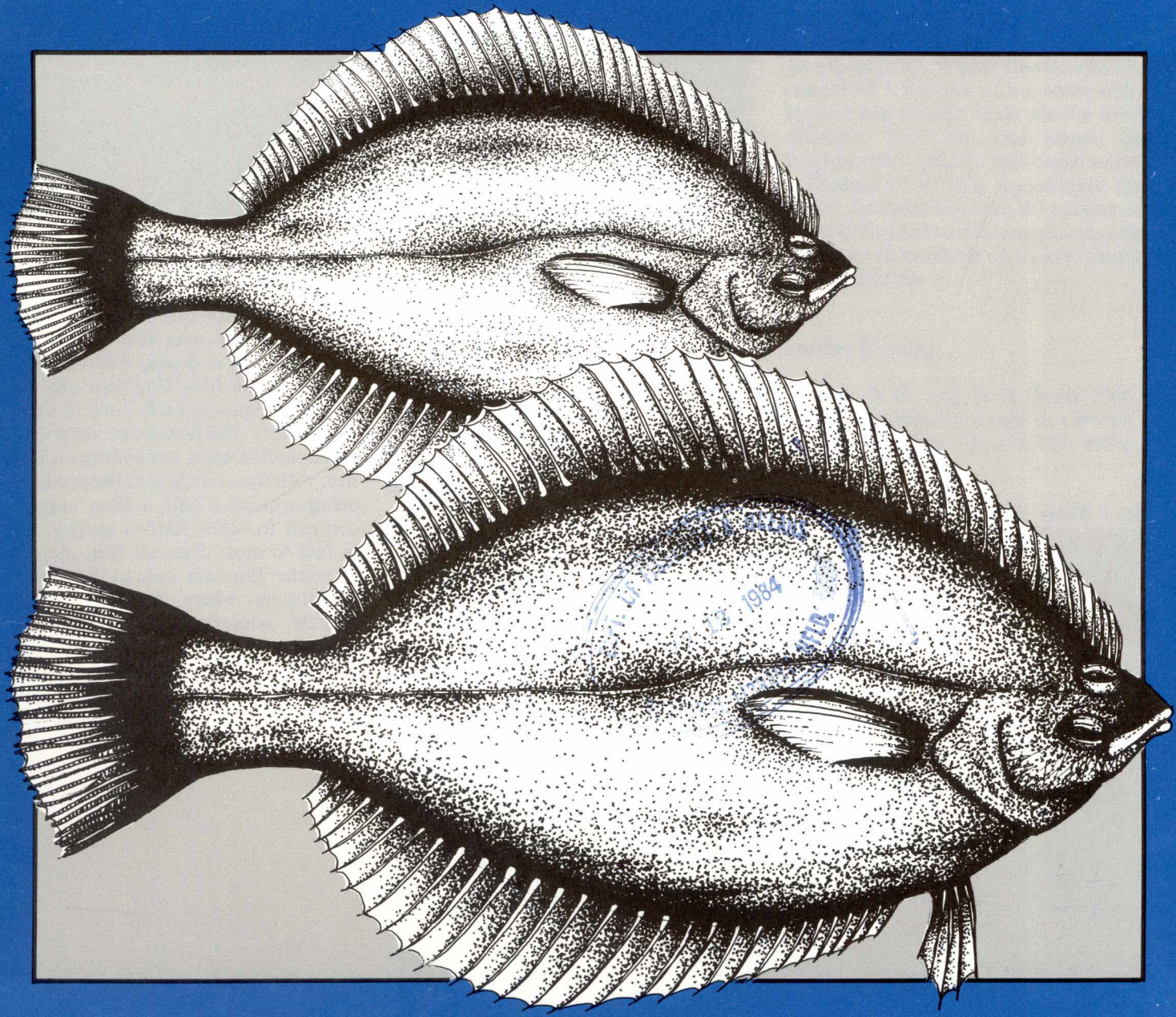
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Underwater World

Winter Flounder



1984

Canada

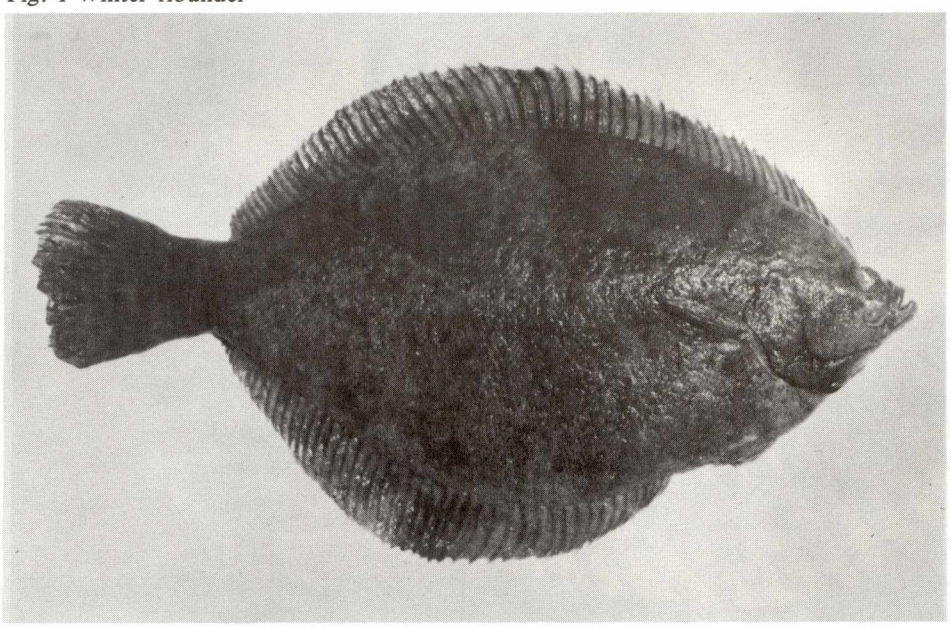
Winter Flounder

The winter flounder is one of the best known inshore marine species. It lives primarily in coastal and esturian localities. Its commercial value is rather limited in Canada with a little less than 3,000 metric tons (t) landed annually in recent years, mostly from the southern part of the Gulf of St. Lawrence and southern Nova Scotia.

Description

Winter flounder *(Pseudopleuronectes americanus)* belong to the flatfish group of fishes, a group strongly compressed laterally and which normally lie and swim on one side. When the larvae hatch they swim in the normal position; however, during development, as with all flatfish species, the head becomes twisted so that the fish now swims and lies on its side with both eyes on the upper side. Winter flounder almost invariably have eyes on the right side (Fig. 1) and a small mouth that reaches just in front of the eye. The body is covered with rough scales on the upper side, including the head. However, scales on the lower side are somewhat smoother. The upper side is dark brown to almost black and is sometimes mottled, depending on the colour of the habitat. The lower or blind side is light, normally white or yellowish.

Fig. 1 Winter flounder



Distribution

Winter flounder normally inhabitat the shallow coastal regions from the southern part of Labrador to Chesapeake Bay. They are, however, located also on some offshore shallow localities, especially in the southern part of the Gulf of St. Lawrence. Winter flounder can tolerate a wide range of temperatures. In the southern part of their range, they prefer temperatures of about 11-15°C and since these are only available inshore during the coldest season, hence the name "Winter Flounder". Further north, especially around the coast of Newfoundland, they generally prefer temperatures below 11°C. They can tolerate fairly low salinities and hence, frequently occur in brackish waters. Generally speaking, winter flounder are rather sedentary and what movement occurs is primarily related to environmental conditions.

Biology

The peak spawning period for winter flounder varies over their geographic range. It occurs during February and March in the New England area and primarily April to early June in Canadian waters. The females produce up to 2 1/2 million eggs, depending on their size, with the average number produced being around a half million eggs. In contrast to other flatfish species, and in fact to most dimersal fish, the eggs of winter flounder sink to the bottom in clusters where hatching occurs. Female winter flounder begin to mature at about age 4 in the Newfoundland area and somewhat younger in the more southerly localities. Males mature one or two years earlier.

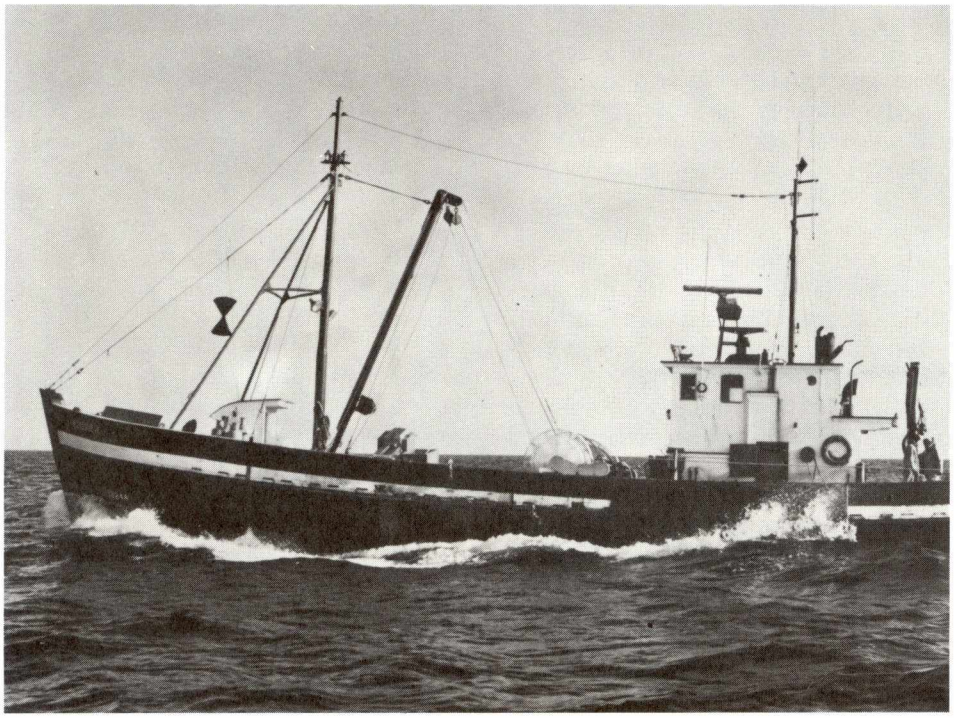


Fig. 2 Winter flounder can be caught by a number of methods; otter trawler and Danish seine are the most efficient.

The size (length) that winter flounder attain at any particular age varies with locality, which quite probably is related either directly or indirectly to environmental differences. Thus, winter flounder near Long Island, N.Y. at age 5 average about 36-37 cm in length. In the Bay of Fundy they are about 25 cm and on the east coast of Newfoundland they are about 20 cm.

Because this species has a relatively small mouth, it is limited in its food selection and the diet normally consists of small invertebrates, such as marine worms that live on or in the ocean floor, bottom dwelling crustaceans, small shellfish and sometimes eggs of fish such as herring that adhere to the bottom.

Fishery

As table 1 indicates, the principal fishery for this species is in the Northwest Atlantic — in the New England area of the U.S.A., the southern part of the Gulf of St. Lawrence (NAFO Div 4T) and the southern half of Nova Scotia (NAFO Div 4X). The species has only limited economic importance in Newfoundland. Winter flounder can be caught by a number of methods; otter trawler and Danish seine are the most efficient. They are also caught by baited hooks, gillnets and beach seine.

Because of its easy accessibility the winter flounder has been the subject of many biological studies and the amount of literature available on its life history is considerable.

Further Reading:

Leim, A.H. and W.B. Scott 1966. *Fish of the Atlantic Coast of Canada.* Bulletin Fish. Res. Bd. No. 155, 485 p.

Table 1. Commercial landings of winter founder in the Northwest Atlantic 1971-1980.

Year	East and South, Nfld.	Gulf of St. Lawrence Eastern Nova Scotia Metric Tons	U.S.A. FIshing Zone	Total
1971	155	5,016	12,443	17,614
1972	117	3,365	10,997	14,479
1973	-	4,293	10,432	14,725
1974	-	4,732	7,780	12,512
1975	67	3,424	8,710	12,201
1976	425	3,768	6,715	10,908
1977	299	2,615	10,608	13,522
1978	229	2,443	12,410	15,082
1979	109	2,810	12,226	15,145
1980	90	3,227	17,415	20,732

Text:
T.K. Pitt
Research and Resource Services
Department of Fisheries and Oceans
P.O. Box 5667
St. John's, Newfoundland
A1C 5X1

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