

MOST VALUABLE FISHERY

Research Board Studies Habits Of P.E.I. Lobster

BY D. G. WILDER
ST. ANDREWS BIOLOGICAL STATION

Of the many kinds of fish and shellfish caught by Prince Edward Island fishermen by far the most valuable is the lobster. Over the past five years the P.E.I. lobster catch has averaged 8½ million pounds with an average landed value of nearly 2½ million dollars.

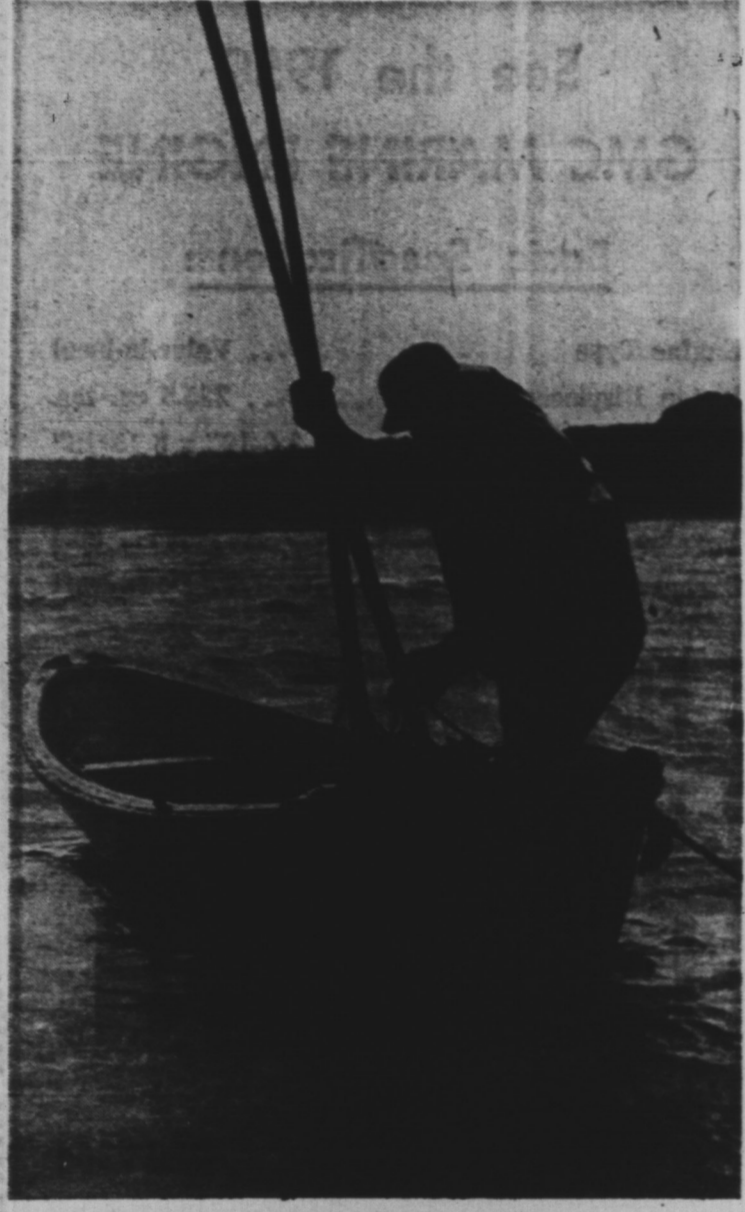
P.E.I. fishermen get nearly three-quarters of their fisheries income from this one species. This is the fourth largest lobster fishery in the world, exceeded only by Nova Scotia, Maine, and New Brunswick.

Proper management of the fishery to make wise use of this extremely valuable resource is of great importance to the many fishermen, dealers and others who depend directly or indirectly on lobsters for a large part of their income.

Management should, of course, be based on a sound, thorough knowledge of the lobster itself. To obtain this knowledge, studies have been conducted by the Fisheries Research Board of Canada for many years at a number of P.E.I. ports.

LAYING AND HATCHING

During the past 10 to 15 years, however, these studies have been concentrated in the areas off Tignish and Miminegash. Among other things, this work has provided valuable informa-



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tion on the movements, survival and growth of lobsters—three things that must be considered carefully in managing the fishery.

During the summer, mature female lobsters, depending on their size, lay from 3,000 to 100,000 small, round, dark green eggs. These immediately become fastened to little paddles on the underside of the tail where they are carefully looked after by the female.

The next summer, a full year later, the young lobsters have developed inside the eggs to the point where they are ready to hatch.

Immediately after hatching the young lobsters, or first stage larvae as they are called, rise to the surface of the water. At this point they are only 1-3 of an inch long and at first glance look more like mosquitoes than lobsters.

LOBSTER LARVAE
These little lobsters swim up in the water for several weeks, feeding, growing and changing shape. In order to grow, a lobster must cast off its hard inelastic shell. This is known as moulting or shedding. During their free-swimming period the larvae moult three times to reach the fourth larval stage.

At this point they are little more than ¼ an inch long but look very much like the adult lobsters. A short time later they

settle to the bottom to begin what we usually think of as the normal life for a lobster.

To learn more about these tiny lobsters special studies have been carried on since 1948 in Northumberland Strait.

SPECIAL NET

Each summer in the area between Richibucto, N.B., and Miminegash, P.E.I. the 40 foot motor boat "Pandalus II" skippered by Capt. L.I. Cross makes a series of 500 to 600 half hour tows with a specially designed silk net.

This wedge shaped net is 25 feet long with a rectangular mouth 12 feet wide and 3 feet deep. The meshes of the net are quite small, closely resembling window screening.

As the net is towed on the surface it catches an amazing variety of creatures. Whitish, semi-transparent herring larvae and tiny crab larvae at times are caught in large numbers.

Several other kinds of fish are caught as well as shrimp, jelly fish, floating insects and many other organisms. Of greatest interest is the catch of lobster larvae.

RICHEST GROUND

The young lobsters start hatching about mid-June and are most plentiful during late July and early August. Hatching continues through September, but on a much smaller scale.

The catches show—beyond a doubt that Northumberland Strait is one of the richest lobster breeding grounds in the world. Far more larvae are caught consistently in this area than is usually possible elsewhere.

The record catch of 1,901 larvae from a single half hour tow was made on July 8, 1958. Although this area is an excellent breeding ground the hatch does vary somewhat from year to year. In 1955, the best year, the hatch was about twice as good as in 1949, the worst year.

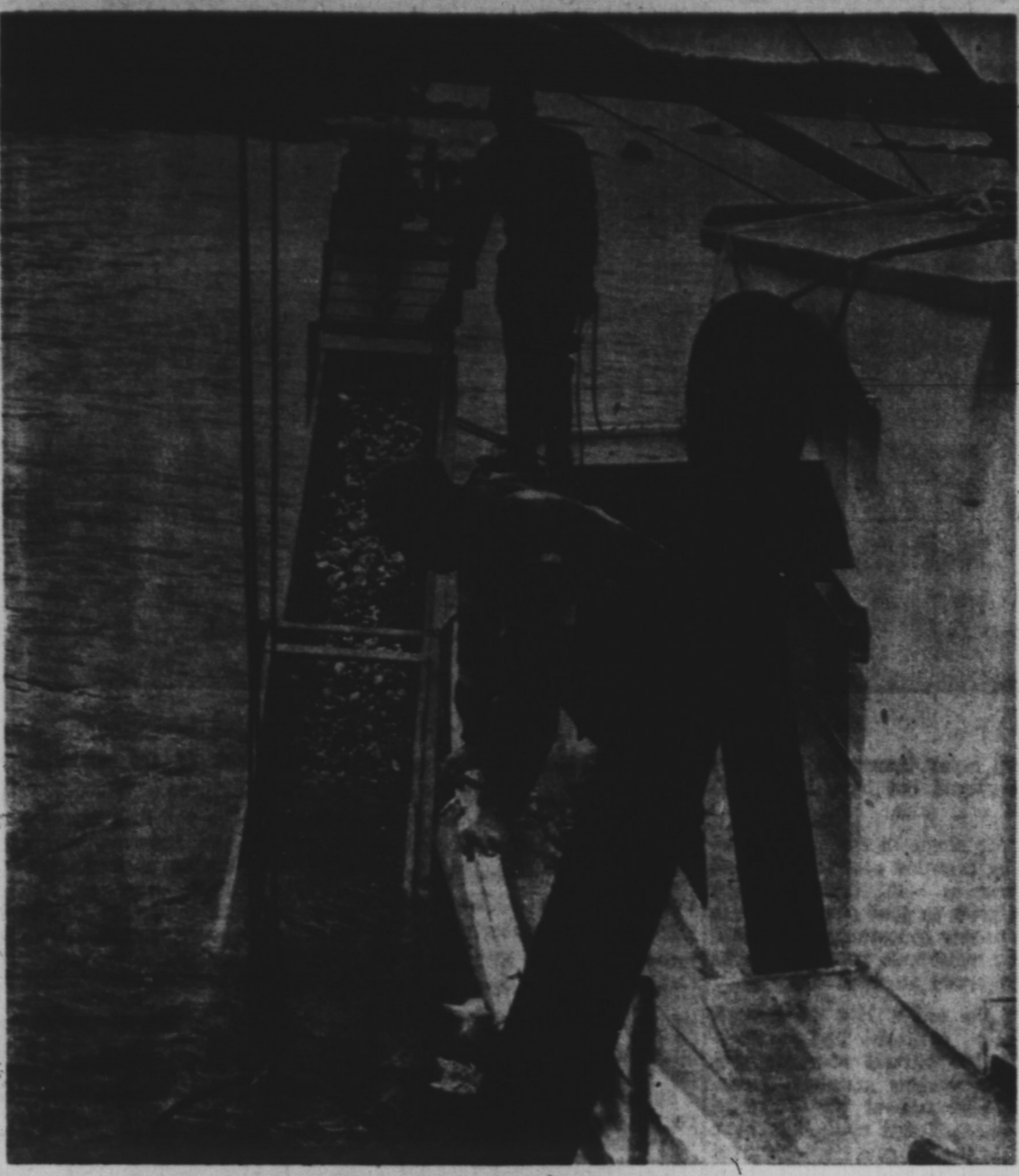
VERY VULNERABLE
Unfortunately the newly hatched lobsters are extremely vulnerable to attack by small fishes and other marine organisms. They even eat each other. On the average only about 5 percent survive to reach the fourth larval stage.

Some years, of course, survival is much better than others and many more larvae come through the free-swimming period safely to reach the settling stage.

In 1952, the best survival year, nearly 40 times as many larvae reached the fourth stage as in the worst year. The second best year was 1956. Survival in 1953, 1954 and 1958 were poor.

CARRIED MILES

Since lobster larvae are weak swimmers they may be carried by currents many miles from where they were hatched. They settle to the bottom wherever they happen to be at the end of their free-swimming period. Some settle on good bottom



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where food is plentiful and where they are protected from their enemies. Undoubtedly these survive better than those that settle on relatively exposed barren ground.

In areas such as the north shore of P.E.I. larvae may, under certain wind conditions, be carried many miles and settle well offshore.

Survival under these conditions is likely to be extremely poor but in any case such larvae do not contribute to the inshore fishery.

DETERMINES CATCH

It is probable that the abundance of commercial-sized lobsters is determined to a large extent by the hatch and survival of larvae several years earlier.

Such natural changes in the abundance of larvae and commercial sizes have occurred many times in the past and undoubtedly will occur again. The prospects of controlling such changes do not appear to be good. It seems probable, however, that with enough knowledge it

will be possible to predict changes in the commercial stocks, perhaps several years in advance. In this connection it is interesting to note that 1952, the best year for larvae, was followed in 1956 by a P.E.I. catch of nearly 10 million pounds—the best catch in over 25 years.

By 1956 the larvae hatched in 1952 would have completed 4 or 5 summers' growth depending on whether they were caught in the spring or fall.

Unusually poor larval survival in 1953 and 1954 may be responsible for declining catches in 1957 and 1958.

YOUNG BOTTOM STAGES

Until recently little was known about newly settled young lobsters. In spite of persistent efforts for many years with different gear tried in many places only a few young lobsters had been caught.

Specimens submitted by fishermen invariably proved to be shrimp-like animals. Since 1952, however, small bottom stage lobsters have been caught con-

sistently each spring and fall in the area between Richibucto, N.B. and Miminegash, P.E.I.
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T. W. L. PROWSE

A MESSAGE FROM T. W. L. PROWSE (former Lt. Gov. of P.E.I.) TO THE FISHERMEN OF P. E. I.
(In Fact to Anyone and Everyone)

A lot of water has gone under the bridge during the — years I have been on the local scene.

Governments have come and gone, (I was part of that scene myself . . . remember?) Wars have come and gone. Our way of life has seen many dramatic changes. Cars have evolved from trusty old relics to the sleek, powerful machines today. Modern medicine has conquered many so-called incurable diseases . . . Air travel has shrunken our world until the once distant "Four corners of the earth" are no farther away than one days travel.

Some folks like change . . . some folks like things to stay the way they are. However, change is inevitable, so what can we do but grin and share it. One thing though, the years have done little to change people. Oh yes, we move a little faster, do more things . . . but people by and large are still pretty nice.

For example . . . let's take the fishing people. For many years now they have been hauling in their catch and selling it all over the world, helping our Island to get pretty well known. I'd like to take this opportunity to tip my hat to them for the great job they are doing.

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