months in the year only, by vessels otherwise occupied a large portion of the time. Since the fish have always been disposed of in a fresh condition, they have been less carefully recorded.

FISHING GROUNDS.

The winter haddock fishery is prosecuted, from October to April, on all of the inshore ledges and the nearest of the off-shore banks south of Sable Island bank and north of Sandy Hook. The principal haddock fisheries are, however, located north of Cape Cod. The depth at which the fish are taken varies with the locality, but is within the limits of 25 and 90 fathoms; usually in water deeper than 30 fathoms.

In the fall, when fishing first begins, the vessels set their trawls along the coast from Nantucket Shoals to Grand Menan, in 30 to 90 fathoms of water. On the outside of Cape Cod the fishing is within 5 to 15 miles of the shore; in Massachusetts Bay, principally on the outer slope of Middle Bank and the southern slope of the shoal ground that lies to the eastward of Cape Ann, usually called "the Southeast," the eastern part of the shoal water on Jeffries Ledge, and along the coast of Maine within 30 miles of the shore, especially about Monhegan Fall, South-southwest and Western Ground. Fishing in this region continues until midwinter, and is kept up by a smaller class of vessels, such as those hailing from Portland, throughout the whole season. In the latter part of January and in February the larger vessels, comprising the major portion of the Gloucester fleet, strike farther out to sea, fishing upon George's Bank, usually in 25 to 40 fathoms, near the localities frequented by the winter cod-fishermen, and also on the western part of the bank. They also fish on Brown's Bank, in water about the same depth, and on

Le Have and about Cape Sable. The fishing on Le Have Bank for haddock was first attempted in the winter of 1880–'81.* This fishery has been attended with the greatest success. Fishing continues on these outer banks until the end of the season, when it is time for the vessels to engage in other fisheries.

THE FISHERMEN.

The fishermen who take part in this fishery are usually picked men from the Gloucester fleet. A large portion of them are engaged in the mackerel fishery in the summer.

This fishery requires as much skill, pluck, and endurance as the halibut fishery, and men are selected in both of these fisheries on account of similar qualifications. Not unfrequently the same crew will remain with the vessel in the summer when she is in the mackerel fishery, and in winter when she is in the haddock fishery. There is so much competition among those who desire to ship with a good skipper that very often his entire crew list is made out five or six months in advance.

THE VESSELS.

The vessels composing the winter haddock fleet are chiefly the staunchest and swiftest of those which in summer engage in the mackerel and cod fisheries. The Portland fleet is made up of a smaller class of vessels, averaging from 35 to 40 tons; these in summer are engaged in the mackerel or shore fisheries. The few Swampscott and Boston vessels which take part in the winter haddock fishery are marketmen and mackerelmen in the summer.

The rigging of the haddock catchers is precisely similar to that of the halibut catchers, with the exception that very few of them carry gaff-topsails and riding-sails.† Their outfit of nautical instruments and charts is, as might be expected, less complete.

Since the haddock vessels are rarely, if ever, anchored on the fishing grounds, their arrangement of cables and anchors is very different from that in use in the halibut and George's fleets. They usually have a chain cable on their starboard side, and upon the port side a cable similar to that used by the George's and halibut vessels, from 150 to 225 fathoms in length, which is stowed in the fore hold. One end of this cable is bent to the anchor and the other passes down through a hole in the fore hatch and is coiled below in the forehold. The anchors are like those used on "Georgesmen."

The deck is arranged in a manner different from any that has yet been described. There is usually a single gurry-pen forward of the

*Capt. S. J. Martin, of Gloucester, writes, under date of May 10, 1881, as follows: "The first vessel that went to Le Have Bank for haddock was the schooner Martha C., of this port. She made her first trip there last winter."

†Since 1879 many of the largest vessels of the Gloucester fleet have been employed in haddock fishing; these generally carry riding-sails, and many have gaff-topsails.

house, and the space between the sides of the gurry-pen and the house, and the rail on either side, is so arranged that it can be divided into pens for the reception of the fish. Three or four pens may be placed on each side.

The remainder of the deck is clear, but there is a booby-hatch over the main hatch, through which access is gained to the bait-room.

The haddock catchers do not ordinarily carry davits or a reefing-plank. The mainsail is provided with an "out-hauler" or patent reef-gear, which answers the purpose of a reef-tackle and earing, and facilitates the process of reefing from the deck. A few of the larger vessels, however, are provided with davits and reefing-planks.

The arrangement of the hold is also peculiar. The space which in a halibut catcher is occupied by the forward ice-house is here taken up by the bait room. The bait-room is sometimes, but not always, bulkheaded off from the fore hold. It is one large compartment, with rough board benches all around, on which the men sit while baiting their trawls. In the center stands a stove. In this room the fishing-gear is always stowed when not in use. The after hold is generally fitted up with pens resembling those in the after hold of a halibut schooner. In these pens ice is carried when the vessel is making long trips. When large fares are obtained, part of the fish are stowed in the bait-room, which, on the larger vessels, is so arranged that partitions can be built in it by sliding boards into grooves. The haddock schooners carry a larger amount of ballast than those of any other class; a vessel of 50 tons requiring 30 or 35 tons of ballast.

THE APPARATUS AND METHODS OF THE FISHERY.

Dories.—The larger haddock catchers carry six dories, the smaller four or five.* Most of the dories used in this fishery are deeper and wider than those in any other fishery, and are built specially for the purpose. The ordinary dory is also frequently in use. These dories are 14 feet in length. When on deck they are nested in the ordinary manner, two or three on a side, and are stowed nearly amidships on each side of the booby-hatch, not nested close to the rail, as is the practice upon other vessels carrying dories. A haddock dory ready to leave the vessel in order to set its trawl is provided with the following articles in addition to the trawl-lines: Trawl-roller, two pairs woollen nippers, dory-knife, gob-stick, gaff, bailing-scoop, thole-pins, two pairs of 9-foot ash oars, buoys, buoy-lines, anchors, and black-balls.

Trawls.—The haddock trawls have the ground-line of tarred cotton, of 14 to 18 pounds weight to the dozen lines of 25 fathoms each in length. Hemp is occasionally used, especially by the Maine vessels and by some of the Irish vessels from Boston. The gangings are of white

*The haddock-catchers of Maine and some of the ports in Massachusetts, fishing with "single dories," carry one for each man besides the skipper and cook. These boats are 13 feet long, and managed by a single fisherman.

or tarred cotton, in weight about 4 to 6 pounds to the 300 fathoms of line. They are about 2 feet in length, and are fastened to the ground-line at intervals of 3½ feet. The manner of fastening the gangings to the ground-line is different from that upon the halibut trawls.* The hooks are numbers 15 or 16, center draught, and eyed.† The hooks are fastened to the gangings in the same manner as on the cod trawls. The haddock trawls are coiled in tubs, similar to those employed in the Georges fishery. A flour barrel, sawed off above the lower quarter hoops, is used for a tub. Each tub of haddock trawl contains 500 hooks, or about 292 fathoms of ground-line. Each dory is provided with six or eight tubs of trawl, and two to eight of these tubs of line are set at once, as the case may require. Sometimes only two or three tubs are set at a time, and several sets are frequently made in a day when the weather is suitable.

One of the anchors is similar to those used upon the cod trawls, while the second anchor is often of the killick pattern. The buoy-line is the same as in the cod or halibut trawl, and its length is 15 to 30 fathoms more than the depth of water in which it is used. The buoys are similar to those used in cod-trawling. Each buoy at the end of the trawl has a black-ball upon it, and a middle buoy, without a staff or black-ball, is also used‡ when the whole length of the trawl is set.§ Instead of the regulation keg buoy, a "kit" is sometimes used by the haddock trawlers.

Bait.—When it can be obtained, the principal bait used by the haddock-catchers is menhaden slivers, salted. This is considered the best bait, and it is said that haddock will often bite at this when nothing else will tempt them. The trawl-hooks, when this bait is used, may be baited days, or even weeks, in advance, while the vessel is waiting for a chance to set. When fresh bait is used, the trawls can be baited only a short time before, indeed, only a few hours before they are to be set.

Fresh herring is also used for bait, though to a comparatively limited extent, until within the past two or three years, when they have been the principal bait relied upon, as a sufficient quantity of menhaden could not be procured.

Capt. S. J. Martin, of Gloucester, writes: "Five or six years ago pogie slivers were exclusively used for bait by haddock fishermen, but for the past two winters none of these could be obtained, and mackerel and herring have been the principal bait. The first vessels that started

* They are fastened either by tucking and hitching or by a simple hitch around the ground-line.

† The Irish fishermen of Boston sometimes use a galvanized hook of the same size without an eye.

‡ This is to aid the fishermen in recovering their trawls in case they are parted at either end.

§ When the trawls are set in shallow water where there is a rocky bottom three or four middle buoys are sometimes used.

in October (1880) took fresh mackerel for bait. When the herring came on the coast, or were brought to Gloucester frozen, they were the bait depended on by the haddock catchers."

In cutting up menhaden slivers for haddock bait, sections are made trapezoidal or square in form, with a surface area of about a square inch. One of these pieces is placed on each hook, and as the hooks are baited the line is coiled in the tub, the hooks being placed around on the side, points up.* When the fisherman is ready to bait his trawl he sits upon his bench with the empty tub between his legs and the trawl-line removed from the tub and turned right side up in front of him, his bait being in a bucket at his side. In his left hand he takes eight or ten pieces of bait, and with both hands he pulls the line towards him, coiling it in the tub after baiting the hooks; he places them in the tub in the manner just described.

As is always the case where a number of men are working together at the same employment, there is sharp competition among the men as to who shall be the first to get his trawl baited. The average time consumed in baiting 500 hooks is from 45 to 60 minutes, though the most skillful men have been known to accomplish the task in half an hour. It will be seen that the labor of baiting three or four tubs, which falls daily to each man when the fishing is good, occupies a considerable portion of the day, or, rather, of the night, since the baiting is usually done at night. In baiting at night each man has a lamp of peculiar pattern which is fastened to the edge of his tub by a hook; sometimes the trawls are snarled, and the whole night is devoted to clearing and baiting them. A man will go into the hold to bait after the fish are dressed in the evening and perhaps not finish his task until daybreak, when it is time to go out to set again.

Methods of fishing.—As has been remarked, the haddock catchers never anchor on the banks when fishing. The usage in this respect has greatly changed within the last few years. When the fishery was less extensive and was carried on entirely upon the inshore grounds they were accustomed to anchor, set their trawls and under-run them, but now the trawls are all set while the vessel is lying to waiting for the dories. This operation is called "setting under sail," and its successful performance is one of the most complicated evolutions performed by vessels and boats, requiring a high degree of skill on the part of the men on the vessels and in the boats.

Let us imagine ourselves on the deck of a haddock schooner at daybreak approaching Jeffries Ledge; the skipper, having first sounded and obtained the desired depth of water, decides to make a set and gives the order, "Get the top dories ready," at the same time indicating how many tubs he thinks it desirable for each dory to set. The four men to whom the two top dories belong adjust the anchors, buoy-lines

*The Irish fishermen of Boston place their trawls in baskets, coiling the line in one part and putting the baited hooks in another division of the basket.

and buoys which are already in the dories, and also place in them the other necessary fishing-gear. The dory-tackles are then hooked on, and the boats are swung over the side of the vessel. The middle dories are then equipped in a similar manner by their respective crews, and as soon as these are ready the top dories are dropped into the water and paid astern and the middle ones are swung over the side, the bottom dories being then prepared for action in their turn. The middle dories are now dropped down and paid astern with the others, and the bottom dories are swung upon the sides and are ready to be lowered at the proper moment. Eight men take their places in the dories towing astern; perhaps, in fact, the four men belonging to the top dories are already there and ready to set.

The skipper now gives the order to one of the dories that was first put out, "Throw out your buoy." This being done the dory tows astern of the vessel until the buoy-line runs entirely out; the men in the dory then sing out, "Let go the painter." The dory is cast off and they begin to set their trawl in the ordinary manner, their course usually being to leeward, and nearly at right angles with the direction of the vessel. This operation is repeated in succession with each boat: the last dories dropping astern after the others have been let go. Sometimes when the wind is moderate and it is practicable, all six dories are dropped down before the first begin to set. The boats having been let go in the manner described, are thus left scattered along in the wake of the schooner at intervals of 100 to 200 fathoms, the first and the last dory being from three-quarters of a mile to a mile and a half apart. As soon as the dory has been dropped, the vessel keeps off and runs to leeward and is ready to pick up the first one as soon as her trawl has been set, and the others in regular succession. The time occupied in setting the trawls under sail varies from half an hour to an hour.

When the dories are picked up, a part or all of them are taken on deck and the vessel immediately begins to work back towards the weather buoys; as soon as the weather buoys are reached, the boats are usually dropped again in the manner already described and the men begin hauling. This second evolution occupies from one hour to an hour and a half, according to the strength of the wind and other circumstances. As the dories are dropped a second time they find themselves at the very place where they threw overboard the first anchor and a mile or two to the windward of the place where they dropped their last anchor. They are now able to haul to the leeward, which is easier than hauling to the windward and is more advantageous to the fishing, since the tender-mouthed haddock are less liable to drop from the hooks of a trawl when it is slack than when it is taut.

For the dories to haul their trawls occupies from one to four hours, according to the length of the trawl, the number of fish on the hooks, and the state of the weather. While the dories are hauling, the vessel is lying-to with the jib to windward and drifting back and forth along

the line of boats, waiting for the men to finish hauling their trawls or signalize, by raising one of the oars, that they have a load of fish and wish to be taken on board. After the lines have all been hauled the dories are again taken on deck, unless another set is to be made on the same ground. When the dories set the whole length of lines it is very unusual for a vessel to make more than one set in a day; sometimes, however, a smaller number of lines is set and the operation is twice performed. In exceptional instances, after the whole string of tubs has been once set, a smaller number, perhaps a tub to each man, is set in the latter part of the day.

The operation of shooting alongside of the dories and picking them up is one of the most difficult feats of seamanship which can be accomplished by a fishing schooner.

The haddock trawls are often set in rough weather and at times when there is what would be called a strong whole-sail breeze, and, occasionally, when it blows hard enough to make it necessary to reef the sails. After the trawls have been set and the vessel worked back to the weather-buoys, if the weather looks at all threatening, it is customary to take the bonnet out of the jib and put a reef in the mainsail, so that if the wind should increase while the trawls are being hauled the vessel can be managed by the skipper and the cook—the only men left on board.

As might be expected, men are sometimes lost in this method of fishing, the losses being occasioned by sudden snow-storms which cut the dories off from the view of those on board of the vessel, or by heavy squalls which render it impossible for the schooner with only two men on board to go through the necessary evolutions.

It should be stated that the evolution of setting under sail is varied at different times and by different skippers, but that the differences in the manner of performing the evolutions are not of much importance, and that the most common method is that which is here described.

When fishing on George's Bank, the Gloucester haddock vessels are obliged by the force of the tide to resort to another method of setting, which is called "double-banking the trawl." The tide is so strong that the trawls cannot be set in the ordinary way, for the buoys would be carried beneath the surface. Two dories are therefore lowered at once, and jointly perform the act of setting; only two tubs are set by each pair of dories. The set is made in the following manner: The men in one of the dories hold fast to the weather-buoy while the men in the other dory set the trawl. After the trawl is out, the dory which sets it holds fast to the lee buoy until by some signal, such as lowering the jib, the skipper of the schooner gives the order to haul. The trawls are left on the bottom 15 or 20 minutes before they are hauled. The men in the two dories begin to haul simultaneously; the anchors are thus first raised from the bottom and presently the bight of the trawl and the two boats drift along with the tide, the distance between them gradually narrowing as they haul.

Haddock are often found so plenty on George's that it is not nec-

essary to set more line at a time, even were it easier to do so, since a single tub of trawl will often bring up enough fish to fill a dory. Several sets of this kind can be made in a day, when the weather is favorable.

Some of the Maine and Swampscott vessels send out only one man in a dory; this usage is called "fishing single dories," and is, of course, practicable only in comparatively moderate weather.

THE MANNER OF CARING FOR THE FISH.

As the fish are brought alongside they are pitched into the pens already described. As soon as the dories are discharged and taken on deck, and the vessel is under way, the men begin to dress the fish. The process of dressing differs entirely from that of dressing cod; there are no dressing-tables or dressing-tubs. The men distribute themselves among the pens. Four or five men are engaged in ripping the fish, this operation being performed by seizing the fish by the eyes or some part of the head with the left hand and ripping them downward from the throat. The remainder of the crew occupy themselves in taking out the livers and roes, which are saved in barrels separately, and in removing the viscera. The fish are washed by pouring buckets of water over them as they lie in the pens or on deck, and are packed away in the hold or left on deck, unless, on account of distance from the land or mildness of the weather, it is necessary to ice them, in which case two or three men go into the hold and stow the fish away between layers of ice. The fish are iced with greater or less care, according to the length of time expected to elapse before the arrival of the schooner at the market. All the vessels going to Le Have, George's and Cape Negro carry from five to six tons of ice each trip.

PRODUCTIVENESS OF THE FISHERY.

The vessels of the Gloucester fleet, in the winter of 1880–'81, obtained on an average 350,000 pounds of haddock, valued at $6,000. The schooner "Martha C." obtained about 600,000 pounds, stocking $11,500. The "Edith M. Pew" obtained 550,000 pounds, stocking about $11,000.

Capt. S. J. Martin, of Gloucester, Mass., writes under date of February 12, 1882, that the schooner "Martha C." arrived yesterday with 90,000 pounds of haddock; she was gone eight days. Schooner "Josie M. Calderwood," 85,000 pounds, gone seven days. Schooner "H. A. Duncan," 80,000 pounds, gone seven days. Four vessels left Gloucester on Saturday and were back on Wednesday, each with 40,000 pounds haddock, having fished one day-and-a-half. That is good and quick work.

"Schooner 'Mystic,' Capt. John McKennon, has stocked the year ending February 8, 1882, $21,003. He claims high line of the shore haddocking fleet, and so far as we know this is the largest stock ever reported in this fishery. The crew shared $780.06. In 1880 he stocked

$17,765, the crew sharing $765."—[Cape Ann Advertiser, February 10, 1882.

"The new schooner 'Dido,' recently built at Essex for Mr. George Steele of this city, has been engaged in the haddock fishery just one month to-day, during which time she has made three trips, stocking $3,750. On her last trip she stocked $1,400. Her crew shared for the month, $138 each. The 'Dido' is commanded by Capt. William N. Wells. Schooner 'Richard Lester,' Capt. Ozro B. Fitch, on a recent haddock trip stocked $1,100."—[Cape Ann Advertiser, February 10, 1882.]

The largest haddock fare ever landed was that of the schooner 'Martha C.' of Gloucester, Capt. Charles Martin, which arrived at Boston on Friday from a Georges haddock trip, and weighed off 93,000 pounds haddock, stocking $1,943, the crew sharing $91, the result of two-and-a-half days' fishing. Absent ten days. This was the largest catch and best stock ever reported in the haddock fishery.—[Cape Ann Advertiser, February 24, 1882.]

The catches of the average Portland and Boston vessels were not, probably, more than half as great. The "Martha C.," before alluded to in thirteen hours' fishing in the winter of 1880–'81 caught 90,000 pounds of cod and haddock. The total amount of haddock carried into Boston in 1870 was 17,000,000 pounds; of this amount probably at least 13,000,000 were obtained by the winter haddock vessels. The total yield of this fishery does not, probably, fall below 18,000,000 to 20,000,000 pounds.

RUNNING FOR THE MARKET.

No class of vessels, not even the halibut schooners, take more risks in running for market than do the haddock schooners. It is of the utmost importance to them to reach the market with their fish in good condition, and, if possible, to be in advance of other vessels engaged in the same business. In the stormiest of weather all sail that they will bear is crowded upon them, and harbors are made even in heavy snow and fog. The trips are short, averaging frequently not more than two or three days, and rarely longer than a week or ten days; they are, therefore, constantly running for the land, and are more accustomed to making the coast than the halibut vessels, and become so familiar with the harbors, most frequently resorted to, especially with that of Boston, that they are able to enter them when no other vessels, probably not even pilot boats, would care to make the attempt. What has already been said about the dangers encountered by the halibut schooners will apply as well, in its fullest extent, to the haddock schooners.

THE MANNER OF OUTFIT.

In the winter haddock fishery every man supplies his own dory and outfit complete, besides paying his share of the provision bill. In the settlement of the voyage, the vessel draws one-fourth of the net stock,

or, in the case of the older vessels, according to the old system, only one-fifth, after certain stock charges have been deducted for bait, ice, wharfage, and towage. The remaining three-fourths or four-fifths of the net stock is divided equally among the crew, the owner paying the skipper's commission or percentage from the vessel's quarter. The average share of the Gloucester crews for the winter of 1880–'81 was about $290. The most successful shared $500 to $550. The largest stock ever made in one day's fishing in the winter shore fishery up to 1880 was that of the "Eastern Queen," of Gloucester, which carried to the Boston market, in 1873, 25,000 pounds of haddock, and stocked $1,100. This vessel also made the largest stock of that season, realizing in five months $10,250 clear of all expenses, the crew sharing $550 each. The crew of the schooner "David J. Adams," in March, 1881, shared $107 each in a ten days' trip in the haddock fishery

THE HADDOCK FISHERY FIFTY YEARS AGO.

A writer in the Fishermen's Memorial and Record Book thus describes the haddock fishery in the early part of the present century:

"The fitting-out of the fleet for the haddock fishery commenced about the first of April. The first move was to run the boats on the beach, or landing as it was then called, and have them calked and graved. The latter process consisted in applying a coat of pitch to the bottom and burning it down with a tar-barrel, which gave a smooth and glossy surface. Painted bottoms in those days were very rare.

The time occupied in making a haddock trip was from two days to a week, the fish being mostly taken on Old Man's Pasture, Heart's Ground, and Inner Bank, about twelve miles off of Eastern Point. The fish were taken to Charlestown for a market, and purchased by the hawkers—among whom were Johnny Harriden, Joe Smith, Isaac Rich, and others, who took them over to Boston in hand-carts and retailed them at a good profit. The codfish were generally salted. The smallest were cured for the Bilboa market, and the largest were made into dun fish, as they were called, for home consumption. They were kept on the flakes several weeks, and thoroughly dried until they became of a red-dish color, and were highly esteemed as an article of food. The haking season commenced in July, and the pollock fishery was prosecuted from September to the middle of November. Each boat carried three men—skipper, forward hand, and cook, who went at the halves, as it was called, the crew receiving one-half the gross stock, and the owners the balance."*

* Fishermen's Memorial and Record Book, Gloucester, 1873, p. 73.