

WHERE LIVE THE LOBSTERS OF THE GULF?

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IN August at the conference held in Halifax of those interested in the lobster fishery, the view was advanced that an inexhaustible store of lobsters exists offshore in deep water and on the fishing banks, and that even-although the lobsters along shore be entirely fished out, the district will be repopulated in the course of a few months by the movement inshore of lobsters from the deep water. An instance was given of a catch of lobsters made in deep water in the Gulf, but I have tried in vain to find out the details of this catch. As long ago as the year 1873 this argument, which is so much at variance with the fishing practice of the lobster men, was advanced by the lobster interests in parts of Nova Scotia to justify unrestricted fishing.

Let us consider what certain known facts show concerning the distribution of the lobsters during the summer, which is the time under consideration. The Biological Board has been conducting some general fishing experiments in the Gulf of St. Lawrence during the past two summers,—in 1917 in the waters between Cape Breton and the Magdalen Islands, and in 1918 in the Miramichi region at the western extremity of Northumberland Strait. The conditions that have been found must be considered as typical of the greater part of the southern half of the Gulf. This large region, consisting of those waters lying south of a line drawn from Cape Gaspé to Cape North, is comparatively shallow, almost all of it having depths less than forty fathoms, while the northern half of the Gulf is for the most part more than one hundred fathoms in depth. The Geographic Board of Canada has suggested for this area the name of "Magdalen Shallows."

Also in other respects it is peculiar, being the chief spawning ground of the mackerel and cunner as well as of a number of other fishes. Practically only along this part of our coast are such southern shellfish as oysters and quahaugs to be found.

It is this region that we have investigated and of which we can speak with a certain amount of assurance. In the shallow water close to the coast and in the enclosed bays and harbors, but not in the brackish estuaries, lobsters were regularly found, and were taken with as many as six different kinds of gear. Offshore, with the same gear, we uniformly failed to obtain any lobsters. This failure cannot be attributed to our gear, not having worked properly, as we succeeded in getting many other things in the deep water that are more difficult to catch than are lobsters. Nor was it a matter of them failing to be attracted by bait, seeing that we used gear like the new net trawl that does not require bait and with which we took as many as sixty lobsters in one haul in shallow water, but none in the deep. Rocky, sandy, and muddy bottom were all tried and without any success. I have been informed by the captain of a steam trawler, which has been operating in the gulf during this last summer, that on only one occasion has he taken any lobsters in the trawl,—two small ones off Richibucto in comparatively shallow water (13 fathoms), and this in spite of his having trawled in such extensive areas as the whole Northumberland Strait, off both eastern and western ends of Prince Edward Island, off the Shippegan coast, on the Orphan and Bradelle banks, and near the Magdalen Islands.

This is all entirely in harmony with the practice of the fishermen, who do not go to deep water (15 fathoms or more) to fish lobsters, but set their traps in the very shallow water, often right along shore. Also at the Magdalen Islands they consider it necessary to protect the lobster by prohibiting fishing in the lagoons.

LIKE WARM WATER

There is a reason for the lobster keeping in the shallow water. The temperature that this animal seems to prefer from youth to old age is one that is comparatively high as our water temperatures go, and a bottom-living animal can find this only near shore. Offshore the bottom water is extremely cold, even in mid-summer being usually below 32 deg. F. in temperature. This great contrast during the summer between the shallow and deep water has a profound effect upon the animals occurring in the gulf. Each kind has its own region or zone to which it is restricted. Of the Crustaceans (animals such as shrimp, crab, and lobster) we found the following limits for the larger kinds which were examined. The mud-crab was only in the brackish estuaries; the shore crab and lobsters were only in the salt harbors and bays and in the shallow water along the coast (but not both on quite the same kind of bottom); and shrimp were found from the brackish estuaries out to moderate depths offshore; two other kinds of shrimp and three kinds of spider crabs occurred only in the deep cold water off shore.

We have, therefore, no reason for believing that there exists any stock of lobsters offshore in the summer time, and if the lobsters in one district are fished out, that district can be restocked only by the immigration of other lobsters from the

adjoining shallow districts. That lobster fishermen is living in a fool's paradise who believes that an inexhaustible stock is present in the ocean. The lobsters seek the very shallow waters in summer, and although these waters are extensive enough to prevent the extermination of the species, yet it is comparatively easy to fish the waters so thoroughly, as to produce a serious lessening of the stock, from which there will be recovery only after several years.

THE PROBLEM

The imperative need at the present time is to determine what intensity of fishing will yield the largest number of pounds of lobster year after year, and to insist on this intensity not being exceeded. We should determine the extent of the natural supply of small lobsters as a basis for our policy of aiding propagation. We should follow the condition of our stock from year to year by getting reliable statistics, not only of the amounts caught in the various districts, but also of the proportionate numbers of the various sizes in each district, such as could be obtained by the measurement of moderately large samples at intervals. By this means we could intelligently advise restriction or expansion of the fishery. It might then be possible to prevent the loss of money and energy connected with an injudicious increase in the number of factories and in the number of fishermen following an exceptionally good year or series of years. The fishery will be most profitable when the yield from year to year remains practically constant. Undoubtedly there is a limit to the number of pounds of lobster that can be produced annually in our inshore waters, the only waters suitable in summer for the lobster, and we should not be deluded into the belief that a much larger amount can be produced by observing an exceptionally

large catch after several years of under-fishing; for, since the lobster lives to a considerable age, it is quite possible to have after several years of little or no fishing a very large stock (in pounds of lobsters), the production not of one, but of several years. It would be possible to catch of this stock more than could be produced in the same length of time.

The writer would be glad to hear from any interested in such a scheme and would also be glad to learn of any facts bearing upon the points raised.

BRITISH CASUALTIES IN OCTOBER

London, Nov. 3.—The British casualties reported during the month of October total 158,825 officers and men. Of these 28,297 were killed or died of wounds.

The casualties are as follows: Killed or died of wounds, officers 2,060, men 26,237; wounded or missing, officers 6,065, men 124,463.

Freemen Buy Bonds.

Slaves Wear Them!

"Did you ask the new cook why she left her last place?" "No," responded young Mrs. Torkins. "I didn't get a chance. She kept me too busy trying to explain why our last cook didn't stay."—*Washington Star*.

"Did you know you were behind in your board?" asked the keeper of the prison. "No, I didn't," replied the boarder. "You owe me for a month." "Oh, I know that, but I considered I was just that much ahead."—*Yonkers Statesman*.

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The Bridge to the British Market

The Victory Loan is a bridge over which the farmers of Canada drive their hogs, their cattle, their grain and all their surplus crops to the profitable British market.

For, the money raised by the Victory Loan enables Canada to give credit to Great Britain. And only by means of that credit can Great Britain buy the products of Canada's farms.

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yourself and the whole farming community.

It is the duty of every earnest Canadian not only to invest heavily in Victory Bonds 1918, but to work among his neighbors to make the loan a success.

Before the subscription lists close, every man should realize the sterling character of the investment; the good interest return of 5½%; the undoubted security offered in the Bonds of this wealthy nation; and the vital importance to all classes of people, particularly to the farmers, of the Victory Loan 1918.

Buy Victory Bonds

Issued by Canada's Victory Loan Committee in co-operation with the Minister of Finance of the Dominion of Canada

UNCLAIMED VICTORY BONDS

The Finance Department has issued a publication which gives details of Victory Bonds of 1917 which have never been delivered to their owners.

This book is of 400 pages, and there are 50 bond descriptions to the page.

There is, therefore, in the volume information regarding 20,000 bonds, which were bought and paid for by Canadian citizens, but which have never been called for.

One of the reasons why some of these bonds have been left in the hands of the government is said to be that a considerable number of foreign born people regarded the subscription last fall in the nature of a tax. They did not understand that they were making an investment from which there would come back both interest and principal.

Other citizens are under the impression that the interim receipt which they have received was the definite bond and were satisfied. There is, however, no way in which interest can be collected on the interim receipt, and all this interest is lying with the federal government waiting to be paid out.

All the reasons which have been supplied, however, scarcely account for the fact that more than 20,000 Victory Bonds still remain in the hands of the banks.

The list which has been published by the government is fairly complete, and any person who bought a bond and did not obtain it, can trace it through the use of this book. Copies are in possession of all banks and bond dealers, and any bond house or banker will at once trace a missing bond if the number and the serial number be given to the banker or

bond dealer. There are several series of the bonds, and the bond number alone is therefore not enough.

It is very desirable that as many as possible of these undelivered bonds of 1917 should be placed before the opening of the selling campaign of 1918. Misunderstanding will in many cases be removed when these bonds are put in the hands of their owners.

SIR LOUIS DAVIES SWORN TO OFFICE

Ottawa, Nov. 4.—His Excellency, the Duke of Devonshire, attended by his aides, proceeded to the supreme court this morning, where he administered the oath of office to Sir Louis Davies, recently appointed Chief Justice of the Dominion in succession to Sir Chas. Fitzpatrick, now Lieutenant-Governor of the Province of Quebec. Sir Louis' commission, issued

by Hon. Martin Burrell, Secretary of State, had previously been read by His Excellency, who, subsequent to the administration of the oath, formally congratulated the new Chief Justice.

Mr. F. H. Chrysler, K. C., on behalf of the bar, then extended congratulations to Sir Louis in a brief speech.

The new Chief Justice, in thanking the bar for Mr. Chrysler's words of appreciation, said it would be his endeavor to maintain the high traditions of the post he had been called upon to fill.

Hon. F. B. Carvell, Minister of Public Works, was among those present at the ceremony.

Willis—"The same clergyman married me who married my father, and now he is going to marry my son. Isn't that unusual?" Gillis—"Yes, indeed. I don't believe in a person carrying a grudge all the way to the second or third generation. Do you?"—*Life*.

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