# SPECIES COMPOSITION OF INDUSTRIAL TRAWL FISH LANDINGS IN NEW ENGLAND， 1958 <br> \section*{*} 




－



United States Department of the Interior, Fred A. Seaton, Secretary Fish and Wildlife Service, Arnie J. Suomela, Commissioner Bureau of Commercial Fisheries, Donald L. McKernan, Director

# SPECIES COMPOSITION OF INDUSTRIAL TRAWL-FISH LANDINGS IN NEW ENGLAND, 1958 

by<br>Robert L. Edwards Fishery Research Biologist

and

Lewis Lawday Statistical Clerk


United States Fish and Wildlife Service Special Scientific Report--Fisheries No. 346

1. Landings and number of trips by month and fishing area, of industrial trawl-fish vessels at Point Judith, R.I., 1958 ..... 3
2. Landings and number of trips, by month, of industrial trawl-fish vessels at New Bedford, Mass., 1958 ..... 3
3. Landings and number of trips, by month and fishing area, of industrial trawl-fish vessels at Gloucester, Mass., 1958 ..... 4
4. Species composition, in percent by weight, of Point Judith industrial trawl-fish landings from the offshore area, by months, 1958 ..... 5
5. Species composition, in pounds, of Point Judith industrial trawl-fish landings from the offshore area, by months, 1958. ..... 6
6. Species composition, in percent by weight, of Point Judith industrial trawl-fish landings from the inshore area, by months, 1958 ..... 7
7. Species composition, in pounds, of Point Judith industrial trawl-fish landings from the inshore area, by months, 1958 ..... 8
8. Species composition, in percent by weight, of industrial trawl-fish, landings from the No Mans area, by months, 1958 ..... 9
9. Species composition, in pounds, of New Bedford industrial trawl-fish landings from the No Mans area, by months, 1958 ..... 10
10. Species composition, in pounds, of Point Judith industrial trawl-fish landings from the No Mans area, by months, 1958 ..... 11
11. Species composition, in percent by weight, of Gloucester industrial trawl-fish landings from the Ipswich area, by months, 1958 ..... 12
12. Species composition, in pounds, of Gloucester industrial trawl-fish landings from the Ipswich area, by months, 1958 ..... 13
13. Species composition, in percent by weight, of Gloucester industrial trawl-fish landings from the Stellwagen Bank area, by months, 1958. ..... 14
14. Species composition, in pounds, of Gloucester industrial trawl-fish landings from the Stellwagen Bank area, by months, 1958 ..... 15
15. Species composition, in percent by weight, of Gloucester industrial trawl-fish landings from the Nauset area, by months, 1958. ..... 16
16. Species composition, in pounds, of Gloucester industrial trawl-fish landings from the Nauset area, by months, 1958 ..... 17
17. Total pounds and percentage of each species landed in the industrial trawl catch, by port and fishing area, 1958 ..... 18
18. Catch per trip of industrial trawl on each of the principal fishing areas, by months, 1958 ..... 20

# SPECIES COMPOSITION OF INDUSTRIAL TRAWL-FISH LANDINGS IN NEW ENGLAND, 1958 

by

Robert L. Edwards and Lewis Lawday<br>U. S. Fish and Wildlife Service<br>Woods Hole, Massachusetts


#### Abstract

Data are presented on the species composition of the industrial trawl-fish catch landed at New England ports in 1958. The pounds landed and percent by weight of the species taken for each of the principal fishing areas are given by month and port, with appropriate summaries.


## INTRODUCTION

The species composition of the landings of the industrial trawl fishery of New England for 1958 is presented in this report. These data were developed to help answer the many questions asked by the fishing industry and the interested public about the composition of these catches.

Industrial fish are, for the most part, utilized in the production of fish meal and homogenized condensed fish--products that are used as additives to poultry and livestock rations. They have been valued as an inexpensive source of protein, as well as for their "unidentified growth factor." The controversies that have developed over the industrial fishery usually have involved charges that excessive quantities of valuable food species and very small fishes are taken. The degree to which this may or may not be true is a matter of concern to the U.S. Bureau of Commercial Fisheries as well as to the fishing industry. The information in this report is presented in such a manner as to permit an
evaluation of the potential effects of this fishery on any or all of the fishes of commercial importance in New England waters.

The data are presented in the same manner as in the 1957 report. ${ }^{1}$ The remarks in that report with regard to manner of sampling and fleetactivities apply as well to this report.

Landings of industrial fish dropped considerably in 1958 (fig. 1), totaling


Figure l.--Landings of industrial fish of Point Judith, Now Bedford, and Gloucester, and the tatal landings, 1949 through 1958.

[^0]only 137 million pounds, whereas in 1957, 168 million pounds were landed. Of the 1958 total, 78 million pounds were landed at Point Judith, R. 1., 43 million pounds at New Bedford, Mass., and 16 million pounds at Gloucester, Mass. The greatest decrease in landings was at Gloucester, where 37 million pounds were landed in 1957.

The decrease in total landings at Point Judith appears to be the result of a slight decrease in availability of certain species, among them the silver hake, and an influx of large numbers of swordfish which diverted the fleet's attention from industrial fish during the summer. The relative decrease in abundance of silver hake in the landings was general throughout New England in 1958. The percentage contribution of silver hake to the industrial catch dropped from 23.0 percent in 1957 to 15.9 percent in 1958. This change in relative abundance occurred in all but one of the general areas listed in table 17 and is by far the most significant change observed in these 2 years.

## SAMPLING PROCEDURE

Since the previous report, further research has been done on the validity of the sampling procedure. This research indicated that the present standard sample size of 1 bushel was of sufficient size to estimate the percentage composition of major species within the catch (i. e., more than 30 percent by number) to within 4 or 5
percent, and that any further significant increase in precision would involve a sample so large as to be impractical.

The areas used in reporting the data are indicated in figure 2. The data presented for these areas do not represent the ultimate detail of our interview information; they are syntheses of data from many individual fishing grounds that share some degree of ecological similarity.


Figure 2.-- Industrial fishery oreas reforred to in this report.

## TABLES

TABIE 1.--LANDINGS AND NUMBER OF TRIPS, BY MONTH AND FISHING AREA, OF INDUSTRIAL TRAWL-FISH VESSEIS AT POINT JUDITH, R. I., 1958
[ In thousands of pounds]

| Nonth | Offshore |  | Inshore |  | No Mans |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pounds | Trips | Pounds | Trips | Pounds | Trips | Pounds | Trips |
| January | 598 | 49 | 572 | 96 | -- | -- | 1,170 | 145 |
| February | 782 | 90 | 311 | 108 | -- | -- | 1,093 | 198 |
| March | 925 | 77 | 660 | 156 | 80 | 8 | 1,665 | 241 |
| April | 4,609 | 178 | 426 | 96 | 2,253 | 48 | 7,288 | 322 |
| May | 4,524 | 76 | 747 | 184 | 10,331 | 173 | 15,602 | 433 |
| June | 2,841 | 99 | 1,938 | 282 | 6,310 | 105 | 11,089 | 486 |
| July | 1,280 | 29 | 1,722 | 194 | 2,139 | 61 | 5,141 | 284 |
| August | 2,189 | 66 | 2,233 | 188 | 2,819 | 89 | 7,241 | 343 |
| September | 963 | 30 | 3,873 | 279 | 4,171 | 129 | 9,007 | 438 |
| October | 4,644 | 140 | 3,365 | 252 | 74 | 3 | 8,083 | 395 |
| November | 2,439 | 102 | 4,339 | 298 | 941 | 30 | 7,719 | 430 |
| December | 610 | 66 | 1,647 | 234 | 452 | 38 | 2,709 | 338 |
| Total | 26,404 | 1,002 | 21,833 | 2,367 | 29,570 | 684 | 77,807 | 4,053 |

TABLE 2.--LANDINGS AND NUMBER OF TRIPS, BY MONTH, OF INDUSTRIAL TRAWL-FISH VESSELS AT NEW BEDFORD, MASS., 1958
[ In thousands of pounds ]

|  | Month | Pounds |
| :--- | :---: | ---: |
|  |  | Trips |
| January |  |  |
| February | 176 | 15 |
| March | 347 | 20 |
| April | 803 | 32 |
| May | 5,251 | 114 |
| June | 15,106 | 230 |
| July | 9,520 | 197 |
| August | 2,923 | 89 |
| September | 3,091 | 90 |
| October | 1,414 | 49 |
| November | 1,677 | 51 |
| December | 2,057 | 55 |
| Total | 284 | 17 |

Note.--At least 90 percent of landings from No Mans area.

TABLE 3.--LANDINGS AND NUMBER OF TRIPS, BY MONTH AND FISHING AREA, OF INDUSTRIAL TRAWL-FISH VESSELS AT GLOUCESTER, MASS., 1958
[In thousands of pounds]

| Month | Ipswich |  | Stellwagen |  | Nauset |  | Southern Maine |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pounds | Trips | Pounds | Trips | Pounds | Trips | Pounds | Trips | Pounds | Trips |
| January | 86 | 2 | -- | -- | -- | -- | -- | -- | 86 | 2 |
| February | 25 | 3 | -- | -- | -- | -- | -- | -- | 25 | 3 |
| March | -- | - | -- | -- | -- | -- | -- | -- | -- | -- |
| April | 38 | 5 | -- | -- | -- | -- | -- | -- | 38 | 5 |
| May | 194 | 9 | 194 | 9 | 1,270 | 59 | 129 | 6 | 1,787 | 83 |
| June | 835 | 69 | 796 | 47 | 1,768 | 46 | 26 | 2 | 3,425 | 164 |
| July | 186 | 18 | 101 | 6 | 260 | 3 | -- | -- | 547 | 27 |
| August | 168 | 8 | 410 | 23 | 1,707 | 58 | 34 | 2 | 2,319 | 91 |
| September | 216 | 15 | 409 | 22 | 1,836 | 86 | -- | -- | 2,461 | 123 |
| October | 293 | 23 | 772 | 42 | 2,515 | 103 | -- | -- | 3,580 | 168 |
| November | 151 | 16 | 372 | 26 | 709 | 57 | -- | -- | 1,232 | 99 |
| December | 71 | 4 | 841 | 46 | -- | -- | 21 | 2 | 933 | 52 |
| Total | 2,263 | 172 | 3,895 | 221 | 10,065 | 412 | 210 | 12 | 16,433 | 817 |

TABLE 4.--SPECIES COMPOSITION, IN PERCENT BY WEIGHT, OF POINT JUDITH INDUSTRIAL TRAWL-FISH LANDINGS FROM THE

| $\begin{aligned} & \text { OFFSHORE AREA, BY MONTHS, } 1958 \\ & \text { indicates less than } 0.1 \text { percent] } \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Species | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| Number of samples | 4 | 9 | 10 | 15 | 13 | 1 | 2 | 2 | 16 | 5 | 4 | 2 |
| Red hake | 0.6 | 2.6 | 0.5 | 28.2 | 60.8 | 28.9 | 27.2 | 43.8 | 25.1 | 35.3 | 26.7 | 2.2 |
| White hake | 0.8 | 0.1 | -- | - | - - | -- | - | + | 0.1 | 2.1 | 0.5 | -- |
| Silver hake | 3.8 | 2.4 | 0.7 | 0.7 | 4.0 | 30.9 | 33.7 | 27.2 | 47.8 | 41.6 | 6.9 | 9.8 |
| Iittle skate | 5.6 | 10.0 | 13.7 | 12.2 | 2.2 | 10.0 | 13.4 | 2.4 | 8.0 | 7.8 | 8.2 | 19.2 |
| Big skate | 13.9 | 20.3 | 14.0 | 11.2 | 1.2 | - | -- | 3.3 | -- | 1.7 | 6.4 | 8.2 |
| Immature skate | 0.7 | -- | -- | 1.4 | $\cdots$ | -- | -- | -- | -- | -- | -- | -- |
| Spotted hake | - | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.1 | -- |
| Eel pout | 9.1 | 27.7 | 32.7 | 13.2 | 19.5 | 25.6 | 14.6 | 1.6 | -- | 1.2 | 0.5 | 3.5 |
| Longhorn sculpin | 2.2 | 2.4 | 6.6 | 1.8 | 1.5 | -- | -- | 0.3 | -- | 0.1 | 0.8 | 0.6 |
| Sea robin | -- | -- | -- | - | 0.4 | -- | -- | -- | 10.2 | 2.5 | 6.3 | + |
| Striped sea robin | -- | -- | -- | -- | -- | -- | $\rightarrow-$ | -- | 0.2 | -- | -- | -- |
| Angler | 6.9 | 13.8 | 16.3 | 15.9 | 5.5 | -- | 4.6 | 11.4 | 1.9 | 0.8 | 2.6 | 9.0 |
| Four-spot flounder | 0.7 | + | 0.5 | 0.4 | 0.5 | 1.2 | 0.8 | 1.2 | 0.6 | -- | 0.3 | 1.2 |
| Sand flounder | 7.0 | 5.2 | 2.2 | 1.8 | 0.3 | - | -- | - | 0.4 | + | 1.0 | + |
| Gulf stream flounder | -- | 0.3 | -- | -- | -- | -- | -- | -- | 0.1 | -- | -- | -- |
| Yellowtail flounder | 10.1 | 5.8 | 2.5 | 2.3 | 1.1 | 2.2 | -- | 0.1 | 0.1 | -- | 0.5 | -- |
| Blackback flounder | 0.1 | 0.2 | + | + | 0.1 | -- | 1.2 | 2.1 | 0.7 | 0.6 | 0.2 | -- |
| Sea raven | - | -- | -- | 0.2 | 0.3 | -- | -- | -- | -- | -- | -- | -- |
| Spiny dogfish | 24.2 | 3.7 | 4.0 | 7.5 | 1.7 | - | -- | -- | -- | -- | 38.0 | 42.2 |
| Smooth dogfish | -- | -- | -- | -- | 0.5 | -- | -- | 5.2 | -- | -- |  |  |
| Barndoor skate | 8.1 | 4.1 | 1.8 | 2.4 | -- | -- | -- | -- | -- | 0.5 | 0.3 | + |
| Alewife | 5.6 | 1.0 | 3.6 | 0.4 | + | 1.2 | 0.6 | 0.6 | -- | 3.2 | 0.3 | 3.6 |
| Herring | 0.5 | 0.3 | 0.8 | 0.3 | 0.2 | -- | -- | -- | -- | 0.1 | -- | -- |
| Scup | -- | -- | -- | -- | -- | -- | -- | -- | 1.6 | 1.7 | -- | 0.3 |
| Butterfish | -- | -- | -- | 0.1 | - | -- | 3.8 | 0.6 | 3.2 | 0.5 | 0.3 | - |
| Cunner | - | - | -- | -- | - | -- | -- | + | -- | + | -- | -- |
| Rockling | -- | -- | -- | -- | -- | -- | + | -- | -- | + | -- | -- |

1 Based on 1955, 1956, and 1957 samples.
TABLE 5.--SPECIES COMPOSITION, IN POUNDS, OF POINT JUDITH INDUSTRIAL TRAWL-FISH LANDINGS FROM THE OFFSHORE AREA,

| Species | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. ${ }^{1}$ | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Red hake | 4 | 20 | 5 | 1,300 | 2,751 | 821 | 348 | 959 | 242 | 1,639 | 651 | 13 |
| White hake | 5 | 1 | -- | - | - | -- | -- | + | 1 | . 98 | 12 | -- |
| Silver hake | 23 | 19 | 6 | 32 | 180 | 878 | 431 | 595 | 460 | 1,932 | 168 | 60 |
| Little skate | 33 | 78 | 127 | 562 | 100 | 284 | 172 | 53 | 77 | 362 | 200 | 117 |
| Big skate | 83 | 159 | 130 | 516 | 54 | - | - | 72 | -- | 79 | 156 | 50 |
| Immature skate | 4 | - | - | 65 | -- | -- | -- | -- | -- | -- | -- |  |
| Spotted hake | -- | - | -- | -- | -- | -- | -- | - - | -- | -- | 2 | -- |
| Eel pout | 54 | 217 | 302 | 608 | 882 | 727 | 187 | 35 | -- | 56 | 12 | 21 |
| Longhorn sculpin | 13 | 19 | 61 | 83 | 68 | -- | - | 7 | -- | 5 | 20 | 4 |
| Sea robin | - | - | - | - | 18 | -- | -- | -- | 98 | 116 | 154 | $+$ |
| Striped sea robin | - | -- | -- | -- | -- | -- | -- | -- | 2 | - | -- | -- |
| Angler | 41 | 108 | 151 | 733 | 249 | -- | 59 | 250 | 18 | 37 | 63 | 55 |
| Four-spot flounder | 4 | + | 5 | 18 | 23 | 34 | 10 | 26 | 6 | -- | 7 | 7 |
| Sand flounder | 42 | 41 | 20 | 83 | 14 | - | -- | - | 4 | + | 24 | $+$ |
| Gulf stream flounder | - | 2 | - | -- | -- | -- | -- | -- | 1 | -- | 2 | -- |
| Yellowtail flounder | 60 | 45 | 23 | 106 | 50 | 63 | -- | 2 | 1 | -- | 12 | - - |
| Blackback flounder | 1 | 2 | $+$ | $+$ | 5 | -- | 15 | 46 | 7 | 28 | 5 | - |
| Sea raven | - | -- | -- | 9 | 14 | -- | -- | -- | -- | -- | -- | -- |
| Spiny dogfish | 145 | 29 | 37 | 346 | 77 | -- | -- | -- | -- | -- | 927 | 257 |
| Smooth dogfish | - | -- | -- | -- | 23 | -- | -- | 114 | -- | -- | 92 | 2 |
| Barndoor skate | 48 | 32 | 17 | 111 | + | -- | -- | -- | -- | 23 | 7 | + |
| Alewife | 33 | 8 | 33 | 18 | + | 34 | 8 | 13 | - | 149 | 7 | 22 |
| Herring | 3 | 2 | 7 | 14 | 9 | -- | -- | -- | -- | 5 | -- | -- |
| Scup | -- | -- | -- | -- | -- | -- | -- | -- | 15 | 79 | + | 2 |
| Butterfish | -- | -- | -- | 5 | - | -- | 49 | 13 | 31 | 23 | 7 | -- |
| Cunner | - | -- | -- | -- | -- | - | -- | - | -- | $+$ | - | -- |
| Three-bearded rockling | -- | -- | -- | -- | - | -- | + | -- | -- | + | - | - |
| Total | 596 | 782 | 924 | 4,609 | 4,517 | 2,841 | 1,279 | 2,185 | 963 | 4,631 | 2,434 | 608 |

[^1]TABLE 6.--SPECIES COMPOSITION, IN PERCENT BY WEIGHT, OF POINT JUDITH INDUSTRIAL TRAWL-FISH LANDINGS

| Species | Jan. | Feb. | March | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of samples | 3 | 14 | 18 | 10 | 16 | 28 | 26 | 16 | 19 | 15 | 22 | 6 |
| Red hake | 2.1 | 0.6 | 0.4 | 10.1 | 34.4 | 36.5 | 17.7 | 10.0 | 13.3 | 25.8 | 32.1 | 20.5 |
| White hake | -- | -- | -- | -- | -- | -- | + | -- | + | -- | 0.8 | -- |
| Silver hake | 3.9 | 1.6 | 0.2 | $+$ | 6.3 | 11.7 | 33.5 | 36.3 | 31.0 | 22.4 | 18.4 | 26.0 |
| Little skate | 10.3 | 9.3 | 11.8 | 4.5 | 7.7 | 12.9 | 9.2 | 9.9 | 10.8 | 7.2 | 5.2 | 11.0 |
| Big skate | 17.5 | 14.1 | 7.0 | 4.7 | 6.8 | 6.7 | 3.4 | 2.8 | 7.0 | 7.4 | 8.8 | 3.6 |
| Spotted hake | -- | -- | -- | -- | -- | -- | -- | -- | 0.1 | + | + | -- |
| Eel pout | 7.8 | 48.7 | 58.5 | 53.2 | 20.8 | 6.3 | 3.0 | 0.2 | + | -- | 0.1 | 0.2 |
| Longhorn sculpin | 1.7 | 4.9 | 7.9 | 9.4 | 5.4 | 0.8 | 0.1 | + | -- | 0.6 | 4.3 | 3.9 |
| Sea robin | -- | -- | -- | -- | 0.8 | 0.2 | 1.8 | 16.0 | 13.0 | 1.7 | -- | -- |
| Striped sea robin | -- | -- | -- | -- | -- | 0.1 | 0.4 | 0.3 | 0.4 | + | -- | -- |
| Angler | 8.9 | 4.5 | 2.2 | 1.8 | 6.5 | 17.3 | 18.0 | 9.7 | 9.7 | 8.2 | 14.1 | 6.5 |
| Four-spot flounder | -- | -- | -- | -- | 0.5 | 1.7 | 1.9 | 1.2 | 0.6 | 0.4 | 0.1 | -- |
| Sand flounder | 1.5 | 0.5 | 0.9 | 0.2 | 0.1 | 0.2 | 1.2 | 0.2 | 1.1 | 0.7 | 0.4 | 3.3 |
| Yellowtail flounder | -- | -- | 0.1 | 0.1 | -- | -- | -- | -- | -- | -- | -- | -- |
| Blackback flounder | -- | 0.4 | 0.2 | 0.5 | 0.5 | 2.5 | 3.4 | 0.8 | 1.0 | $+$ | $+$ | 0.2 |
| Blueback | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | + | -- |
| Sea raven | -- | -- | -- | -- | 0.1 | 0.1 | 0.1 | 0.2 | -- | 0.3 | -- | -- |
| Spiny dogfish | 15.9 | -- | 0.6 | 13.8 | 8.6 | -- | 0.5 | 0.3 | 2.5 | 22.1 | 11.4 | 7.9 |
| Smooth dogfish | -- | -- | -- | -- | 0.4 | 1.6 | 2.5 | 4.9 | 7.0 | 1.3 | -- | 9.1 |
| Barndoor skate | -- | 0.1 | 0.4 | -- | 0.2 | -- | -- | -- | 0.2 | -- | 0.4 | -- |
| Brier skate | -- | -- | -- | -- | -- | -- | $+$ | -- | -- | -- | -- | -- |
| Shad | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.1 | -- |
| Alewife | 28.8 | 7.8 | 1.4 | 0.4 | 0.6 | 0.1 | 0.7 | 0.1 | 0.4 | 0.3 | 3.4 | 7.5 |
| Menhaden | -- | -- | -- | -- | -- | -- | -- | 0.1 | -- | -- | -- | -- |
| Herring | 1.7 | 6.8 | 8.2 | 1.2 | -- | -- | -- | -- | 0.3 | -- | -- | 0.2 |
| Scup | -- | -- | -- | -- | 0.1 | 0.7 | 0.8 | 1.4 | 0.6 | 1.0 | -- | -- |
| Butterfish | -- | -- | -- | -- | -- | 0.2 | 1.8 | 5.5 | 0.8 | 0.1 | 0.1 | 0.1 |
| Sea bass | -- | -- | -- | -- | -- | + | 0.1 | -- | -- | -- | -- | -- |
| Mackerel | -- | -- | -- | -- | -- | -- | + | -- | -- | -- | -- | -- |
| Cunner | -- | -- | -- | -- | 0.3 | 0.2 | $+$ | -- | + | 0.3 | 0.1 | -- |
| Three-bearded rockling | -- | -- | + | -- | 0.1 | -- | -- | + | + | -- | -- | -- |

TABLE 7.--SPECIES COMPOSITION, IN POUNDS, OF POINT JUDITH INDUSTRIAL TRAWL-FISH LANDINGS FROM THE

| Species | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Red hake | 12 | 2 | 3 | 43 | 257 | 707 | 305 | 223 | 515 | 868 | 1,393 | 338 |
| White hake | 22 | -- | -- | - | - | -- | + | - | $+$ | -- | 35 | - |
| Silver hake | - | 5 | 1 | + | 47 | 228 | 577 | 811 | 1,201 | 754 | 798 | 428 |
| Little skate | 59 | 29 | 78 | 19 | 58 | 250 | 158 | 221 | 418 | 242 | 226 | 181 |
| Big skate | 100 | 44 | 46 | 20 | 51 | 130 | 58 | 63 | 271 | 249 | 382 | 59 |
| Spotted hake | -- | - | - | -- | -- | - | -- | - - | 4 | + | + | -- |
| Eel pout | 45 | 151 | 386 | 227 | 155 | 122 | 52 | 4 | + | -- | 4 | 3 |
| Longhom sculpin | 9 | 15 | 52 | 40 | 40 | 16 | 2 | $+$ | -- | 20 | 187 | 64 |
| Sea robin | - | - | -- | - | 6 | 4 | 31 | 357 | 503 | 57 | -- | - - |
| Striped sea robin | -- | -- | -- | -- | -- | 2 | 7 | 7 | 15 | + | -- | -- |
| Angler | 51 | 14 | 15 | 8 | 49 | 335 | 310 | 217 | 376 | 276 | 612 | 107 |
| Four-spot flounder | - | -- | -- | - | 4 | 33 | 33 | 27 | 23 | 13 | 4 | -- |
| Sand flounder | 9 | 2 | 6 | 1 | 1 | 4 | 20 | 4 | 43 | 24 | 17 | 54 |
| Yellowtail flounder | - - | -- | 1 | + | -- | -- | -- | -- |  |  | 17 |  |
| Blackback flounder | - | 1 | 3 | 2 | 4 | 48 | 58 | 18 | 39 | + | + | 3 |
| Blueback | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | + | - - |
| Sea raven | - | - | -- | -- | 1 | 2 | 2 | 4 | - | 10 | - | -- |
| Spiny dogfish | 91 | -- | 4 | 59 | 64 | - | 9 | 7 | 97 | 744 | 495 | 130 |
| Smooth dogfish | - | -- | -- | -- | 3 | 31 | 43 | 109 | 271 | 44 | -- | 150 |
| Barndoor skate | -- | + | 3 | - | 1 | -- | -- | -- | 8 | -- | 17 | -- |
| Brier skate | - | - | -- | -- | -- | -- | $+$ | -- | -- | -- | -- | -- |
| Shad | - | - | -- | -- | -- | -- | -- | -- | -- | - | 4 | -- |
| Alewife | 165 | 24 | 9 | 2 | 4 | 2 | 12 | 2 | 15 | 10 | 148 | 124 |
| Menhaden | -- | -- | -- | - | -- | -- | -- | 2 | -- | -- | -- | - |
| Herring | 8 | 21 | 54 | 5 | -- | - | -- | - | 12 | -- | -- | 3 |
| Scup | -- | -- | -- | -- | 1 | 14 | 14 | 31 | 23 | 34 | -- | - |
| Butterfish | - | -- | -- | -- | -- | 4 | 31 | 123 | 31 | 3 | 4 | 2 |
| Sea bass | - | -- | -- | -- | - | + | 2 | -- | -- | -- | -- | - |
| Mackerel | -- | -- | -- | -- | - | -- | + | -- | -- | -- | -- | - |
| Cunner | -- | -- | -- | -- | 2 | 4 | + | -- | $+$ | 10 | 4 | -- |
| Three-bearded rockling | - | -- | + | - | 1 | - | -- | $+$ | $+$ | -- | -- | -- |

[^2]TABLE 8.--SPECIES COMPOSITION, IN PERCENT BY WEIGHT, OF INDUSTRIAL TRAWL-FISH LANDINGS FROM THE NO MANS AREA, BY MONTHS, 1958
[Samples taken from New Bedford and Point Judith]

| Species | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of samples |  |  | 16 | 5 | 7 | 3 | 3 | 1 | 1 | 1 | 18 | 2 |
| Red hake | -- | -- | 4.9 | 26.8 | 86.0 | 51.6 | 42.3 | 74.7 | 1.4 | 33.8 | 52.2 | 4.8 |
| White hake | -- |  | 4 |  | 3 | 27.3 | 24.8 | 16.9 | 4.3 | 16.4 | 10.4 | 8.4 |
| Silver hake | -- | -- | 0.4 | -- | 10.3 | 27.3 | 24.8 | 16.9 | 4.3 | 10.3 | 9.0 | 8.6 |
| Little skate | -- | -- | 11.8 | 8.4 | 0.5 | 4.8 | 7.2 |  | 71.6 | -- | 3.9 | 16.2 |
| Big skate | -- | -- | 27.9 | 5.2 0.2 | -- | 4.0 | 2.3 | -- | 0.8 | -- | -- | 2.0 |
| Immature skate | -- | -- |  |  |  |  |  |  |  |  |  |  |
| Eel pout | -- | -- | 27.9 | 27.1 | 0.9 | 0.4 | 1.4 | --7 | -- | -- | -- | 0.8 |
| Longhorn sculpin | -- | -- | 12.1 | 5.7 | 0.2 | -- | -- | 0.7 | 3.0 | - | 1.3 | 1.6 |
| Sea robin |  | -- | -- | -- | 0.4 | -- | -- | -- | 8.1 |  | 2.6 | 6.0 |
| Angler | -- | -- | 6.0 | 3.0 | 0.8 | 5.3 | -- |  |  |  |  |  |
| Four-spot flounder | -- | -- | -- | -- | 0.1 | 2.3 | 0.9 | 2.0 | 2.6 | 1. | 1.0 | 1.8 |
| Sand flounder | -- | -- | 1.4 | 1.0 | 0.1 | 1.3 |  | -- |  | 1.2 | 0.7 | 3.9 0.4 |
| Yellowtail flounder | -- |  | 0.2 | 0.1 | 0.5 |  | -- | -- |  | 1.2 | 0.2 | 0.4 |
| Blackback flounder | -- | -- | -- | -- | 0.2 | 1.2 | -- | -- | -- |  |  |  |
| Spiny dogfish | -- | -- | 2.2 | 16.6 | -- | -- | -- | -- |  | 15.8 | 8.8 | 23.2 |
| Smooth dogfish | -- | -- | -- | -- | -- |  |  |  |  |  | 1.2 | 1.0 |
| Barndoor skate | -- | -- | 4.2 | 5.6 |  |  |  | 2.5 |  | 2.3 | 1.2 | 1.0 |
| Brier skate | -- | -- | -- | 0.1 | -- |  |  |  |  |  | 0.2 | -- |
| Conger eel | -- | -- | -- | -- | -- | -- | -- |  | -- |  |  |  |
| Alewife | -- | -- | 0.1 | 0.1 | -- | 0.7 | 1.8 | -- | -- | 1.5 | 0.4 | 18.6 |
| Herring | -- | -- | -- | 0.1 | -- | -- | -- | -- |  | 15.2 | 0.2 | - |
| Scup | -- | -- | -- | --- | -- | 0.9 | 19.3 | 3.2 | 0.5 | 1.5 | 1.6 | 2.4 |
| Butterfish | -- | -- | -- | -- | -- | 0.3 | 19.3 | 3.2 | 0.5 | 1.5 |  |  |
| Cunner | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.7 | -- |

TABLE 9.--SPECIES COMPOSITION, IN POUNDS OF NEW BEDFORD INDUSTRIAL TRAWL-FISH LANDINGS FROM THE

| Species | Jan. ${ }^{1}$ | Feb. ${ }^{2}$ | Mar. ${ }^{1}$ | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. ${ }^{1}$ | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Red hake | -- | 1 | 39 | 1,407 | 12,991 | 4,912 | 1,236 | 2,309 | 20 | 567 | 1,074 | 14 |
| White hake | -- | -- | - |  |  |  | -- |  |  |  | 12 | -- |
| Silver hake | -- | 16 | 3 | -- | 1,556 | 2,599 | 725 | 522 | 61 | 275 | 214 | 24 |
| Little skate | 42 | 99 | 95 | 441 | 76 | 457 | 210 | -- | 109 | 173 | 185 | 24 |
| Big skate | 92 | 15 | 224 | 273 | -- | 381 | 67 | -- | 1,012 |  | 80 | 46 |
| Imnature skate | -- | -- | -- | 11 | -- | -- | -- | -- | 11 | -- | -- | 6 |
| Eel pout | 18 | 66 | 224 | 1,423 | 136 | 38 | 41 | -- | -- | -- | -- | -- |
| Longhorn sculpin | 16 | 66 | 97 | 299 | 30 | -- | -- | 22 | -- | -- | 27 | 2 |
| Sea robin | -- | 1 | -- | -- | 60 | -- | -- | -- | 42 | -- | 84 | 5 |
| Angler | -- | 1 | 48 | 158 | 121 | 505 | -- | -- | 115 | -- | 53 | 17 |
| Four-spot flounder | -- | -- | -- | -- | 15 | 219 | 26 | 62 | 37 | 30 | 21 | 5 |
| Sand flounder | 8 | 42 | 11 | 53 | 15 | 124 | -- | -- | -- | -- | 14 | 11 |
| Yellowtail flounder | -- | 36 | 2 | 5 | 76 | -- | -- | -- | -- | 20 | 4 | 1 |
| Blackback flounder | -- | -- | -- | -- | 30 | 114 | -- | -- | -- | -- | -- | -- |
| Spiny dogfish | -- | -- | 18 | 872 | -- | -- | -- | -- | -- | 265 | 181 | 66 |
| Smooth dogfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 6 | -- |
| Barndoor skate | -- | -- | 34 | 294 | -- | -- | -- | 77 |  | 39 | 25 | 3 |
| Brier skate | -- | -- | -- | 5 | -- | -- | -- | -- | -- | -- | -- | - |
| Alewife | -- | -- | 1 | 5 | -- | 67 | 53 | -- | -- | 25 | 8 | 53 |
| Herring | -- | 3 | -- | 5 | -- | -- | -- | -- | -- | -- | 6 | -- |
| Scup | -- | -- | -- | -- | -- | 86 | - | -- | -- | 255 | 4 | - |
| Butterfish | -- | -- | -- | -- | -- | 29 | 564 | 99 | 7 | 25 | 33 | 7 |
| cod | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Three-bearded rockling | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 14 | -- |
| Conger eel | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 | -- |

[^3] 1 Based on combined sample data for 1955, 1956, and 1957.
2 Based on 1957 sample only.
TABLE 10.--SPECIES COMPOSITION, IN POUNDS, OF POINT JUDITH INDUSTRIAL FISH LANDINGS FROM THE

| Species | Jan. | Feb. | Mar. ${ }^{1}$ | Apr. | May | June | July | Aug. | Sept. | 0ot. | Nov. ${ }^{1}$ | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Red hake | -- | -- | 4 | 604 | 8,885 | 3,256 | 905 | 2,106 | 58 | 25 | 491 | 22 |
| White hake | -- | -- | -- | -- |  | -- | -- | -- | -- | -- | 6 | -- |
| Silver hake | -- | -- | + | -- | 1,064 | 1,723 | 530 | 476 | 179 | 12 | 98 | 38 |
| Little skate | -- | -- |  | 189 | 52 | 303 | 154 | -- | 321 | 8 | 85 | 39 |
| Big skate | -- | -- | 22 | 117 | -- | 252 | 49 | -- | 2,986 | -- | 37 | 73 |
| Immature skate | -- | -- | -- | 5 | -- | -- | -- | -- | 33 | -- | -- | 9 |
| Eel pout | -- | -- | 22 | 611 | 93 | 25 | 30 | -- | -- | -- | -- | 4 |
| Longhorn sculpin | -- | -- | 10 | 128 | 21 | -- | -- | 20 | -- | -- | 12 | 7 |
| Sea robin | -- | -- | -- | -- | 41 | -- | -- | -- | 125 | -- | 39 | -- |
| Angler | -- | -- | 5 | 68 | 83 | 334 | -- | -- | 338 | -- | 24 | 27 |
| Four-spot flounder | -- | -- | -- | -- | 10 | 145 | 19 | 56 | 108 | 1 | 9 | 8 |
| Sand flounder | -- | -- | 1 | 23 | 10 | 82 | -- | -- | -- | -- | 7 | 18 |
| Yellowtail flounder | -- | -- | + | 2 | 52 | -- | -- | -- | -- | 1 | 2 | 2 |
| Blackback flounder | -- | -- | -- | -- | 21 | 76 | -- | -- | -- | -- | -- | -- |
| Spiny dogitioh | -- | -- | 2 | 374 | -- | -- | -- | -- | -- | 12 | 83 | 105 |
| Smooth dogfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 | -- |
| Barndoor skate | -- | -- | 3 | 126 | -- | -- | -- | 70 | -- | 2 | 11 | 5 |
| Brier skate | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | -- | -- |
| Alewife | -- | -- | + | 2 | -- | -- | 39 | -- | -- | 1 | 4 | 84 |
| Herring | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | 3 | -- |
| Scup | -- | -- | -- | -- | -- | 57 | -- | -- | -- | 11 | 2 | -- |
| Butterfish | -- | -- | -- | -- | -- | 19 | 413 | 90 | 21 | 1 | 15 | 11 |
| Cunner | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 7 | -- |
| Conger eel | -- | -- | -- | -- | -- | 4 | -- | -- | -- | -- | 2 | -- |
| Total | -- | -- | 78 | 2,253 | 10,332 | 6,316 | 2,139 | 2,818 | 4,169 | 74 | 940 | 452 |

[^4]TABLE 11.--SPECIES COMPOSITION, IN PERCENT BY WEIGHT, OF GLOUCESTER TRAWL-FISH LANDINGS

1 Based on 1957 samples.

[^5]TABLE 12.--SPECIES COMPOSITION, IN POUNDS, OF GLOUCESTER INDUSTRIAL TRAWL-FISH LANDINGS FROM

| Species | Jan. ${ }^{1}$ | Feb. ${ }^{1}$ | Mar. | Apr. ${ }^{1}$ | May | June | July | Aug. | Sept. ${ }^{2}$ | Oct. ${ }^{2}$ | Nov. ${ }^{2}$ | Dec. ${ }^{3}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Red hake | 62 | 18 | -- | 27 | 232 | 567 | 160 | 95 | 91 | 99 | 36 | 22 |
| Silver hake | 5 | 1 | -- | 2 | 17 | 22 | 8 | 17 | 82 | 74 | 55 | 33 |
| Ifttle skate | -- | -- | -- | -- | -- | 1 | -- | -- | -- | 6 | 1 | + |
| B1g skate | 2 | + | -- | 1 | 6 | -- | -- | -- | -- | 1 | 1 | 1 |
| Haddock | -- | -- | -- | -- | -- | 25 | 2 | 2 | 12 | 1 | + | + |
| Fel pout | -- | -- | -- | -- | -- | 45 | -- | 5 | -- | 3 | 2 | 1 |
| Ionghorn sculpin | + | + | -- | + | 2 | 52 | -- | -- | + | -- | -- | - |
| Sea robin | -- | -- | -- | -- | -- | -- | -- | - |  | -- | -- | + |
| Angler | 12 | 4 | -- | 5 | 46 | 12 | -- | 27 | -- | 27 | 10 | 6 |
| Ocean perch | 4 | 1 | -- | 2 | 16 | 2 | -- | 1 | 3 | $\stackrel{+}{4}$ | 14 | 8 |
| Dabs | 1 | + | -- | + | 2 | 23 | + | 6 | 3 | 54 | 14 | 8 |
| Yellowtail flounder | -- | -- | -- | -- | -- | 20 | -- | -- | -- | -- | -- |  |
| Blackback flounder | -- | -- | -- | -- | -- | 1 | -- | -- |  |  |  | 1 |
| Greysole | + | + | -- | + | 1 | -- | -- | 2 | -- | -- | 1 | 1 |
| Sea raven | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | + |
| Spiny dogfish | -- | -- | -- | -- | -- | 17 | -- | 11 | -- | -- | 5 | - |
| Smooth dogitsh | -- | -- | -- | -- | -- | - |  | 4 | -- | 1 | 8 | 5 |
| Shad | -- | -- | -- | -- | -- | $10^{3}$ | $\overline{7}$ | 24 | -- | 14 | 16 |  |
| Bluebacks | -- | -- | -- | -- | -- | 10 | 14 | 24 | -- | 14 | 16 | 10 |
| Menhaden | -- | -- | -- | -- | -- | -- | -- | 7 | -- | - | -- | -- |
| Herring | -- | -- | -- | -- | -- | 41 | -- | -- | 26 | 4 | + | + |
| Butterfish | -- | -- | -- | -- | -- | -- | 1 | -- | -- | + | -- | -- |
| Cod | -- | -- | -- | -- | -- | 20 | -- | - | -- | 2 | -- | -- |
| Three-bearded rockling | -- | -- | -- | -- | -- | 2 | -- | 3 | 2 | 6 | + | + |
| Total | 86 | 24 | -- | 37 | 322 | 863 | 185 | 204 | 216 | 292 | 150 | 91 |

TABLE 13.--SPECIES COMPOSITION, IN PERCENT BY WEIGHT, OF GLOUCESTER INDUSTRIAL TRAWL-FISH LANDINGS FROM the stelwagen bank area, by month, 1958

| Species | Jan. | Feb. | Mar. | April | May | June | July ${ }^{1}$ | Aug. | Sept. | Oct. | Nov. ${ }^{1}$ | Dec. ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of samples | -- | -- | -- | -- | -- | 1 | 3 | 1 | 1 | 2 | 2 | 6 |
| Red hake | -- | -- | -- | -- | -- | 2.2 | 14.2 | 43.4 | 69.5 | 14.2 | 55.3 | 55.9 |
| Silver hake | -- | -- | -- | -- | -- | 1.2 | 72.5 | 6.3 | 14.2 | 10.4 | 10.9 | 14.7 |
| Iittle skate | -- | -- | -- | -- | -- | -- | -- | -- | 0.3 | -- | 0.5 | -- |
| Big skate | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.8 | 4.0 | -- |
| Haddock | -- | -- | -- | -- | -- | 10.7 | -- | 1.4 | 1.0 | 0.8 | 7.0 | 8.4 |
| Eel pout | -- | -- | -- | -- | -- | 23.0 | 0.6 | 2.9 | 0.8 | 0.1 | 1.1 | 0.6 |
| Longhorn sculpin | -- | -- | -- | -- | -- | 7.5 | 0.1 | -- | 0.8 | -- | 2.0 | 0.6 |
| Angler | -- | -- | -- | -- | -- | 12.7 | 6.1 | 7.6 | -- | -- | -. | 0.1 |
| Dab | -- | -- | -- | -- | -- | -- | 1.0 | 9.3 | 3.3 | 3.2 | 2.1 | 2.5 |
| Sand flounder | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.1 |
| Yellowtail flounder | -- | -- | -- | -- | -- | 6.6 | -- | -- | 1.1 | -- | 2.0 | 0.5 |
| Blackback flounder | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.1 |
| Greysole | -- | -- | -- | -- | -- | -- | -- | 0.1 | -- | 1.1 | 0.2 | 0.3 |
| Ocean perch | -- | -- | -- | -- | -- | -- | -- | 4.6 | 0.2 | 0.1 | -- | 0.5 |
| Sea raven | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.1 |
| Spiny dogrish | -- | -- | -- | -- | -- | -- | 5.3 | 17.0 | -- | 4.0 | -- | 2.4 |
| Wrymouth | -- | -- |  |  |  |  |  |  |  | 1.7 | -- | -- |
| Blueback | -- | -- | -- | -- | -- | -- | -- | -- | -- | 31.6 | 2.8 | 0.9 |
| Alewffe | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2.7 | 0.4 |
| Herring | -- | -- | -- | -- | -- | 8.7 | 0.2 | 1.2 | 7.7 | 24.4 | -- | 0.7 |
| Butterfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | 6.4 | -- | -- |
| Iumpfish | -- | -- | -- | -- | -- | -- | -- | 3.4 | -- | -- | -- | -- |
| Cod | -- | -- | -- | -- | -- | 27.3 | -- | -- | 0.2 | -- | 9.4 | 10.7 |
| Three-bearded rockling | -- | -- | -- | -- | -- | -- | -- | 2.9 | 0.8 | 0.9 | -- | 0.1 |
| Conger eel | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.4 |

[^6]TABLE 14.--SPELIES COMPOSITION, IN POUNDS, UF GLOUCESTER INDUSTRIAL TRAWIrFISH LANDINGS FROM THE STELLWAGEN

| Species | Jan. | Feb. | March | April | May ${ }^{1}$ | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Red hake | -- | -- | -- | -- | 4 | 18 | 14 | 178 | 284 | 110 | 206 | 470 |
| Silver hake | -- | -- | -- | -- | 2 | 10 | 73 | 26 | 58 | 80 | 41 | 124 |
| İttle skate | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 2 | -- |
| Big skate | -- | -- | -- | -- | -- | -- | -- | -- | -- | 6 | 15 | -- |
| Haddock | -- | -- | -- | -- | 21 | 85 | -- | 6 | 4 | 6 | 26 | 71 |
| Eel pout | -- | -- | -- | -- | 45 | 183 | 1 | 12 | 3 | 1 | 4 | 5 |
| Longhorn sculpin | -- | -- | -- | -- | 15 | 60 | + | -- | 3 | -- | 7 | 5 |
| Angler | -- | -- | -- | -- | 25 | 101 | 6 | 31 | -- | -- | -- | 1 |
| Dab | -- | -- | -- | -- | -- | -- | 1 | 38 | 13 | 25 | 8 | 21 |
| Sand flounder | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| Yellowtail flounder | -- | -- | -- | -- | 13 | 53 | -- | -- | 4 | -- | 7 | 4 |
| Blackback flounder | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| Greysole | -- | -- | -- | -- | -- | -- | -- | + | -- | 8 | 1 | 3 |
| Ocean perch | -- | -- | -- | -- | -- | -- | -- | 19 | 1 | 1 | -- | 4 |
| Sea raven | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 |
| Spiny dogfish | -- | -- | -- | -- | -- | -- | 5 | 70 | -- | 31 | -- | 20 |
| Wrymouth | -- | -- | -- | -- | -- | -- |  | -- |  | 13 | -- |  |
| Blueback | -- | -- | -- | -- | -- | -- | -- | -- | -- | 244 | 10 | 8 |
| Alewife | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | 3 |
| Herring | -- | -- | -- | -- | 17 | 69 | + | 5 | 31 | 188 | -- | 6 |
| Butterfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | 49 | -- | -- |
| Iumpfish | -- | -- | -- | -- | -- | --- | -- | 14 | -- | -- | -- | -- |
| cod | -- | -- | -- | -- | 53 | 217 | -- | -- | 1 | -- | 35 | 90 |
| Three-bearded rockling | -- | -- | --- | -- | -- | -- | -- | 12 | 3 | 7 | -- | 1 |
| Total | -- | -- | -- | -- | 195 | 796 | 100 | 411 | 406 | 769 | 372 | 842 |

${ }^{1}$ Based on June samples.
TABLE 15.--SPECIES COMPOSITION, IN PERCENT BY WEICHT, OF GLOUCESTER INDUSTRIAL TRAWL-FISH LANDINGS FROM

| Species | Jan. | Feb. | Mar. | Apr. | May | June | Ju.ly | Aug. | Sépt. | Oct. | Nov. ${ }^{1}$ | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of samples | -- | -- | -- | -- | 4 | 2 | 3 | 4 | 6 | 1 | 1 | -- |
| Red hake | -- | -- | -- | -- | 65.7 | 54.3 | 78.2 | 80.0 | 60.3 | 21.5 | 66.7 | -- |
| White hake | -- | -- | -- | -- | -- | -- | -- | -- | 0.8 | -- | -- | -- |
| Silver hake | -- | -- | -- | -- | 20.9 | 20.6 | 6.6 | 8.4 | 8.3 | 14.5 | -- | -- |
| Little skate | -- | -- | -- | -- | 0.1 | 0.2 | -- | 0.1 | 0.1 | -- | 0.4 | -- |
| Big skate | -- | -- | -- | -- | -- | 2.6 | -- | 0.4 | 0.8 | -- | -- | -- |
| Haddock | -- | -- | -- | -- | 2.0 | 3.1 | 0.3 | 1.5 | 1.8 | -- | 12.5 | -- |
| Spotted hake | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.1 | -- | -- |
| Eel pout | -- | -- | -- | -- | 6.0 | 6.2 | 4.9 | 3.7 | 3.0 | -- | 2.5 | -- |
| Longhorn sculpin | -- | -- | - | -- | 0.4 | -- | + | 0.3 | 0.5 | 7.5 | 0.5 | -- |
| Sea robin | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.0 | -- | -- |
| Angler | -- | -- | -- | -- | 0.2 | -- | 5.9 | 0.1 | 3.2 | 8.4 | 0.5 | -- |
| Weakfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.1 | -- | -- |
| Dabs | -- | -- | -- | -- | 2.0 | 0.3 | 0.6 | 0.7 | 0.9 | 0.4 | 0.9 | -- |
| Four-spot flounder | -- | -- | -- | -- | -- | -- | -- | -- | + | 1.0 | -- | -- |
| Yellowtail folunder | -- | -- | -- | -- | -- | -- | -- | -- | 0.5 | -- | -- | -- |
| Greysole | -- | -- | -- | -- | 0.2 | -- | 0.3 | -- | -- | -- | 0.2 | -- |
| Ozean pearch | -- | -- | -- | -- | 0.2 | -- | -- | -- | + | -- | -- | -- |
| Sea raven | -- | -- | -- | -- | -- | -- | -- | 0.4 | 0.2 | -- | -- | -- |
| Spiny dogfish | -- | -- | -- | -- | 0.2 | 1.1 | -- | 0.2 | 5.7 | -- | 4.8 | -- |
| Shad | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4.2 | -- |
| Blueback | -- | -- | -- | -- | 0.2 | -- | -- | 0.6 | 3.6 | 42.4 | 4.7 | -- |
| Alewffe | -- | -- | -- | -- | -- | -- | -- | -- | 0.2 | -- | -- | -- |
| Herring | -- | -- | -- | -- | 1.4 | 3.1 | 3.2 | 3.3 | 9.5 | 0.8 | 1.5 | -- |
| Butterfish | -- | -- | -- | -- | -- | -- | -- | 0.1 | 0.1 | 1.3 | -- | -- |
| Squid | -- | -- | -- | -- | -- | -- | -- | -- | 0.1 | -- | -- | -- |
| cod | -- | -- | -- | -- | 0.2 | 8.6 | -- | 0.1 | + | -- | -- | -- |
| Three-bearded rockling | -- | -- | -- | -- | 0.4 | -- | -- | 0.1 | 0.2 | 1.0 | 0.6 | - |

1 Based on 1957 samples.
table 16.--SPECIES COMPOSITION, IN POUNDS, OF GLOUCESTER INDUSTRIAL TRAWL-FISH LANDINGS FROM THE NAUSET AREA,
[In thousands of pounds. + Indicates less than 1,000 pounds]

| Species | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Red hake | -- | -- | -- | -- | 834 | 960 | 203 | 1,366 | 1,107 | 541 | 473 | -- |
| White hake | -- | -- | -- | -- | -- | -- | -- | -- | 15 | -- | -- | -- |
| Silver hake | -- | -- | -- | -- | 265 | 364 | 17 | 143 | 152 | 365 | -- | -- |
| Little skate | -- | -- | -- | -- | 1 | 4 | -- | 2 | 2 | -- | 3 | -- |
| Big skate | -- | -- | -- | -- | -- | 46 | -- | 7 | 15 | -- | -- |  |
| Haddock | -- | -- | -- | -- | 25 | 55 | 1 | 26 | 33 | -- | 89 | -- |
| Spotted hake | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 | -- | -- |
| Eel pout | -- | -- | -- | -- | 76 | 110 | 13 | 63 | 55 | -- | 18 | -- |
| Longhorn sculpin | -- | -- | -- | -- | 5 | -- | + | 5 | 9 | 189 | 4 | -- |
| Sea robin | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | -- | -- |
| Angler | -- | -- | -- | -- | 3 | -- | 15 | 2 | 59 | 211 | 4 | -- |
| Weakfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 | -- | -- |
| Dabs | -- | -- | -- | -- | 25 | 5 | 2 | 12 | 17 | 10 | 6 | -- |
| Four-spot flounder | -- | -- | -- | -- | -- | -- | -- | -- | + | 25 | -- | -- |
| Yellowtail founder | -- | -- | -- | -- | -- | -- | -- | -- | 9 | -- | -- | -- |
| Greysole | -- | -- | -- | -- | 3 | -- | 1 | -- | -- | -- | 1 | -- |
| Ocean perch | -- | -- | -- | -- | 3 | -- | -- | -- | + | -- | -- | -- |
| Sea raven | -- | -- | -- | -- | -- | -- | -- | 7 | 4 | -- | -- | -- |
| Spiny dogfish | -- | -- | -- | -- | 3 | 19 | -- | 3 | 105 | -- | 34 | -- |
| Shad | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 30 | -- |
| Blueback | -- | -- | -- | -- | 3 | -- | -- | 10 | 66 | 1,066 | 33 | -- |
| Alewife | -- | -- | -- | -- | -- | -- | -- | -- | 4 | -- | -- | -- |
| Herring | -- | -- | -- | -- | 18 | 55 | 8 | 56 | 174 | 20 | 11 | -- |
| Butterfish | -- | -- | -- | -- | -- | -- | -- | 2 | 2 | 33 | -- | -- |
| Squid | -- | -- | -- | -- | -- | -- | -- | - | 2 | -- | -- | -- |
| Cod | -- | -- | -- | -- | 3 | 152 | -- | 2 | + | -- | -- | -- |
| Three-bearded rockling | -- | -- | -- | -- | 5 | -- | -- | 2 | 4 | 25 | 4 | -- |

TABLE 17. --TOTAL POUNDS AND PERCENT OF EACH SPECIES LANDED IN THE INDUSTRIAL TRAWL CATCH, BY PORT AND FISHING AREA, 1958.
[In thousands of pounds. + indicates less than 0.1 percent]

| Species | Point Judith |  |  |  |  |  | $\frac{\text { New Bedford }}{\text { No Mans }}$ |  | Total <br> No Mans |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Offshore |  | Inshore |  | No Mans |  |  |  |  |  |
|  | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent |
| Red hake | 8,753 | 33.2 | 4,666 | 21.4 | 16,356 | 55.3 | 24,570 | 57.6 | 40,926 | 56.7 |
| White hake | 117 | 0.4 | 57 | 0.3 | 6 | + | 12 | + | 18 | + |
| Silver hake | 4,784 | 18.1 | 4,850 | 22.2 | 4,120 | 13.9 | 5,995 | 14.0 | 10,115 | 14.0 |
| Iittle skate | 2,165 | 8.2 | 1,939 | 8.9 | 1,160 | 3.9 | 1,911 | 4.5 | 3,071 | 4.2 |
| Big skate | 1,299 | 4.9 | 1,473 | 6.8 | 3,536 | 12.0 | 2,190 | 5.1 | 5,726 | 7.3 |
| Immature skate | 69 | 0.3 | - | -- | 47 | 0.2 | 28 | 0.1 | 75 | 0.1 |
| Spotted hake | 2 | + | 4 | + | -- | -- | -- | -- | -- | -- |
| Eel pout | 3,101 | 11.8 | 1,149 | 5.3 | 785 | 2.6 | 1,946 | 4.6 | 2,731 | 3.8 |
| Longhorn sculpin | 280 | 1.1 | 445 | 2.0 | 198 | 0.7 | 559 | 1.3 | 757 | 1.0 |
| Sea robin | 386 | 1.5 | 958 | 4.4 | 205 | 0.7 | 192 | 0.4 | 397 | 0.5 |
| Striped sea robin | 2 | + | 31 | 0.1 | -- | -- | -- | -- | -- | -- |
| Angler | 1,764 | 6.7 | 2,370 | 10.9 | 879 | 3.0 | 1,018 | 2.4 | 1,897 | 2.6 |
| Haddock | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ocean perch | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Four-spot flounder | 140 | 0.5 | 137 | 0.6 | 356 | 1.2 | 415 | 1.0 | 771 | 1.1 |
| Sand flounder | 228 | 0.9 | 185 | 0.8 | 141 | 0.5 | 278 | 0.6 | 419 | 0.6 |
| Gulf stream flounder | 3 | + | -- | -- | -- | -- | -- | -- | -- | -- |
| Yellowtall flounder | 362 | 3. 4 | 1 | + | 59 | 0.2 | 144 | 0.3 | 203 | 0.3 |
| Blackback flounder | 109 | 0.4 | 176 | 0.8 | 97 | 0.3 | 144 | 0.3 | 244 | 0.3 |
| Dabs | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Greysole | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Sea raven | 23 | 0.1 | 19 | 0.1 | -- | -- | - | -- | -- | -- |
| Spiny dogfish | 1,818 | 6.9 | 1,700 | 7.8 | 576 | 1.9 | 1,402 | 3.3 | 1,978 | 2.7 |
| Smooth dogfish | 137 | 0.5 | 651 | 3.0 | 3 | + | 6 | + | 9 | + |
| Barndoor skate | 238 | 0.9 | 29 | 0.1 | 217 | 0.7 | 472 | 1.1 | 689 | 1.0 |
| Brier skate | -- | -- | - | -- | 2 | + | 5 | + | 7 | + |
| Shad | -- | -- | 4 | + | -- | -- | -- | -- | -- | -- |
| Alewife | 325 | 1.2 | 517 | 2.4 | 130 | 0.4 | 212 | 0.5 | 342 | 0.5 |
| Menhaden | -- | -- | 2 | + | -- | -- | -- | -- | -- | -- |
| Herring | 40 | 0.2 | 103 | 0.5 | 5 | + | 14 | + | 19 | $+$ |
| Scup | 96 | 0.4 | 117 | 0.5 | 70 | 0.2 | 345 | 0.8 | 415 | 0.6 |
| Butterfish | 128 | 0.5 | 198 | 0.9 | 570 | 1.9 | 764 | 1.8 | 1,334 | 1.8 |
| Sea bass | -- | -- | 2 | + | -- | -- | -- | -- | -- | -- |
| Blueback | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cod | -- | -- | -- | -- | -- | -- | 1 | + | 1 | + |
| Cunner | -- | -- | 20 | 0.1 | 7 | + | -- | -- | 7 | + |
| Three-bearded rockling | -- | -- | 1 | + | -- | -- | 14 | + | 14 | $+$ |
| Conger eel | -- | -- | -- | -- | 46 | 0.2 | 4 | + | 50 | 0.1 |
| Weakfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Squid | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Wrymouth | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lumpfish | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total | 26,369 | -- | 21,804 | -- | 29,571 | -- | 42,644 | -- | 72,215 | -- |

TABLE 17.--TOTAL POUNDS AND PERCENT OF EACH SPECIES LANDED IN THE INDUSTRIAL TRAWL CATCH, BY PORT AND FISHING AREA, 1958--Continued
[In thousands of pounds. + indicates less than 0.1 percent]

| Species | Gloucester |  |  |  |  |  | Grand total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Ipswich |  | Nauset |  | Stellwagen |  |  |  |
|  | Pounds | Percent | Pounds | Percent | Pounds | Percent | Pounds | Percent |
| Red hake | 1,409 | 57.1 | 5,484 | 54.4 | 1,284 | 33.0 | 62,522 | 45.7 |
| White hake | - | -- | 15 | 0.1 |  | -- | 207 | 0.1 |
| Silver hake | 316 | 12.8 | 1,306 | 13.0 | 414 | 10.6 | 21,785 | 15.9 |
| Little skate | 8 | 0.3 | 12 | 0.1 | 3 | 0.1 | 7,198 | 5.3 |
| Big skate | 12 | 0.5 | 68 | 0.7 | 21 | 0.5 | 8,599 | 6.3 |
| Immature skate | -- | -- | -- | -- | -- | -- | 144 | 0.1 |
| Spotted hake | -- | -- | 3 | + | -- | -- | 9 | + |
| Eel pout | 56 | 2.3 | 335 | 3.3 | 254 | 6.5 | 7,626 | 5.6 |
| Longhorn sculpin | 54 | 2.2 | 212 | 2.1 | 90 | 2.3 | 1,838 | 1.3 |
| Sea robin | + | + | 25 | 0.2 | -- | -- | 1,766 | 1.3 |
| Striped sea robin | -- | -- | -- | -- | -- | -- | 33 | + |
| Angler | 149 | 6.0 | 294 | 2.9 | 164 | 4.2 | 6,638 | 4.9 |
| Haddock | 42 | 1.7 | 229 | 2.3 | 219 | 5.6 | 490 | 0.4 |
| Ocean perch | 28 | 1.1 | 3 | + | 25 | 0.6 | 56 | + |
| Four-spot flounder | -- | -- | 25 | 0.2 | -- | -- | 1,073 | 0.8 |
| Sand flounder | -- | -- | -- | -- | 1 | + | 833 | 0.6 |
| Gulf stream flounder | -- | -- | -- | -- | -- | -- | 3 | + |
| Yellowtail flounder | 20 | 0.8 | 9 | 0.1 | 81 | 2.1 | 676 | 0.5 |
| Blackback flounder | 1 | + | -- | -- | 1 | + | 531 | 0.4 |
| Dabs | 111 | 4.5 | 77 | 0.8 | 106 | 2.7 | 294 | 0.2 |
| Greysole | 5 | 0.2 | 5 | + | 12 | 0.3 | 22 | $+$ |
| Sea raven | + | + | 11 | 0.1 | 1 | + | 54 | + |
| Spiny dogfish | 28 | 1.1 | 164 | 1.6 | 126 | 3.2 | 5,814 | 4.2 |
| Smooth dogfish | 8 | 0.3 | -- | -- | -- | -- | 805 | 0.6 |
| Barndoor skate | -- | -- | -- | -- | -- | -- | 956 | 0.7 |
| Brier skate | -- | -- | -- | -- | -- | -- | 7 | + |
| Shad | 21. | 0.8 | 30 | 0.3 | -- | -- | 55 | + |
| Alewife | -- | -- | 4 | + | 13 | 0.3 | 1,201 | 0.9 |
| Menhaden | 7 | 0.3 | -- | -- | -- | -- | 9 | + |
| Herring | 71 | 2.9 | 342 | 3.4 | 316 | 8.1 | 891 | 0.7 |
| Scup | -- | -- | -- | -- | -- | -- | 628 | 0.5 |
| Butterfish | 1 | $+$ | 37 | 0.4 | 49 | 1.3 | 1,747 | 1.3 |
| Sea bass | -- | -- | -- | -- | -- | -- | 2 | + |
| Blueback | 88 | 3.6 | 1,178 | 11.7 | 262 | 6.7 | 1,528 | 1.1 |
| cod | 22 | 0.9 | 157 | 1:6 | 396 | 10.2 | 576 | 0.4 |
| Cunner | -- | -- | -- | - | -- | -- | 27 | + |
| Three-bearded rockling | 13 | 0.5 | 40 | 0.4 | 23 | 0.6 | 91 | 0.1 |
| Conger | -- | -- | -- | -- | 3 | 0.1 | 53 | + |
| Weakfish | -- | -- | 3 | + | -- | -- | 3 | + |
| Squid | -- | -- | 2 | + | - | -- | 2 | + |
| Wrymouth | -- | -- | -- | -- | 13 | 0.3 | 13 | + |
| Lumpfish | -- | -- | -- | -- | 14 | 0.4 | 14 | $+$ |
| Total | 2,470 | -- | 10,070 | -- | 3,891 | -- | 236,819 | -- |

TABLE 18.--CATCH PER TRIP OF INDUSTRIAL TRAWL FISH ON EACH OF THE PRINCIPAL FISHING AREAS, BY MONTHS, 1958
[In thousands of pounds. Number of interviewed trips in parentheses]

| Month | Point Judith |  | No Mans | Ipswich ${ }^{1}$ | Stellwagen | Nauset |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Offshore | Inshore |  |  |  |  |
| January | 12 (44) | 6 (92) | -- | 43 (2) | -- | -- |
| February | 9 (88) | 3 (107) | -- | 8 (3) | -- | -- |
| March | 12 (69) | 4 (151) | 10 (7) | -- | -- | -- |
| April | 26 (152) | 4 (94) | 47 (34) | 8 (5) | -- | -- |
| May | 60 (57) | 4 (181) | 60 (128) | 22 (15) | 22 (9) | 22 (59) |
| June | 29 (33) | 7 (258) | 60 (66) | 12 (52) | 17 (33) | 38 (43) |
| July | 44 (6) | 9 (163) | 35 (21) | 10 (17) | 17 (6) | 87 (3) |
| August | 33 (14) | 12 (135) | 32 (21) | 20 (8) | 18 (21) | 29 (54) |
| September | 32 (8) | 14 (188) | 32 (31) | 14 (15) | 19 (19) | 21 (86) |
| October | 40 (58) | 13 (192) | 25 (2) | 13 (14) | 18 (41) | 24 (94) |
| November | 24 (32) | 25 (174) | 31 (3) | 9 (16) | 14 (25) | 12 (53) |
| December | 9 (17) | 7 (101) | 12 (2) | 15 (6) | 18 (45) | -- |

[^7]```
MBL wHOI Library - Serials
5 WHSE 01474
```


[^0]:    ${ }^{1}$ Edwards, Robert L. 1958. Species composition of the industrial trawl landings in New England, 1957. United States Department of the Interior, U. S. Fish and Wildlife Service, Special Scientific Report--Fisheries No. 266.

[^1]:    ${ }^{1}$ Based on 1955, 1956, and 1957 samples.

[^2]:    | Total | 571 | 308 | 661 | 426 | 749 | 1,936 | 1,724 | 2,230 | 3,865 | 3,358 | 4,330 | 1,646 |
    | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

[^3]:    $\begin{array}{lllllllllllll}\text { Total } & 176 & 347 & 796 & 5,251 & 15,106 & 9,531 & 2,922 & 3,091 & 1,414 & 1,674 & 2,049 & 284\end{array}$

[^4]:    ${ }^{2}$ Based on 1955, 1956 and 1957 sample data.

[^5]:    1 Based on May sample data.
    2 Based on 1957 samples.
    3 Based on November sample.
    1 Based on May sample data.
    2 Based on 1957 samples.
    3 Rased on November sample.

[^6]:    ${ }^{1}$ Based on 1957 samples.

[^7]:    1 Includes southern Malne areas.

