Eileen Twomey

Gatch statistics: Some information is submitted in Tables I-4 on
the fluctuations in catches in Irish Rivers from 1960 onwards. All fish captured up to the end of May are classed as salmon (2 sea winters) and thereafter grilse (l+ winters). In 1967 there is a marked reduction in the numbers of fish taken in the catches before May 31. This reduction is manifested in the export figures, in the Billingsgate market returns and also in the number of fish presented for sale in the Dublin wholesale fish market. In all these locations an increase in the number of summer fish (mainly grilse) is in evidence. The catch figures for grilse are almost on a par with the very good catches which occurred in 1962.

The reduction in spring fish is due to (a) a poor run of spring fish and (b) to a lesser extent to UDN disease which affected a number of spring fish rivers in 1967. The occurrence of the disease reduced the catch per unit effort by rod anglers. In many of our rivers rod caught fish account for a high proportion of the salmon from January, February and March. In 1967 there was sone reluctance due to UDN disease amongst rod anglers on some rivers to go fishing.

Catch statistics are provided for a number of different river systems (Tables 6-11). The figures supplied are for as many years as they are available. In the case of the River Band on (Table 9) and the Sligo river (Table li) reliable figures are only available from 1961 onwards. The fixed draft net in sligo is of particular interest as all the fish therein are 2 sea winter salmon since fishing ceases at the end of April each year. As there is little variation in the fishing effort in the catch statistics supplied the figures can be regarded as constant except alone in what we term open sea drift nets which are fished from 0606 nautical miles off the north west coast. Here a catch net/effort is given (Table 5). Monthly figures for rod catches are available only for two rivers. In the River Shannon (Table J0) the estimated runs of fish when the commercial engines have taken their toll is given but the figures supplied are a fairly true indication of the fluctuations of the total muns of fish into the river.

Age composition: The composition of the stocks from scale reading data expressed in sea winters for the River Shannon and River Moy are given in Table 12 and 13. Both rivers show a reduction in 2 and $2+$ sea winter fish in 1967. This only verifies what is obvious in the catch statistics presented in Tables 1 - 11.

Smolt ages: The age composition of the smolts as obtained from the scales of adult salmon is given for three different river systems for 1967 (Table 14), and these figures can be taken as representative of most Irish rivers. The 2 year old smolts are the dominant age group representing between $70 \%$ and $90 \%$ of the total for all smolts. In most rivers the 1 year old smolts are next in importance. There are two notable exceptions where 3 year old smots are dominant over $i$ year olds - River Inny and River Owenea.

Hean length and weight: The mean length and weight of a sample of fish of jnown age (expressed in sea winters) from 3 river system is given in Table 15.

Tagging data 1967:
Smolt Tagging - 10,000 hatchery reared smolts were tagged in January, 1967. There were no recaptures reported to date.

Tagging of adult fish - A total of 3,102 kelts were tagged in the 1967 season and 64 were recantured as clean fish in home waters. A total of 47 clean salmon were tagged off the west coast of Ireland in 1967 only three recaptures were made, all within a short distance of the tagring station. One Greenland tagged salmon (tagged, Nov. 1967) was recaptuied in the River Slaney, south east coast of Ireland in March, 1968.

## Catch Statistics

Table 1 Export in Cwts of Salmon

| Year | Total | January/May <br> No. |  | June <br> No. | onwards <br> $\%$ |
| :---: | ---: | ---: | ---: | ---: | ---: |
| 1960 | 10,920 | 3,280 | 30.0 | 7,640 | 70.0 |
| 1961 | 9,054 | 2,218 | 24.5 | 6,841 | 75.5 |
| 1962 | 18,834 | 2,571 | 13.6 | 16,263 | 86.4 |
| 1963 | 23,417 | 5,405 | 23.1 | 18,012 | 76.9 |
| 1964 | 22,642 | 5,050 | 22.3 | 17,592 | 77.7 |
| 1965 | 19,420 | 4,687 | 24.1 | 14,733 | 75.9 |
| 1966 | 17,159 | 4,285 | 24.9 | 12,874 | 75.1 |
| 1967 | 20,228 | 2,594 | 12.8 | 17,634 | 87.2 |
|  |  |  |  |  |  |

Table 2. Division of arrivals of Salmon at Billingsgate Market: London.

| Year | Total | January/May <br> No. |  | June <br> No. | onwaras <br> $\%$ |
| :---: | :---: | ---: | ---: | ---: | ---: |
| 1960 | 7,851 | 2,773 | 34.0 | 5,078 | 66.0 |
| 1961 | 8,116 | 1,525 | 18.8 | 6,591 | 81.2 |
| 1962 | 11,933 | 1,483 | 12.4 | 10,450 | 87.6 |
| 1963 | 14,277 | 2,917 | 20.4 | 11,360 | 79.6 |
| 1964 | 14,519 | 3,233 | 22.3 | 11,286 | 77.7 |
| 1965 | 19,038 | 2,589 | 28.6 | 6,449 | 71.4 |
| 1966 | 11,212 | 2,502 | 22.3 | 8,710 | 77.7 |
| 1967 | 10,422 | 1,663 | 15.8 | 8,759 | 84.2 |

Table 3. Numbors of Salmon sold in the Dublin Wholesale Fish Market

| Year | Total | Jan/May | Percentage | June onwards <br> No. | Percentage |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1960 | 45,421 | 9,192 | 20.2 | 36,229 | 79.8 |
| 1961 | 42,316 | 7,926 | 18.7 | 34,390 | 81.3 |
| 1962 | 131,215 | 12,514 | 9.5 | 118,701 | 90.5 |
| 1963 | 104,475 | 15,577 | 14.9 | 88,898 | 85.1 |
| 1964 | 111,866 | 14,068 | 12.6 | 97,798 | 87.4 |
| 1965 | 101,728 | 13,191 | 13.0 | 88,537 | 87.0 |
| 1966 | 98,950 | 13,487 | 13.6 | 85,463 | 86.4 |
| 1967 | 95,168 | 7,345 | 7.7 | 87,823 | 92.3 |

Table 4. Catch returns from the nearest 1,000 Ib. for commercial engines together with number of licences issued, and average catch per licence.

| Year | Catch in <br> I,000 Ibs. | No. of <br> licences <br> issued | X <br> Mean catch per <br> commercial <br> licence |
| :---: | :---: | :---: | :---: |
| 1960 | 1,134 | 1,195 | 950 |
| 1961 | 1,153 | 1,121 | 1,030 |
| 1962 | 2,606 | 1,180 | 2,210 |
| 1963 | 2,495 | 1,289 | 1,940 |
| 1964 | 2,623 | 1,273 | 1,720 |
| 1965 | 2,453 | 1,742 | 1,250 |
| 1966 | 2,406 |  | $X$ to nearest |
| 1967 |  |  | 10 Ibs |

Table 5. Captures of salmon at sea
Details of Landings from open sea drift nets (May to August)

| Year | No. of fish landed | Mean catch per engine |
| :---: | :---: | :---: |
| 1960 | 28,620 | 325 |
| 1961 | 22,588 | 224 |
| 1962 | 58,547 | 563 |
| 1963 | 60,197 | 456 |
| 1964 | 68,423 | 430 |
| 1965 | 98,397 | 520 |
| 1966 | 94,555 | 516 |
| 1967 | 129,885 | 733 |

Table 6. Monthly catches of salmon in the River Blackwater by all methods (rods, nots and weirs).

| Year | February | March | April | May | June | July | Total |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1953 | 1818 | 1253 | 1841 | 2369 | 5265 | 10050 | 22596 |
| 1954 | 4532 | 6279 | 6253 | 3388 | 5004 | 6239 | 31695 |
| 1955 | 2118 | 2667 | 3534 | 4113 | 2993 |  | 15425 |
| 1956 | 1582 | 1828 | 1874 | 2546 | 2955 | 5282 | 16067 |
| 1957 | 2258 | 1565 | 1826 | 2048 | 4242 | 6785 | 18724 |
| 1958 | 1280 | 1389 | 2168 | 2123 | 3812 | 10547 | 21319 |
| 1959 | 2038 | 3150 | 2672 | 2139 | 3339 | 9958 | 23289 |
| 1960 | 1645 | 1445 | 1779 | 2039 | 3403 | 5429 | 15740 |
| 1961 | 753 | 1261 | 896 | 1191 | 3321 | 5764 | 13186 |
| 1962 | 904 | 1028 | 929 | 1915 | 10478 | 21659 | 36913 |
| 1963 | 1913 | 3512 | 3365 | 4040 | 7912 | 20008 | 40750 |
| 1964 | 2823 | 1835 | 2346 | 4619 | 8136 | 20927 | 40686 |
| 1965 | 1431 | 3248 | 2714 | 3955 | 8426 | 15761 | 35535 |
| 1966 | 1567 | 2808 | 1857 | 3462 | 6608 | 13781 | 30083 |
| 1967 | 631 | 1002 | 1112 | 2685 | 8274 | 16796 | 30500 |
| Average | 1819 | 2285 | 2344 | 2842 | 5611 | 11266 |  |
| month1y |  |  |  |  |  |  |  |
| catch |  |  |  |  |  |  |  |

Table 7. Monthly catches of sal.mon in the estuary of the River Moy by fixed draft net catch/month/net.

| - Year | February | March | April | May | June | July | August |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1948 | 193 | 509 | 1771 | 2138 | 13830 | 8958 | 1898 |
| 1949 | 164 | 536 | 1820 | 2072 | 5252 | 13215 | 229 |
| 1950 | 162 | 217 | 995 | 1216 | 6085 | 6555 | 538 |
| 1951 | 29 | 299 | 567 | 1155 | 7971 | 11755 | 831 |
| 1952 | 234 | 270 | 822 | 1348 | 8640 | 5830 | 751 |
| 1953 | 94 | 194 | 471 | 1731 | 10116 | 13419 | 815 |
| 1954 | 113 | 389 | 1014 | 1361 | 3604 | 9449 | 150 |
| 1955 | 40 | 142 | 451 | 1397 | 6641 | 7533 | 1356 |
| 1956 | 41 | 272 | 705 | 1173 | 10588 | 14593 | 1579 |
| - 1957 | 43 | 236 | 451 | 2284 | 19113 | 17047 | 469 |
| 1958 | 121 | 241 | 624 | 1700 | 6942 | 17372 | 681 |
| 1959 | 118 | 496 | 921 | 1863 | 4523 | 17422 | 2251 |
| 2960 | 83 | 285 | 664 | 1110 | 10595 | 10098 | 684 |
| 1961 | 106 | 351 | 394 | 740 | 12529 | 14995 | 690 |
| 1962 | - | 391 | 528 | 1505 | 13530 | 19723 | * |
| 1963 | - | 580 | 820 | 2120 | 7838 | 20249 | * |
| 1964 | 158 | 340 | 894 | 1447 | 13382 | 21939 | * |
| 1965 | 192 | 386 | 771 | 1299 | 8847 | 13528 | 351 |
| 1966 | 140 | 297 | 1033 | 1860 | 2611 | 10771 | 1136 |
| 1967 | 84 | 241 | 361 | 1150 | 8252 | 11409 | 635 |
| 爪verage nonthly catch | 106 | 334 | 804 | 1483 | 9044 | 13293 | 885 |

* not available

6
Table 8. Stake weir catch - River Shannon Annual Monthly catch, 1960 - 1967.

| Year February | March | April | May | June | July | Total |  |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 1960 | 97 | 112 | 183 | 320 | 691 | 377 | 1780 |
| 1961 | 93 | 298 | 427 | 363 | 1390 | 762 | 3333 |
| 1962 | 44 | 149 | 123 | 382 | 2052 | 2681 | 5431 |
| 1963 | 66 | 198 | 389 | 237 | 2159 | 1467 | 4516 |
| 1964 | 56 | 152 | 346 | 293 | 903 | 1062 | 2812 |
| 1965 | 46 | 160 | 255 | 607 | 2253 | 908 | 4229 |
| 1966 | 25 | 270 | 177 | 544 | 1028 | 823 | 2867 |
| 1967 | 22 | 94 | 163 | 470 | 2942 | 1482 | 5173 |
| Average_90r |  |  |  |  |  |  |  |
| 1960-1967 | 56 | 179 | 258 | 402 | 1677 | 1195 |  |



6 etary

Table 10. Estimated runs of fish in the Shannon based on the returns to Themond Weir.

| Year | Jan/Feb | March | April | May | June | $\begin{gathered} \text { To } \\ \text { July } \\ \hline \end{gathered}$ | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1941 | 112 | 71 | 1090 | 3994 | 15259 | 1417 | 22003 |
| 1942 | 153 | 735 | 1464 | 1987 | 12834 | 1137 | 18325 |
| 1943 | 111 | 1047 | 1456 | 1982 | 10430 | 4410 | 18446 |
| 1944 | 305 | 608 | 1064 | 1236 | 7343 | 1294 | 11940 |
| 1945 | 13 | 365 | 503 | 775 | 3883 | 1143 | 6610 |
| 1946 | 60 | 484 | 721 | 756 | 6957 | 1760 | 10738 |
| 1947 | 63 | 443 | 575 | 491 | 3831 | 2993 | 8386 |
| 1948 | 217 | 783 | 1061 | 967 | 5716 | 1248 | 9881 |
| 1949 | 581 | 792 | 1460 | 1260 | 7092 | 2097 | 13282 |
| 1950 | 245 | 763 | 1760 | 485 | 7724 | 3457 | 14934 |
| 1951 | 153 | 800 | 1740 | 1768 | 6242 | 4031 | 14134 |
| 1952 | 223 | 958 | 1287 | 760 | 6004 | 1310 | 10542 |
| 1953 | 483 | 526 | 659 | 1661 | 9027 | 5185 | 17431 |
| 1954 | 139 | 730 | 1412 | 1272 | 5253 | 5187 | 13993 |
| 1955 | 101 | 386 | 1419 | 1343 | 2934 | 2797 | 8980 |
| 1956 | 194 | 863 | 1037 | 1437 | 4989 | 4476 | 12999 |
| 1957 | 62 | 552 | 787 | 1352 | 6600 | 3774 | 12969 |
| 1958 | 70 | 572 | 924 | 785 | 4943 | 4687 | 21749 |
| 1959 | 361 | 667 | 1034 | 1011 | 3264 | 5170 | 11.229 |
| 1960 | 81 | 283 | 356 | 653 | 3424 | 3169 | 7610 |
| 1961 | 54 | 252 | 247 | 333 | 2850 | 1358 | 5094 |
| 1962 | 206 | 233 | 427 | 1186 | 7301 | 9875 | 18328 |
| 1963 | 80 | 427 | 849 | 805 | 8701 | 6100 | 16962 |
| 1964 | 163 | 390 | 772 | 1306 | 4339 | 5872 | 11842 |
| 1965 | 77 | 544 | 964 | 984 | 7474 | 8807 | 18790 |
| 1966 | 26 | 136 | 81 | 532 | 3298 | 5821 | 9894 |
| 1967 | 92 | 45 | 381 | 735 | 9392 | 6209 | 16854 |
| Average Monthly catch 1941// 1967 | 164 | 535 | 946 | 1180 | 6557 | 3881 |  |

Table 1l. Fixed draft net - Sligo Catch/net/month

|  | January | February | March | April | Total |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 1961 | 76 | 45 | 68 | 6 | 195 |
| 1962 | 69 | 44 | 61 | - | 184 |
| 1963 | 81 | 111 | 240 | 76 | 508 |
| 1964 | 106 | 74 | 54 | 29 | 263 |
| 1965 | 163 | 110 | 146 | 60 | 479 |
| 1966 | 198 | 70 | 57 | 25 | 350 |
| 1967 | 144 | 31 | 28 | 20 | 223 |
| Average |  | 69 | 93 | 36 |  |

Table 12. River Moy - 1960-1967
Composition of stocks.

|  | Age Group in Sea Winters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1+ | 2 | $2+$ | 3 | Previous <br> spawners |
|  | 79.2 | 7.4 | 8.9 | 0.1 | 4.4 |
| 1961 | 79.9 | 7.5 | 8.9 | + | 3.7 |
| 1962 | 79.9 | 4.9 | 13.5 | 0.1 | 3.6 |
| 1963 | 82.0 | 7.7 | 3.0 | + | 7.3 |
| 1964 | 75.3 | 5.8 | 12.7 | 0.1 | 6.1 |
| 1965 | 72.7 | 10.6 | 9.8 | + | 6.9 |
| 1966 | 62.2 | 14.4 | 12.9 | + | 10.5 |
| 1967 | 85.9 | 3.5 | 5.8 | - | 4.8 |
| Average |  | 7.7 | 9.4 | - | 5.9 |
| $1966-1967$ | 76.9 |  |  |  |  |

Table 13. River Shannon.
Age composition of stocks - 1960-61, 1963-64, 1965, 1967

|  | Age Group in Sea Winters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | I+ | 2 | $2+$ | 3 | Previous <br> spawners |
| 1960 | 80.9 | 11.0 | 2.5 | 1.2 | 4.4 |
| 1961 | 83.0 | 13.5 | 2.0 | 0.1 | 1.0 |
| 1963 | 83.8 | 9.1 | 2.4 | 0.4 | 4.5 |
| 1964 | 79.0 | 12.1 | 7.0 | - | 1.9 |
| 1965 | 76.4 | 7.7 | 11.4 | - | 4.5 |
| 1967 | 92.1 | 4.5 | 3.0 | - | 0.4 |

Table 14. Smolt age composition of adult salmon from three river systems for the year 1967.

|  | Age of Smolts |  |  |
| :--- | ---: | :---: | :---: |
|  | 1 | 2 | 3 |
| River Moy | 13.9 | 84.9 | 1.2 |
| River Shannon | 8.5 | 84.4 | 7.1 |
| River Erne | 2.5 | 94.1 | 2.4 |

Table 15. Mean length and weight for the different age groups (in sea winters) in three river systems for the year 1967. Wt in Kg., Length in cm .

| River Moy <br> River Shannon <br> River Erne | Age of adults |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | It. | ${ }^{+}$wt | $1 t^{2}$ | wt | $1 t^{2}$ | wt. |
|  | 59.4 | 2.6 | 73.4 | 4.5 | 73.9 | 4.6 |
|  | 63.9 | 3.0 | 75.4 | 4.7 | 72.1 | 4.5 |
|  | 67.3 | 3.0 | 71.2 | 4.0 | 72.1 | 4.3 |

