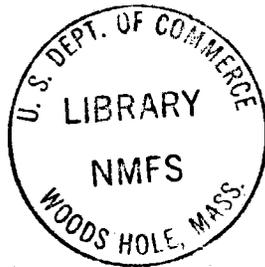


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United States Report of Redfish Effort and Landings
By Depth Zone for 1964
by
Bradford E. Brown and Frank A. Dreyer



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Biological Laboratory
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UNITED STATES REPORT OF REDFISH EFFORT AND LANDINGS
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Presented herein is an analysis of the effort and landings of redfish by the United States otter trawl fleet in 1962, 1963 and 1964 by 50 fathom depth zones for each division. The first zone actually ranged from 61 - 100 fathoms instead of the standard 50 fathoms. Landings of redfish by gear other than otter trawl were negligible. All sizes of vessels from 26 to 300 gross tons were included without weighting. The larger boats fished the northern divisions while the smaller ones fished more in the southern divisions.

Areas and depths of the catch were obtained by interviews. Landings and effort of those trips not interviewed were prorated on the basis of the activities of interviewed vessels, within port and boat size groups. This accounted for the whole of the redfish catch.

Landings from division 5Z were mainly incidental catches. Those from 5Y were the product of a mixed species fishery, and thus the lower catch-per-unit-effort found there may be partly a product of effort being directed at concentrations of fish other than redfish. The selection of only those boats that landed redfish reduced this effect to some extent.

An attempt was made to analyze these data to determine whether any significant differences existed between depth zones. In Table 1 are presented the annual average catch-per-days-fished in metric tons for 1962, 1963 and 1964. The data for 1961 were not included because the catch-per-day for that year was calculated differently (McCann, 1963). A ranking procedure was used to examine differences between depths. Each depth zone was assigned an integral value - 1, 2, , based on the rank of the catch-per-day within each division (Table 2). The higher the rank the lower the catch-per-day. These values were summed over divisions and years and the average rank was computed (Table 3).

There was a slight indication in the data from 1962 and 1964 that the catch-per-unit-of-effort was relatively lower in the 201 - 250 fathom depth zone, but this was not the case in 1963. Much less effort was expended in this zone than in the other three zones. McCann (1963) mentioned that there might be decreased gear efficiency in the very deep waters, e. g., fewer tows per day because of longer haul time.

Between the depth zones, 61 - 100; 101 - 150; and 151 - 200 fathoms there appeared to be little consistency in the differences in catch-per-day. This is portrayed graphically in Figure 1.

LITERATURE CITED

McCann, James A.

1963. United States report on redfish landings and effort by depth zones for 1962. ICNAF Doc. 58, 1963 Annual Meeting, 4 p. mimeo.

Table 1.--Redfish catch/day in metric tons (underlined estimates based on less than 20 days fishing)

Depth zone (fathoms)	Division										
	3N	3O	3P	4R	4S	4T	4V	4W	4X	5Y	5Z
	<u>1962</u>										
61 - 100	<u>45.6</u>	<u>25.4</u>	----	----	----	----	19.0	19.7	12.7	6.4	1.1
101 - 150	28.8	26.2	----	<u>13.5</u>	----	----	20.2	25.3	11.9	9.9	0.7
151 - 200	30.1	26.4	<u>18.7</u>	----	----	<u>8.3</u>	<u>17.7</u>	<u>26.7</u>	<u>13.5</u>	<u>7.5</u>	<u>2.3</u>
201 - 250	<u>24.3</u>	16.6	<u>17.4</u>	----	----	----	<u>13.4</u>	<u>20.0</u>	----	<u>7.0</u>	----
Total	29.5	24.8	<u>18.1</u>	<u>13.5</u>	----	<u>8.3</u>	19.4	20.9	12.7	6.7	1.0
	<u>1963</u>										
61 - 100	----	<u>19.2</u>	----	----	<u>18.3</u>	----	19.0	17.4	7.8	4.8	0.8
101 - 150	24.4	<u>18.0</u>	<u>10.0</u>	16.3	<u>19.9</u>	<u>23.0</u>	17.5	15.8	8.5	3.3	0.5
151 - 200	23.9	18.4	<u>29.5</u>	22.3	----	<u>19.7</u>	19.1	11.9	----	----	----
201 - 250	<u>40.4</u>	21.3	<u>14.8</u>	----	----	----	29.1	----	----	----	----
Total	24.6	19.1	26.7	17.0	19.9	<u>20.6</u>	19.0	17.0	8.0	4.6	0.7
	<u>1964</u>										
61 - 100	----	----	----	----	----	----	20.2	17.6	8.4	3.8	1.1
101 - 150	26.0	18.2	<u>14.0</u>	35.5	29.4	<u>30.8</u>	16.2	12.9	8.2	3.0	0.8
151 - 200	27.5	23.8	<u>18.8</u>	<u>3.8</u>	----	<u>24.0</u>	20.6	----	----	----	----
201 - 250	----	<u>27.6</u>	<u>30.4</u>	----	----	----	27.0	----	----	----	----
Total	27.1	22.5	<u>23.3</u>	34.8	29.4	<u>28.1</u>	19.2	16.5	8.3	3.6	1.0

Table 2.--Rankings of redfish catch/day

Depth zone (fathoms)	<u>Division</u>										
	3N	3O	3P	4R	4S	4T	4V	4W	4X	5Y	5Z
	<u>1962</u>										
61 - 100	1	3	-	-	-	-	2	4	2	4	2
101 - 150	3	2	-	1	-	-	1	2	3	1	3
151 - 200	2	1	1	-	-	1	3	1	1	2	1
201 - 250	4	4	2	-	-	-	4	3	-	3	-
	<u>1963</u>										
61 - 100	-	2	-	-	2	-	3	1	2	1	1
101 - 150	3	4	3	2	1	1	4	2	1	2	2
151 - 200	2	3	1	1	-	2	2	3	-	-	-
201 - 250	1	1	2	-	-	-	1	-	-	-	-
	<u>1964</u>										
61 - 100	-	-	-	-	-	-	3	1	1	1	1
101 - 150	2	3	3	1	1	1	4	2	2	2	2
151 - 200	1	2	2	2	-	2	2	-	-	-	-
201 - 250	-	1	1	-	-	-	1	-	-	-	-

Table 3.--Average values of rankings of catch/day

Depth zone (fathoms)	1962			1963			1964			Total		
	Sum.	No.	Average rank	Sum.	No.	Average rank	Sum.	No.	Average rank	Sum.	No.	Average rank
61 - 100	18	7	2.57	12	7	1.71	7	5	1.40	37	19	1.95
101 - 150	16	8	2.00	25	11	2.27	23	11	2.09	64	30	2.13
151 - 200	13	9	1.44	14	7	2.00	11	6	1.83	38	22	1.73
201 - 250	20	6	3.33	5	4	1.25	3	3	1.00	28	13	2.15

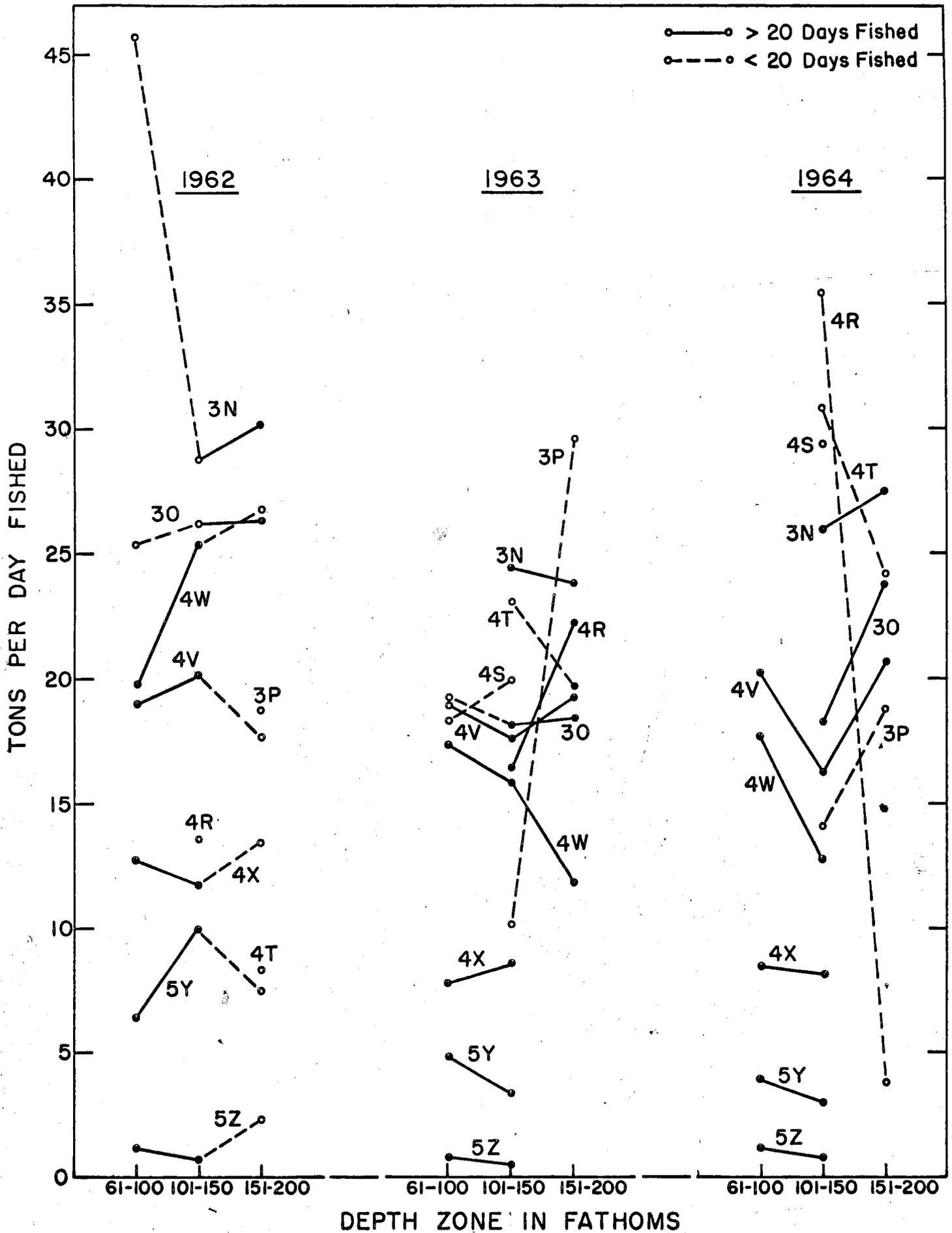


Figure 1. -- Catch per day of redfish vessels by areas and depth zones.