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UNITED STATES HALIBUT MARKING EXPERIMENTS, 1956-1958

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At the discussion of the Committee on Research and Statistics during the sixth annual meeting of ICNAF it was recommended that scientists from member nations carry out tagging experiments on halibut, Hippoglossus hippoglossus (L.), whenever and wherever possible.

The tagging of halibut is difficult because they are rarely found in concentrations and are extremely valuable in United States and Canadian markets. Both of these considerations render tagging from commercial vessels or on special trips of research vessels prohibitively expensive. Since the 1956 meeting, however, we have been able to tag and release 188 halibut (Table 1). They were captured by U.S. research vessels primarily engaged in tagging other groundfish species in Subdivisions 4X, 5Y, and 5Z of the Convention Area.

The fish tagged on Cashes Ledge in 1956 and on Georges Bank in April, 1957 were marked with Lea tags anchored internally as described by Wise (1958). All of the rest were tagged with Petersen discs on stainless steel wire or pins through the dorsal muscle.

Ten marked halibut have been recaptured. Most of them had not traveled very far from the tagging areas. Four fish, tagged on Cashes Ledge in 1956, were at large a maximum of 55 weeks and were recaptured within 30 miles of the tagging area. Three fish tagged on Browns Bank in March-April, 1957, at large four weeks or less, and one tagged on Browns in October-November, 1957, at large 10 weeks, also were recaptured within 30 miles of the tagging area.

In contrast to these fish are two halibut which traveled some distance from where they were tagged. One, tagged on Browns Bank in March-April, 1957, was recaptured eight weeks later and 100 miles away on central Georges Bank. The other, tagged on Georges Bank in March-April, 1957, was recaptured 17 weeks later 60 miles away on northern Browns Bank.

Both of the fish recaptured at relatively long distances from the tagging area were well above the average size of all the fish tagged; one was 144 centimeters at tagging, the other 71 centimeters. This is consistent with the observations of Martin and McCracken (1950) that the smaller fish appear to be relatively stationary, while the larger fish move about more.

Martin and McCracken's observations that halibut do not cross deepwater channels in their travels are not borne out since both of these large halibut crossed the Fundian Channel. It might be argued that the fish followed the coastline to go from one bank to the other. However, the great distances involved in a coastwise movement make it unlikely that any but a direct crossing of the Channel occurred.

While a comparison of the two types of tags used is not completely valid because of the small numbers of returns and the varying

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methods of capture, it may be meaningful that while the Lea tags were used on less than eight percent of the fish, they account for fully half of the returns - a difference greater than tenfold in percentage.

Table 1. Summary of United States halibut tagging in the Convention Area, 1956-1958

<u>Time</u>	<u>Place</u>	<u>Mode of Capture</u>	<u>Number Tagged</u>	<u>Size Range</u>
June- July 1956	5Y Cashes Ledge 42° 50'N 68° 55'W	Line Trawl	13	Under 60 cm.
March- April 1957	4X Browns Bank 42° 50'N 66° 00'W	Otter Trawl	78	24-99 cm. Mostly 40-60 cm.
	5Z Georges Bank 41° 55'N 66° 10'W	Otter Trawl	1	144 cm.
October 1957	5Z South Channel 41° 30'N 69° 20'W	Otter Trawl	2	c. 50 cm.
	4X Browns Bank 42° 50'N 66° 00'W	Otter Trawl	68	25-72 cm. Mostly 35-55 cm.
October 1957	4X Lurcher Shoal 43° 45'N 66° 28'W	Otter Trawl	2	38, 68 cm.
October- November 1957	5Y Grand Manan Banks 44° 10'N 67° 00'W	Otter Trawl	13	36-73 cm. Mostly 36-60 cm.
November 1957	5Y Cashes Ledge 42° 55'N 68° 55'W	Otter Trawl	2	56, 120 cm.
	5Y Fipennies Ledge 42° 48'N 69° 20'W	Otter Trawl	1	57 cm.
March- April 1958	4X Browns Bank 42° 40'N 66° 09'W	Otter Trawl	5	39-60 cm.
	5Y Jeffreys Ledge 42° 54'N 70° 10'W	Otter Trawl	3	40-51 cm.

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It is also interesting to note the relative abundance of small halibut on Browns Bank at two different seasons of the year. This suggests that Browns may serve as a nursery area for the western Nova Scotian banks and perhaps even for Georges Bank.

These tagging experiments will be continued as time and circumstances permit, and reports will be issued on them from time to time.

Selected References

- MARTIN, W.R. and F.D. McCracken. 1950. Movements of halibut on the Canadian Atlantic coast. Prog. Rept. Atl. Coast Sta., vol.50, pp. 3-8.
- WISE, J.P. 1958. The world's southernmost indigenous cod. Jour. du Cons., vol. 23, No. 2, pp. 208-212.

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