

62.—SOME REASONS WHY THE FISHERMEN OF NOVA SCOTIA PREFER TO USE SALT CLAMS (*MYA ARENARIA*) FOR BAIT IN THE BANK HAND-LINE COD FISHERIES.¹

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About thirty years ago the method of fishing with hand-lines from dories was adopted by those cod fishermen of the United States who resorted to the Great Bank of Newfoundland and to other large fishing grounds lying east of the sixty-third meridian of west longitude. This dory fishing superseded the method of fishing with hand-lines from the deck of a vessel, and, since the men could work over a larger area in their boats, more profitable returns were obtained than could be secured by the old-fashioned style of fishing.

In recent years Nova Scotia has employed many vessels in the dory hand-line cod fishery on the ocean banks. The rapid growth of this fishery from that province is probably largely due to the decline of the Labrador cod fishery and the fact that excellent fares of cod can be obtained by this method of fishing, with comparatively small expense for outfit.

The dory hand-line fishermen of Nova Scotia, like those of New England, use for bait salt clams (*Mya arenaria*). This is the bait *par excellence* of the dory hand-liner, and to say that a vessel will engage in the bank hand-line cod fishery is to say that she will carry a supply of salt-clam bait.

A sufficient quantity of this kind of bait can be obtained only in the United States. It is true that the soft clam occurs in the British Provinces, more especially in the Bay of Fundy, but nowhere is it abundant enough to furnish a supply much beyond that required for the tables of the local residents. The eastern limit where it is found sufficiently abundant for bait purposes is at Machias, Me. In the Machias customs district 20,100 bushels were dug in 1880, while the product of the Eastport customs district during the same year was only 1,500 bushels.

"In the Bay of Fundy, however, they were constantly dug in sufficient quantity for household use," remarks Ingersoll. But the same authority states that the "absence of extensive mud flats bordering the sea along this precipitous and rock-bound coast makes it unsuitable for the growth of clams to any great extent until the Bay at Jonesport, Me., is reached, where, between that town and Rogue Island, are very important diggings."²

It will thus be seen that the procurement of salt-clam bait from the

¹ These notes were prepared for the use of the Commissioners who negotiated the fishery treaty between the United States and Great Britain in the winter of 1887-'88, and which was rejected by the Senate of the United States.

² The Fishery Industries of the United States, sec. v, Vol. 2. The Clam Fisheries, by Ernest Ingersoll, p. 584.

region east of Machias is practically out of the question, and the limited quantity which might be obtained by special exertion would cost more in time or money than any fisherman could afford.

But, even if the question of cost was not considered, it is doubtful if enough of this bait could be dug in Canadian territory to supply more than one-tenth of the provincial vessels which use it.

The reasons for the use of salt clams for bait are substantially as follows:

First, and possibly the principal reason, is that, considering the results obtained, the method of hand-line dory fishing and the use of salt-clam bait has been found the most economical method, both as regards the cost of outfit and the utilization of time.

To particularize: A vessel fitting for a hand-line cod-fishing trip to the eastern banks will carry one small dory (usually 13 feet long on the bottom) for each member of its crew, exclusive of the captain and cook. Thus a schooner having fourteen men in her crew will carry twelve dories. These will cost, including oars, etc., about \$22 each, or a total of \$264. The hand-lines are comparatively inexpensive, and the whole outfit of boats and lines would not much exceed \$350.

The expense for bait (say 50 barrels of clams, at \$5 to \$6 per barrel) will vary from \$250 to \$300, and may possibly exceed that amount in some cases, though it is likely to fall below it.

To fit a vessel for trawling (the only other method pursued in the so-called bank cod fishery) will cost from \$1,000 to \$1,300 for boats and other apparatus, while the expense for fresh bait is generally much greater than that incurred by a schooner of the same size employed in hand-line fishing:

It will thus be seen that from \$700 to \$1,000 are saved in the outfit of a dory hand-liner as compared with the trawler. And it is easy to see, also, that if the former gets the same amount of fish, which is often the case, the profits of the voyage will be that much greater.

It is an important consideration that the use of salt clams prevents the fishermen from losing any time in looking after supplies of bait, since all that is needed for the voyage is carried on board, and it is so well preserved that it will not deteriorate. When "baitings" of fresh herring, squid, or capelin must be obtained, much time is often lost in waiting for these species to "strike in" near the harbors where the vessels go to seek them. It is not uncommon for vessels which depend solely on getting supplies of fresh bait near the land to spend more time in quest of it than they do in fishing on the banks.

This being the case, it follows that though the daily catch of a vessel using salt clams may be somewhat less than that of one having fresh bait (while both are fishing together), the monthly catch of the former might still be the largest.

It will thus be seen that both time and money are saved by the method of dory hand-line fishing. It would take too long to show here

why this method has not been more universally adopted, but it may be said that the chief reason, so far, has been that the fish taken are somewhat smaller, on an average, than those caught on trawl lines, and the demand for large cod in the American markets has heretofore offset some of the advantages to be derived from the less expensive hand-line fishery.

Second. As previously stated, up to the present time salt clams are preferred to any other bait that can be carried on a vessel for the bank hand-line fishery.

Salt squid have sometimes been used, but these make far less desirable bait, and I have known of no instance when the fishermen did not depend for the successful issue of a voyage upon having a supply of salt clams.

It is unquestionably true that if a full supply of fresh bait, suitable to the cod, could be obtained each morning on the bank, *direct from the water*, it would be found far more profitable to use it than it would be to use salt clams. And it is a well-known fact that the hand-line fishermen do use such fresh bait as they can procure on the fishing ground, often mixing this with their salt bait, or, if the supply of fresh material is sufficient to warrant it, they employ no other lure. Sometimes enough squid are caught to furnish all the bait required, and at other times the contents of the cod's stomach (bank clams, lant, and capelin) are carefully secured to use on the next day. Occasionally birds may be caught to eke out the supply of bait, or a porpoise may be killed for the same purpose. But birds and porpoises are more in favor with that class of cod trawlers called "shack fishermen" than they are with the hand-liners.

But, though it has generally been found desirable to utilize such supplies of fresh bait as could be obtained on the fishing grounds, it thus far seems that fresh frozen or iced bait—carried out from the land—can not be advantageously used by the hand-line fishermen.

The reason is this: While fish or mollusks taken fresh from the water will generally keep in pretty fair condition through the day, so that they can be used successfully by the dory fisherman (who, of course, has no means of protecting his bait from the effects of exposure to the air), bait which has been frozen or iced will speedily deteriorate when exposed to atmospheric action in spring or summer. Placed unprotected in an open boat, as it necessarily must be for the dory fishermen, it becomes offensive and worthless before the day's fishing is fairly begun.

For this reason, and also because the cod on the eastern banks is specially fond of mollusks, the salt clam, which *always* retains its flavor, is really far more attractive to the fish and more serviceable to the fishermen than fresh bait which has been packed in ice. In a word, it is believed that more fish can be caught by a crew of hand-line fishermen who are provided with salt clams than can be taken by a similar

crew having fresh iced bait; and this, too, when both are at work, and excluding from the question the loss of time, etc., which must result from the attempt to obtain supplies of fresh bait from the baiting stations of the British Provinces.

The reason why fresh bait packed in ice can be more successfully used by the trawl fishermen and hand-liners who fish on George's Bank from the decks of their vessels is because it is seldom exposed to the air very long before it is put into the water.¹

As an example of the success which is sometimes attained by the use of salt-clam bait, both in the hand-line and trawl fisheries for cod and as an illustration of the importance to American fishermen of this resource for a bait supply, the following list of catches is given, made by vessels which arrived at Gloucester, Mass., from bank trips in the early part of the season of 1887.

As will be seen, large fares were obtained by these vessels, and that, too, in the spring, when very little, if any, fresh bait could be obtained on the fishing ground.

Vessels of the New England codfishing fleet using salt-clam bait, spring, 1887.

Name of vessel.	Name of bank.	Apparatus used.	Catch of cod.	Catch of halibut.	Name of owner.	Date of arrival at Gloucester.
			<i>Pounds.</i>	<i>Pounds.</i>		
Mabel Kenniston	Western	Hand-line	125,000	5,000	D. Allen & Son	May 18.
Bounding Billow	do	Trawl	90,000	1,000	Shute & Merchant	Do.
E. A. Foster (of Beverly)	do	do	125,000	2,000	Foster & Co	May 20.
Plymouth Rock	do	do	150,000	2,000	George Steele	Do.
Marguerite	do	do	180,000	2,000	J. F. Womson & Co	May 23.
Susie Hooper	do	Hand-line	80,000	1,000	D. Allen & Son	May 26.
Stranger	Grand	do	70,000	20,000	Geo. H. Perkins & Co	May 30.
E. F. Bartlett	Western	do	70,000	800	George Thurston	Do.
John S. Presson	do	do	240,000	1,500	George Clark	June 4.
D. A. Wilson (of Beverly)	do	do	140,000	1,000	do	Do.
Geo. F. Keene (of Maine)	do	do	125,000	800	do	Do.
H. A. Duncan	Grand and Western	do	150,000	2,000	George Steele	June 6.
Flying Scud	do	do	100,000	1,500	J. O. Proctor, jr	June 9.
Schuyler Colfax	do	do	76,000	do	do	June 10.
Hattie S. Clark	do	do	140,000	do	do	Do.
C. P. Thompson	do	do	125,000	300	B. Low	June 18.
J. W. Collins	do	do	140,000	do	D. Allen & Son	June 28.
Sir Knight (of Maine)	do	do	130,000	do	Master	Do.
Uncle Jo (of Maine)	do	do	100,000	do	do	June 20.
E. R. Nickerson (of Me.)	do	do	76,000	do	do	Do.

New England fishing vessels visiting those banks in 1887 carried salt, clam bait, many using no other. Some vessels, up to June 1, used salt-clam bait and bank clams taken from the fish caught. From June 1 to August 15 they used salt clams and such other material as could be obtained on the banks. From August 15 to the close of the season squid were found in great abundance on all the banks.

On some of the trips of the season some of the vessels carried salt clams and frozen herrings.

¹ For details of the dory hand-line cod fishery see the chapter on the "Bank Hand-line Cod Fishery," pages 123 to 133, Vol. I, section 5, of the quarto report on the Fisheries of the United States.