WHITING REPORT

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The present occurrence of the silver hake along the Maine coast in large numbers is somewhat unusual. The last time this happened was in 1955 when large numbers of silver hake were caught in the weirs at Lubec, Maine. Generally, the areas along the Maine coast have been a favorite fishing ground for some of the Gloucester boats but the area under consideration is not usually fished. The silver hake are found along the inshore waters with the large concentrations frequently occurring near Ipswich Bay. Landing statistics for 1958 show that subarea II-D (along Maine coast) contributed 23 percent of the total New England landings, while subarea II-E (along Massachusetts coast) contributed 43 percent. Annual New England landings from 1931 through 1957 have fluctuated through the years, some years more severe than others, but the trend has been that of constantly increasing landings. See attached Figure.

An analysis of morphometeric measurements of the silver hake show that the Gulf of Maine fish are almost certainly a separate stock from those of southern New England and New Jersey. Other evidence such as tag returns, growth rates and length frequencies also support this conclusion. These data also indicate that the Gulf of Maine silver hake are all one stock.

Laboratory Reference 59-2

The spawning areas and behavior of the silver hake are not clearly understood. Although from all available evidence, it appears that the silver hake spawn throughout the Gulf of Maine from June through September. It can be assumed that the centers of spawning activity are those areas where large numbers of fish are found in shoal water. This would include the inshore waters along the New England coast, Georges Bank and possibly some other areas not presently exploited by the commercial fleet.

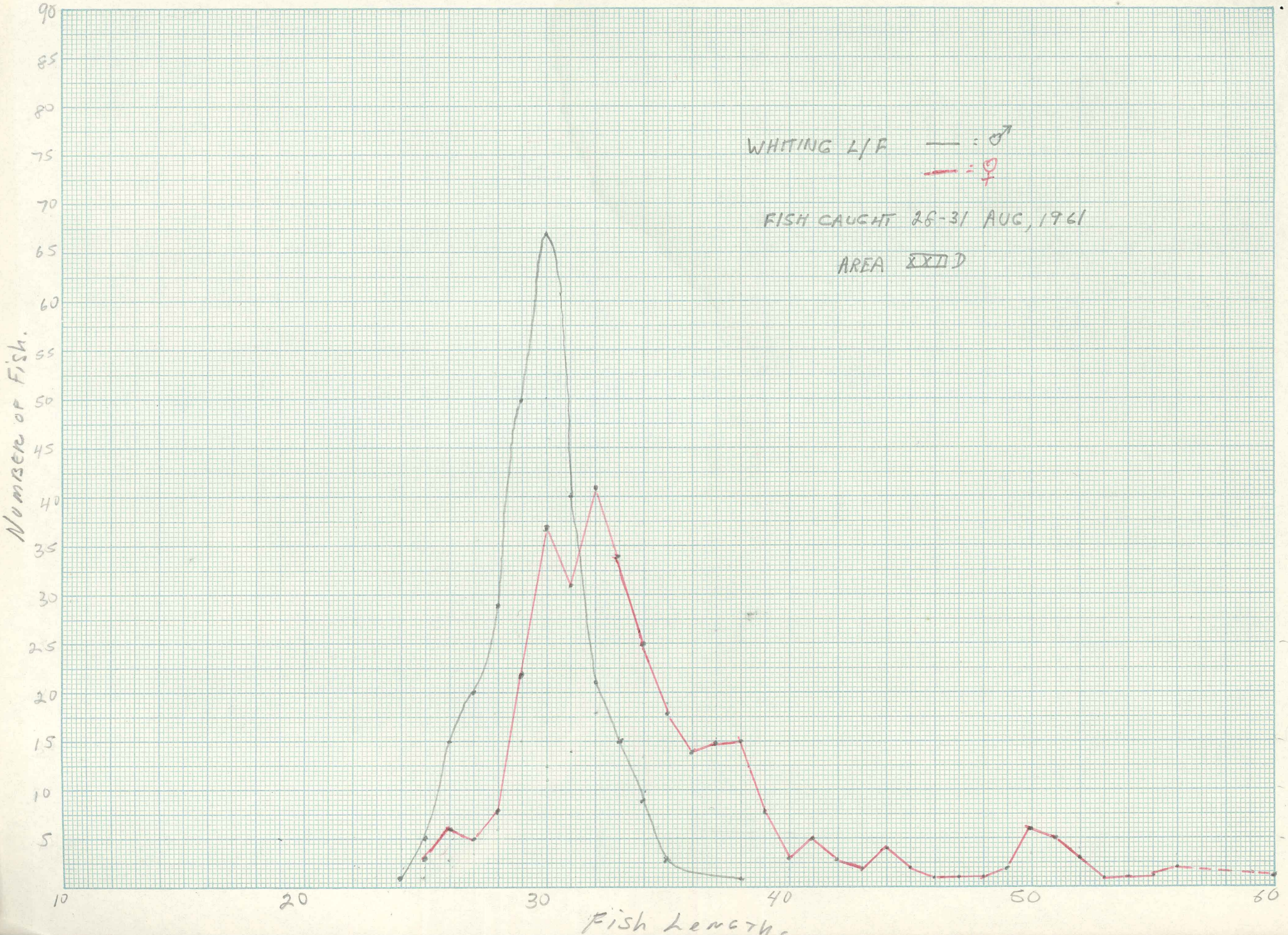
An examination of silver hake stomachs show that the principle food types found were invertebrates (Euphasiid shrimp) and small fish. This would suggest that this species is not a bottom feeder but rather more pelagic in feeding habit. Silver hake generally move off the bottom at night to feed and return to the bottom during the day.

Further experiments are necessary to determine the escapement of the silver hake from codends of different mesh sizes and materials. The majority of Gloucester fishermen use a 2-1/2 inch mesh codend, a few others are using a 3-inch mesh codend and are finding that fewer small fish are retained in the net. However, previous mesh experiments do not show a clear 50 percent point for the sizes of codends used. It must still be determined if a mesh regulation is necessary or that the lack of fish during any one year is part of the normal fluctuations of the population.

The length frequency distribution from samples taken from Cultivator Shoal and Half-way Rock, Maine, for the months of May and June is presented in Figure 2. The fish from Cultivator Shoal are smaller than those caught along the Maine coast. The dealers in Gloucester feel that a better product can be processed by using the larger fish, so they are encouraging the local fishermen to fish along the Maine coast.

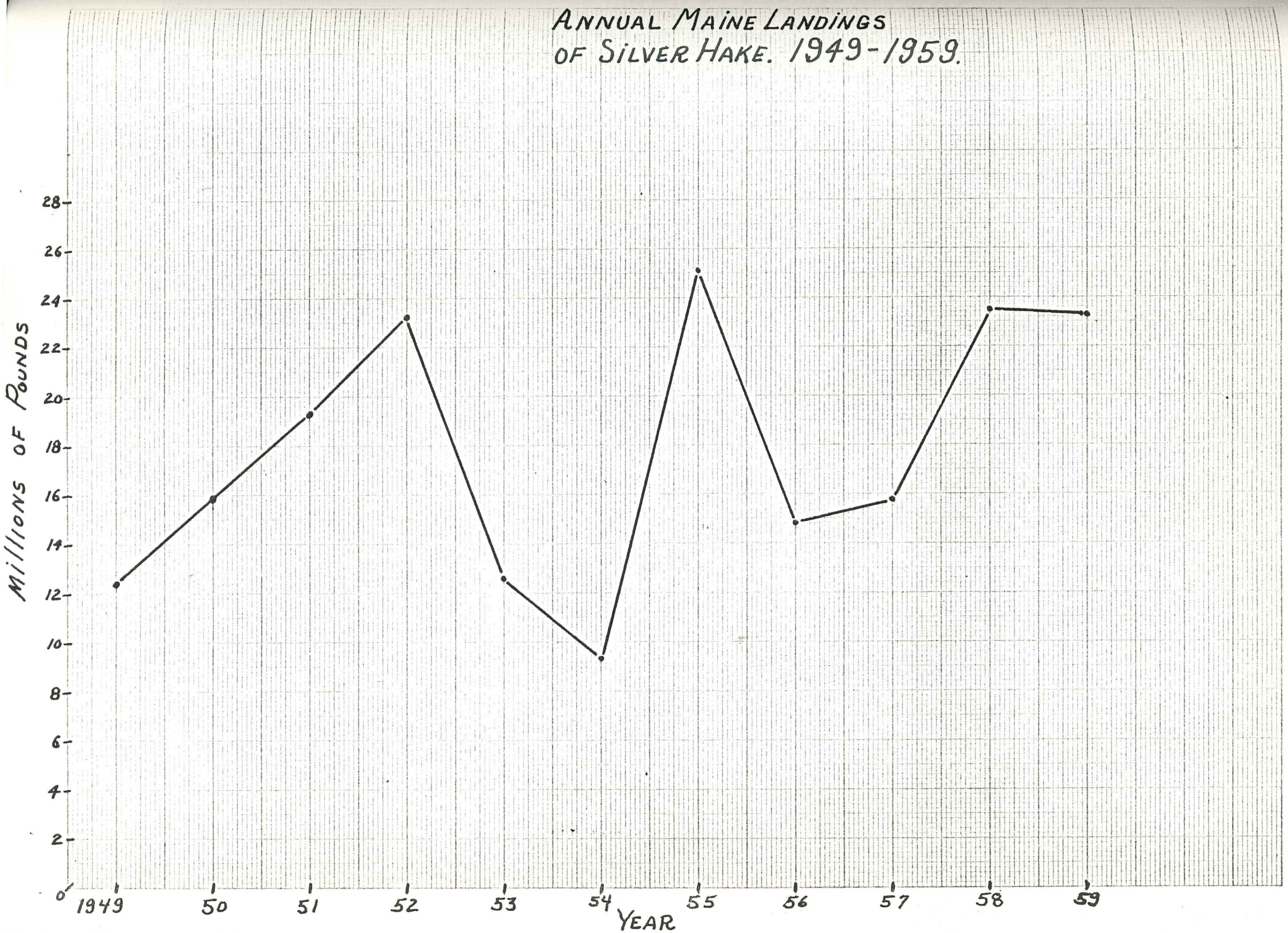
August 13, 1959

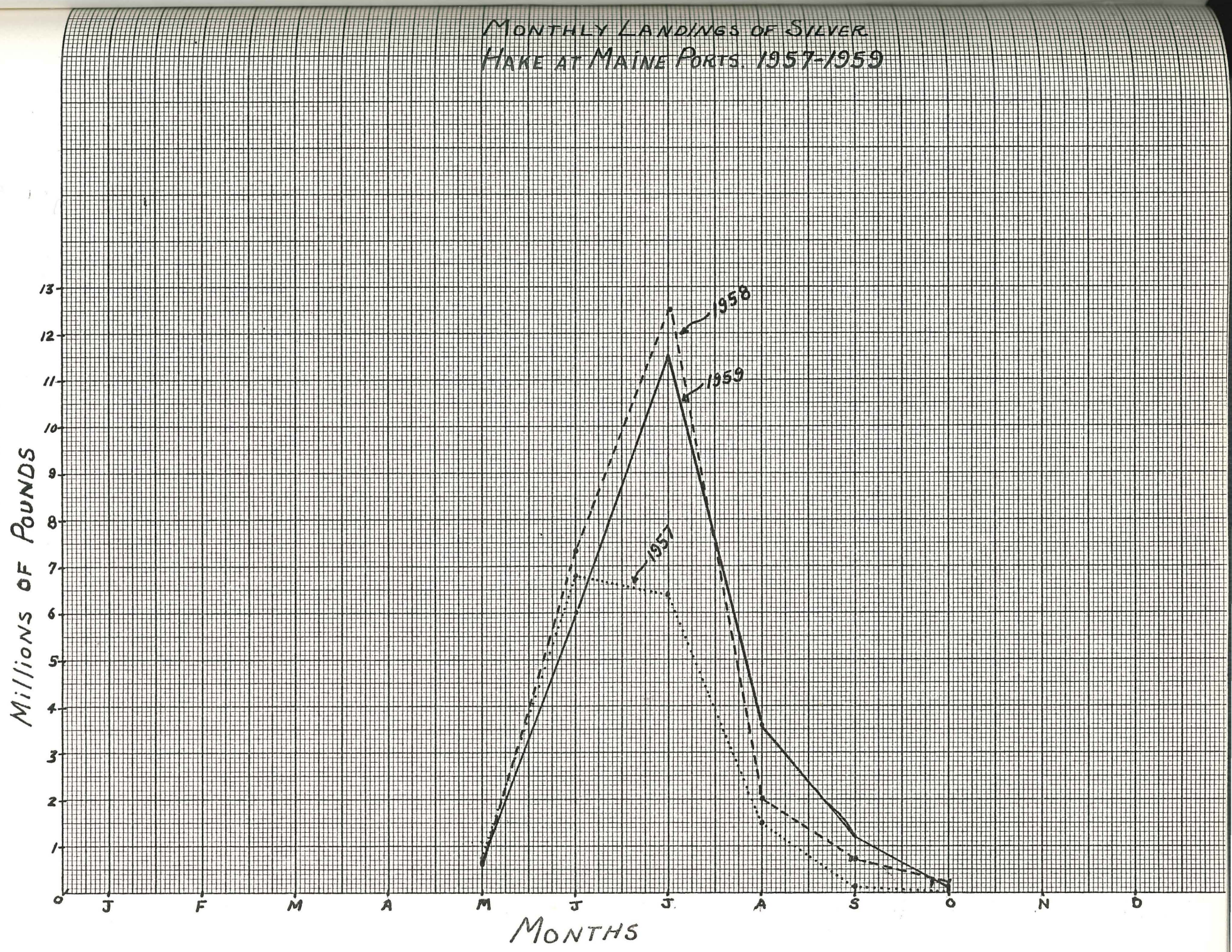
K+E 10 X 10 TO THE CM. KEUFFEL & ESSER CO. 358-14B MADE IN U.S.A.

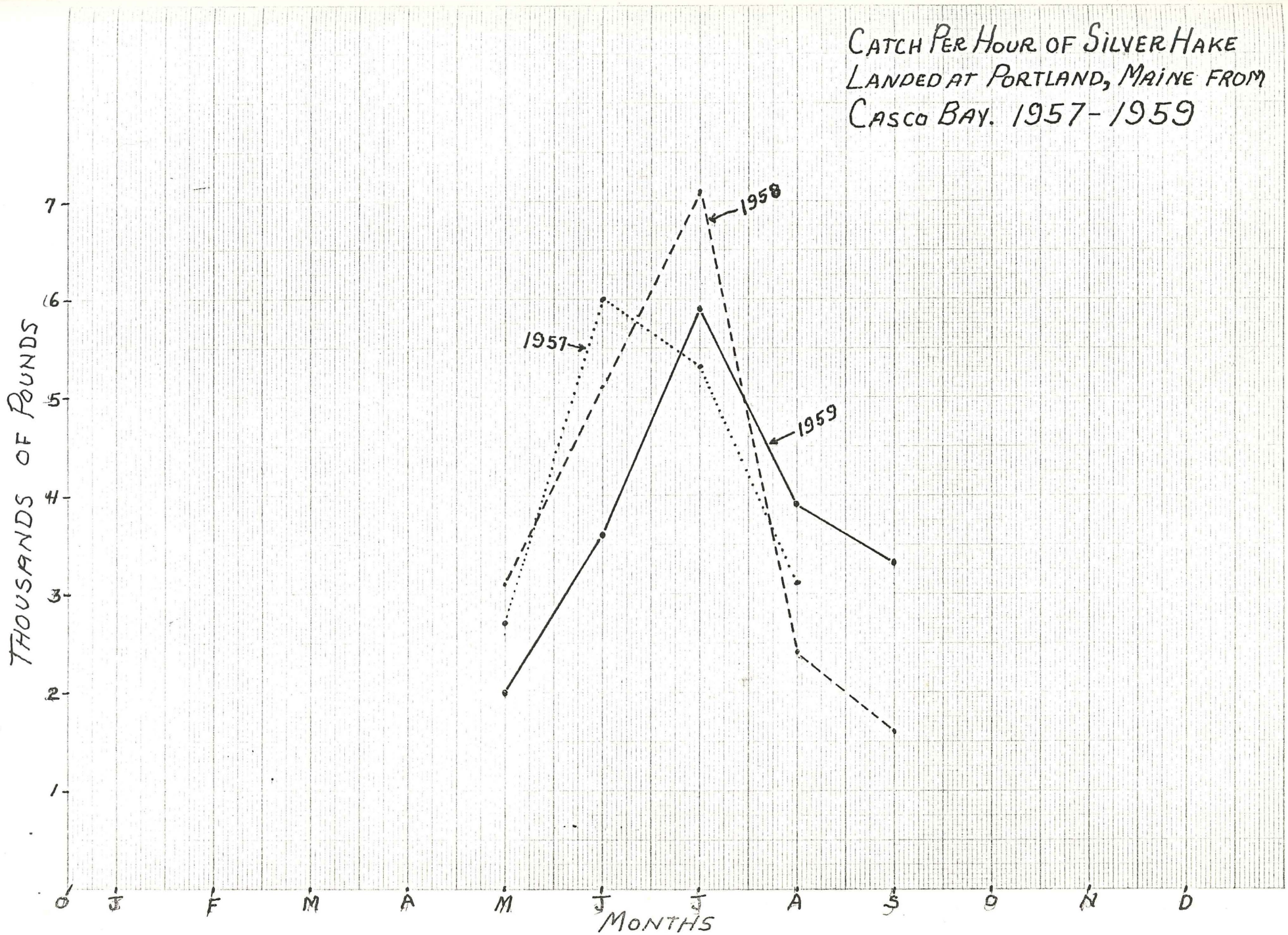


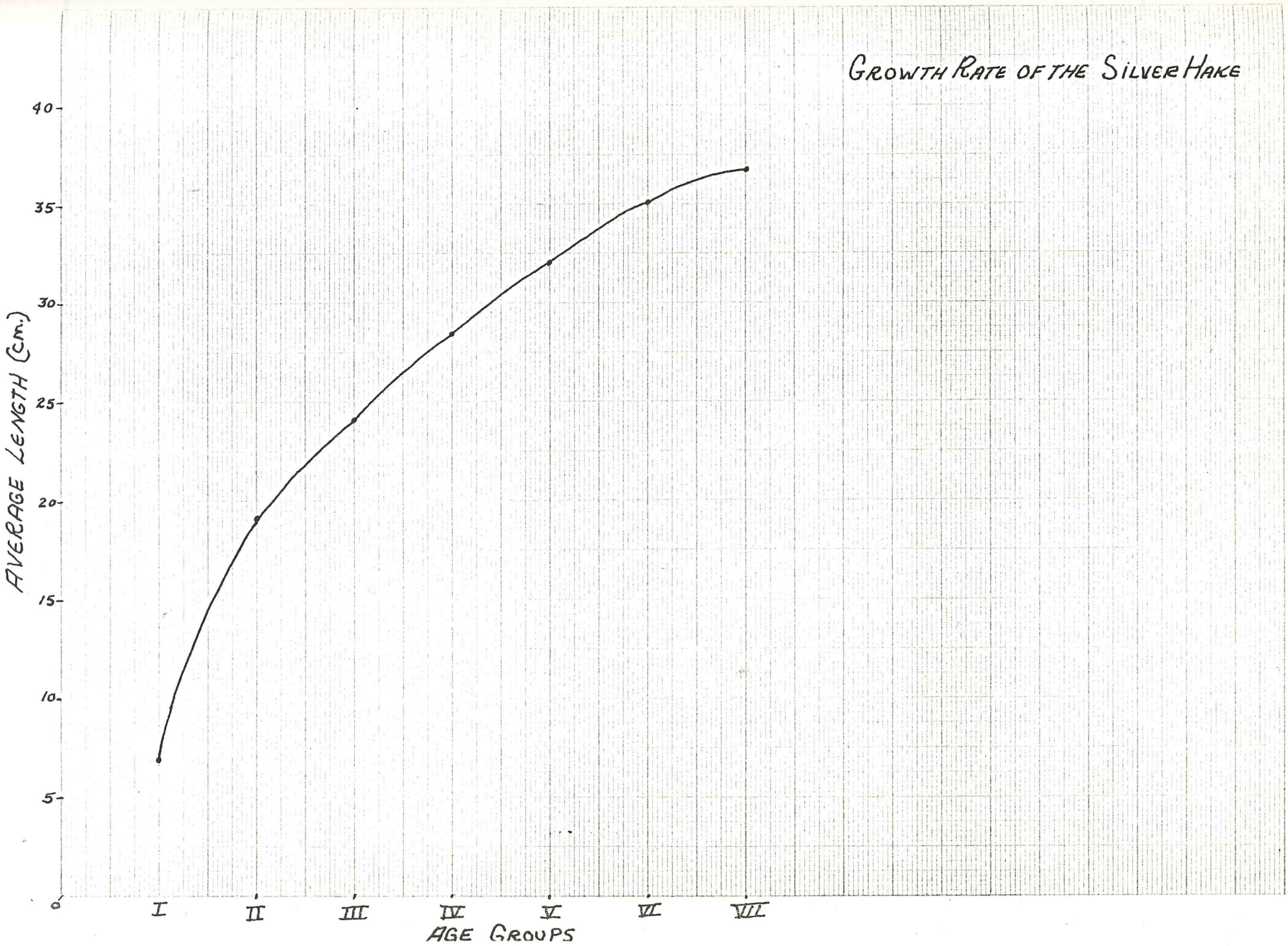
Whiting

Used at RO meeting
Jan. 6, 1960.
(with Dow & Green).


ANNUAL MAINE LANDINGS
OF SILVER HAKE. 1949-1959.
MILLIONS OF POUNDS
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
1949
50
51
52
53
54
55
56
57
58
59
YEAR


MONTHLY LANDINGS OF SILVER HAKE AT MAINE PORTS. 1957-1959
MILLIONS OF POUNDS
13
12
11
10
9
8
7
6
5
4
3
2
1
0
J
F
M
A
M
J
J
A
S
O
N
D
MONTHS
1958
1959
1957
K&E 10 X 10 TO THE CM. 358-14L
KEUFFEL & ESSER CO. MADE IN U.S.A.


CATCH PER HOUR OF SILVER HAKE
LANDED AT PORTLAND, MAINE FROM
CASCO BAY. 1957-1959
THOUSANDS OF POUNDS
7
6
5
4
3
2
1
0
1958
1957
1959
J
F
M
A
M
J
J
A
S
O
N
D
MONTHS


GROWTH RATE OF THE SILVER HAKE
AVERAGE LENGTH (CM.)
40
35
30
25
20
15
10
5
0
I
II
III
IV
V
VI
VII
AGE GROUPS

CASCO BAY
PORTLAND

1957-1958-1959

Thousands Of Pounds

FISHING DAY: 12 Hours

MONTH	~~POUNDS LANDED~~	POUNDS LANDED	TRIPS		HOURS FSHD	DAYS FSHD		CATCH HOUR	CATCH BAY	
1957										
MAY		515.4	47		187	15		2.7	34.3	
JUNE		4,633.8	201		766	63		6.0	73.5	
JULY		3,790.8	184		706	59		5.3	64.2	
AUGUST		794.5	63		252	21		3.1	37.8	
TOTALS		9,764.5	495		1911	158		5.1	61.8	
AVG.			123		477	40		4.2	52.4	
1958										
MAY		578.6	33		184	15		3.1	38.5	
JUNE		4,731.9	230		920	76		5.1	62.2	
JULY		8,088.9	284		1122	93		7.2	86.9	
AUGUST		854.3	90		358	29		2.4	29.4	
SEPT.		267.5	40		164	13		1.6	20.5	
TOTALS		14,521.2	677		2748 ~~1408~~	226		5.2 ~~3.3~~	64.4 ~~27.4~~	
AVG.			135		549	45		3.8	47.5	
1959										
MAY		212.3	23		105	8		2.0	24.4	
JUNE		4,665.8	257		1277	106		3.6	43.8	
JULY		6,932.1	235		1161	96		5.9	71.6	
AUGUST		1,346.6	85		340	28		3.9	47.5	
SEPT.		26.5	2		8	-		3.3	37.8	
TOTALS		13,183.3	602		2891	240		4.5	54.7	
AVG.			120		578	48		3.7	45.0	