

FISH COMMISSION, STATE OF OREGON

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*Report on*  
THE PILCHARD FISHERY  
OF OREGON



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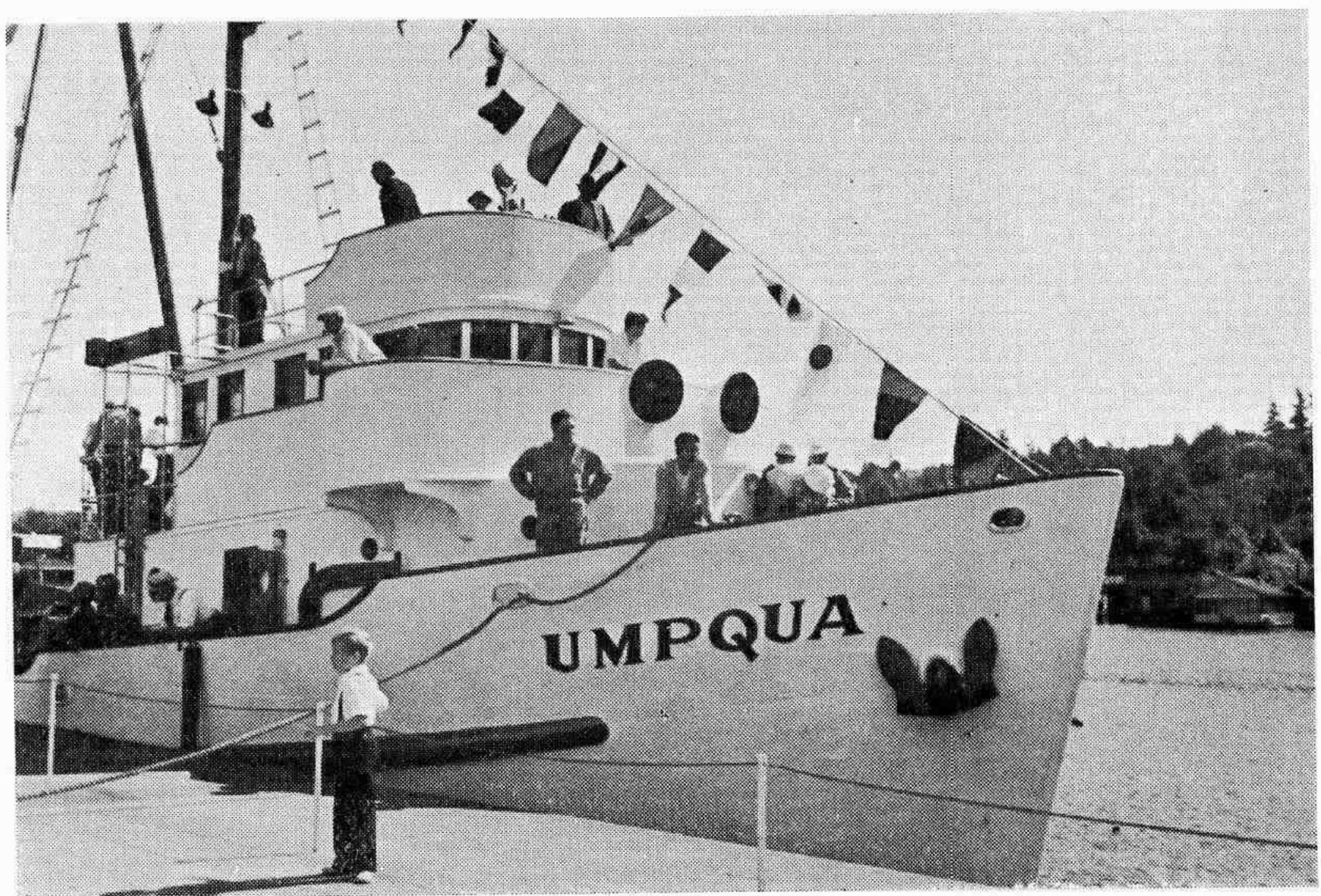
M. T. HOY, MASTER FISH WARDEN

1938

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A modern Oregon pilchard boat.

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# The Pilchard Fisheries of Oregon

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THE PILCHARD fishery began in Oregon during the summer of 1935. Previously laws had prohibited the use of food fish solely for reduction purposes but in that year the laws were modified so as to permit the use of pilchards for reduction and, as a consequence, plants were constructed at Coos Bay and Astoria. The catches were relatively small during June, 1935, and did not increase greatly until two reduction ships at Coos Bay and one at Astoria began to operate. The operation of these reduction ships not only added a large tonnage on their own account but stimulated the activity of the fleet fishing for the shore plants, which resulted in a greatly increased catch. This catch held up well until a large part of the fishing fleet left at the end of August for the opening of the fishing season in California. However, some fishing took place until the end of November. The total catch for the season was 26,232 tons.

As the records for this first season's catch of this new Oregon industry were studied, an apparently justifiable optimism was felt for the future of the industry. The catch had been excellent when the size of the fishing fleet and the experimental nature of the fishery were considered. The yield of fish oil, the most important product of the reduction process, was found to be exceptionally high. This was especially true as the season advanced. (See Fig. 1.) In general it was found that pilchard in Oregon had a greater quantity of oil than in California, especially for the latter portion of the fishing season. This has been borne out by the operation of the subsequent two years, 1936 and 1937.

The 1936 season started out auspiciously with a fishing fleet greatly increased in size and with a great many of the uncertainties of the first season's operation seemingly past. Unfortunately, as the season advanced other difficulties arose. Disputes between the fishermen and the plant operators and among the fishermen themselves lost many good fishing days to the fleet at Coos Bay. The much smaller fleet at Astoria was

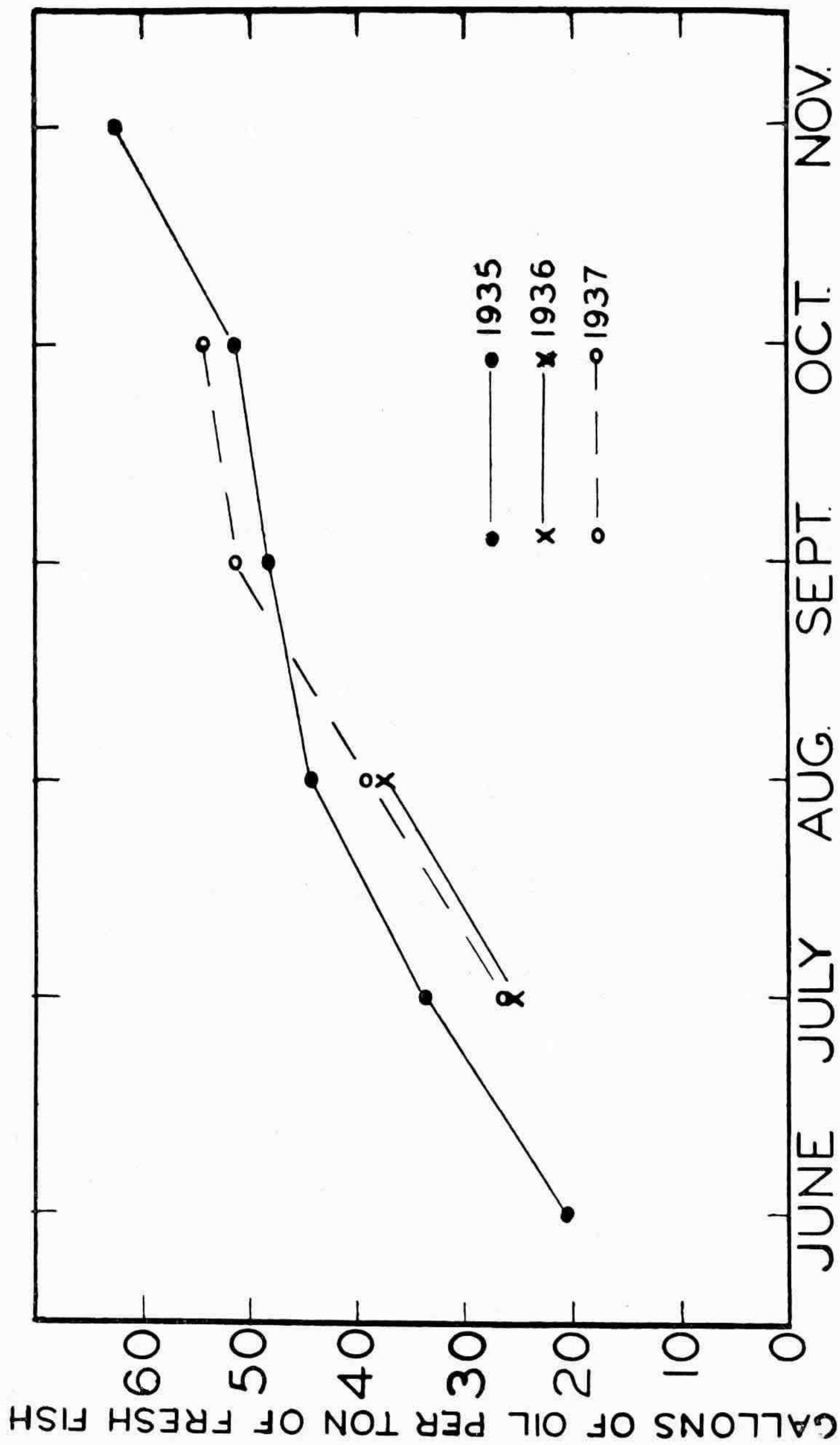


Figure 1. Oil content of Oregon pilchards, 1935-1937.

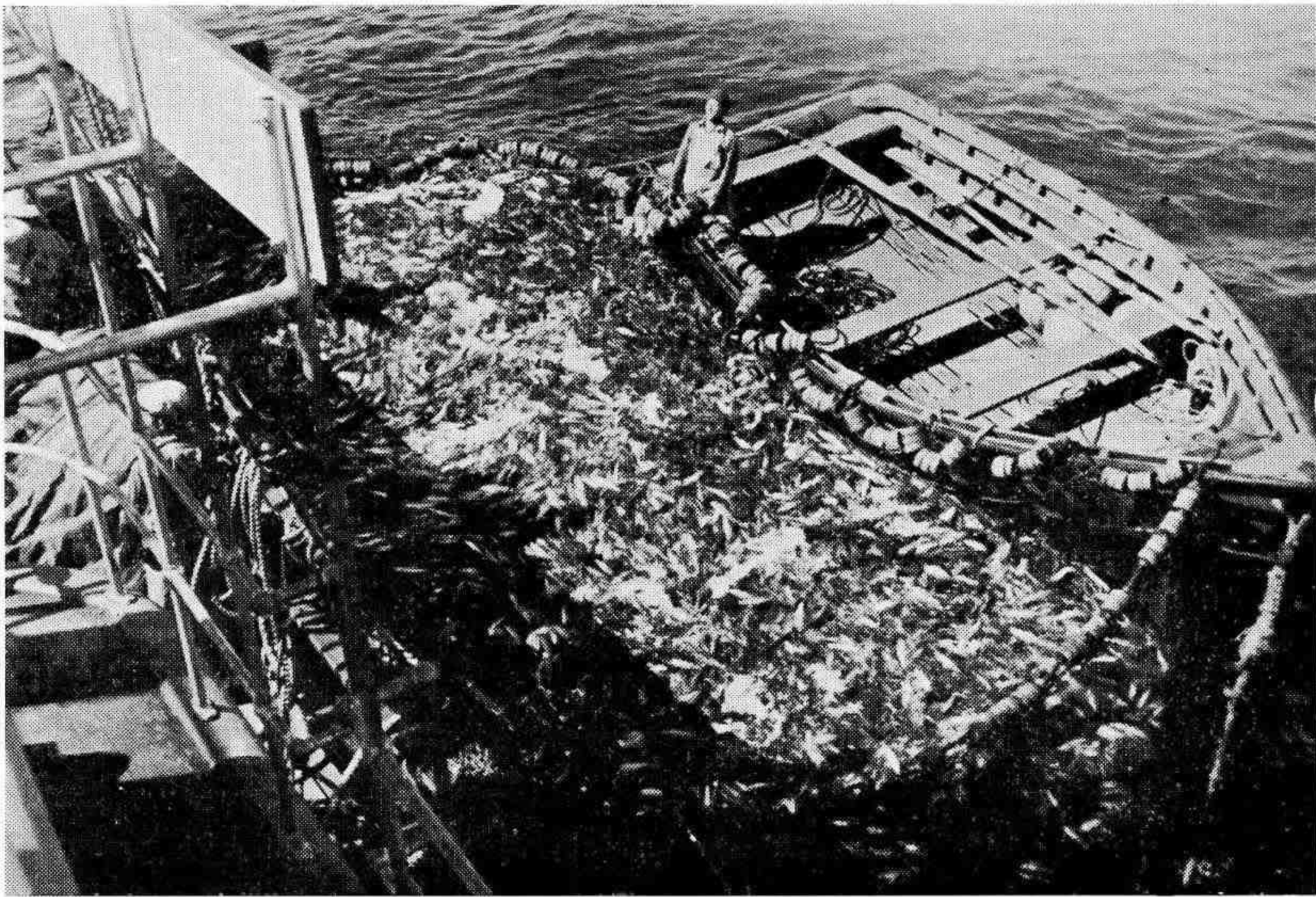


not so hampered and quietly continued to fish. The result was a higher catch per boat at Astoria than at Coos Bay. However, the catch of the fleet fishing at Astoria was limited by a lack of sufficient plant capacity and by an occasional breakdown of some vital part of the plant when fishing was good.

Fishing continued until August 20 at Coos Bay and until the end of the month at Astoria. By the first of September, therefore, the pilchard fishery was entirely finished in Oregon for 1936. The total catch was 14,197 tons.

Although the total catch for this second season was not as great as that for 1935 it cannot be assumed that the supply of fish was greatly different because the fishing effort was much less. Fishing in 1936 ended just at the time when the best catches had been made in 1935 and much fishing time was lost as a result of the internal strife in the industry. It appears altogether likely that these factors, rather than any scarcity of fish, were the cause of the reduced landings.

The 1937 season started much as did the season of 1936, but by the 20th of July the fleet at Coos Bay had largely returned to Monterey, their home port. The previous year they had gone in what might be considered the most favorable part of the



Net pursed and ready for brailing off Heceta Head, 1937.





First brail full of pilchards, Heceta Head, Oregon.

fishing season, the latter part of August, but in 1937 the fishing fleet left before the season had well begun. Apparently the industry at Coos Bay would have no chance to show its possibilities with the season thus prematurely ended. However, one plant on the Umpqua river, some 30 miles north of Coos Bay, did not close. The operators of this plant not only retained a small fishing fleet, but successfully pioneered scouting for pilchard schools with an airplane.

In the meantime a small fleet, fishing for a single plant at Astoria, started to catch fish by July 9 and continued without any marked interruptions until about August 10 when the plant burned. Apparently the season was over for Astoria, but the plant there was rebuilt so quickly that by August 22 deliveries of fish were made. However, the new plant did not have as great a processing capacity and the boats were placed on limits more frequently than previous to the fire. Additional machinery was installed during the course of the season and with the increase in the rate of processing fish the boat limits were finally removed. Fishing continued successfully until about the middle of October when, after a period of rough weather, the single boat still fishing at Astoria and the small



fleet fishing for the reduction plant on the Umpqua, left for California.

The end of the 1937 season found the industry with a total catch of 16,661 tons, slightly greater than 1936. But the catch of 1937 was taken by a much smaller fishing fleet; in fact approximately 60 per cent of the total catch may be credited to six boats out of a total fleet of 32.

The Fish Commission of Oregon had, from the inception of the industry, kept a careful watch both as to the internal conditions in the industry itself and its effect upon our other fisheries. As a result of this official check upon the fishery, claims that great damage was being done to other fisheries by the operation of the pilchard fishing fleet were quickly disproved, and for the 1936 and 1937 seasons a biologist had been employed to study the effect of the fishery on the abundance of the pilchard population. This investigation has been a cooperative one with the other scientific agencies making similar studies on the Pacific Coast.

Also careful statistics were kept covering the industry and a study of these records indicates that fish are sufficiently abundant off the coast of Oregon so that successful fishing could be conducted during the period from the latter part of June or the early part of July until December. An examination of Fig. 2 will give a good indication of the seasons for the past three years. The abrupt drops in the catch at the end of August in 1935 and about the middle of August in 1936 were due, as noted above, to the fact that a large part of the fishing fleet left at these times. However, an examination of Fig. 1 will indicate that fish processed during August and later will prove of greatest value on account of the higher oil yield.

There were, of course, differences in the fishing grounds among the three seasons and during the course of the seasons. The season of 1936 was especially notable for a tendency of the fishing grounds to shift south as the season advanced. This tendency was present, although to a lesser degree, during the season of 1935. The 1937 season was peculiar in that this southerly shift of the fishing grounds was almost absent. A



good impression of the take in different fishing localities for the three years involved may be gained from Fig. 3 and Table 1. It will be seen that fishing was concentrated off or to the north of the two ports at which plants were operated. The 1935 figures were not based on such small zones as were employed during the last two seasons; hence the difference in the number of zones shown in Table 1.

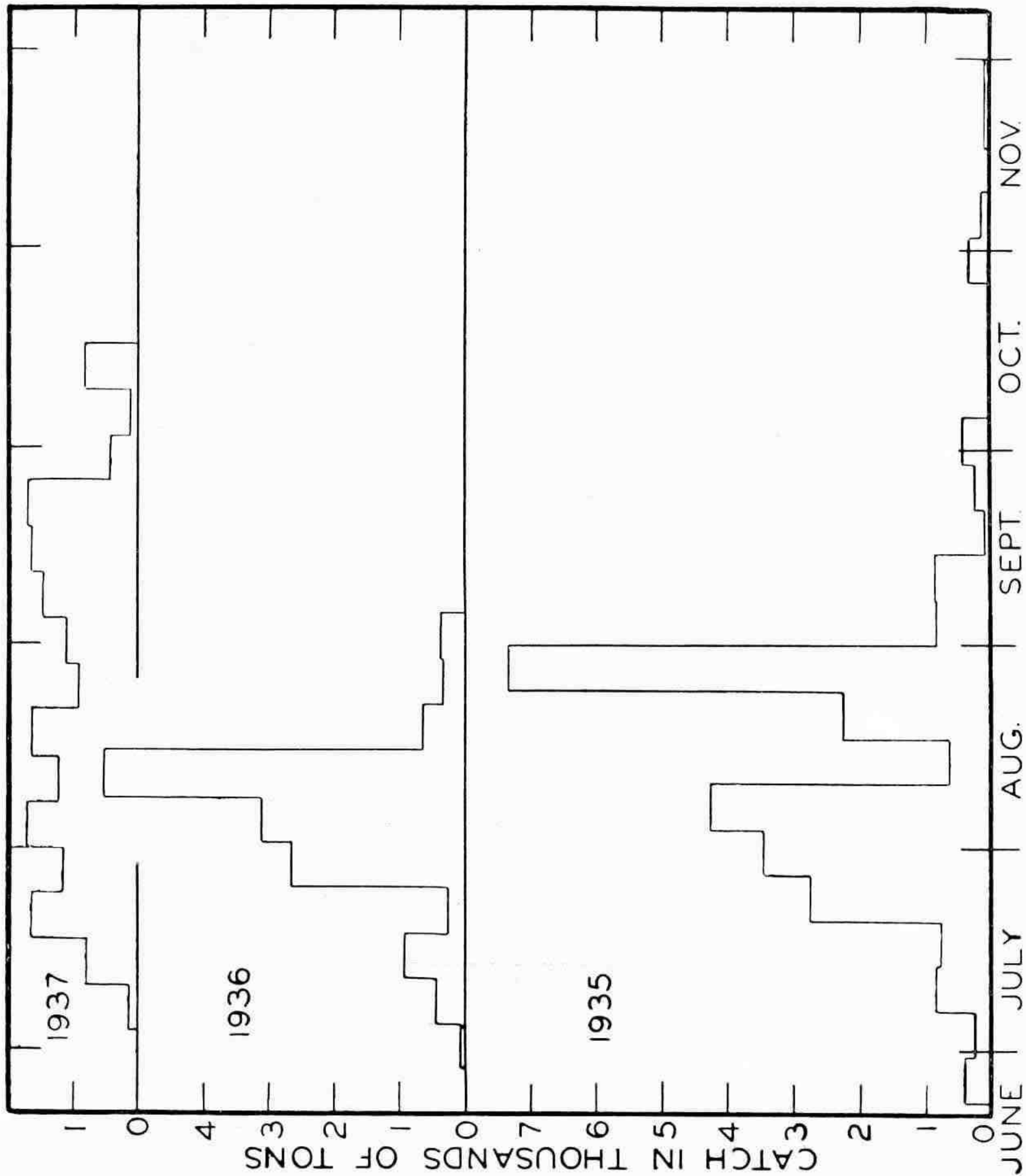


Figure 2. Weekly catch of Oregon pilchards, 1935-1937.



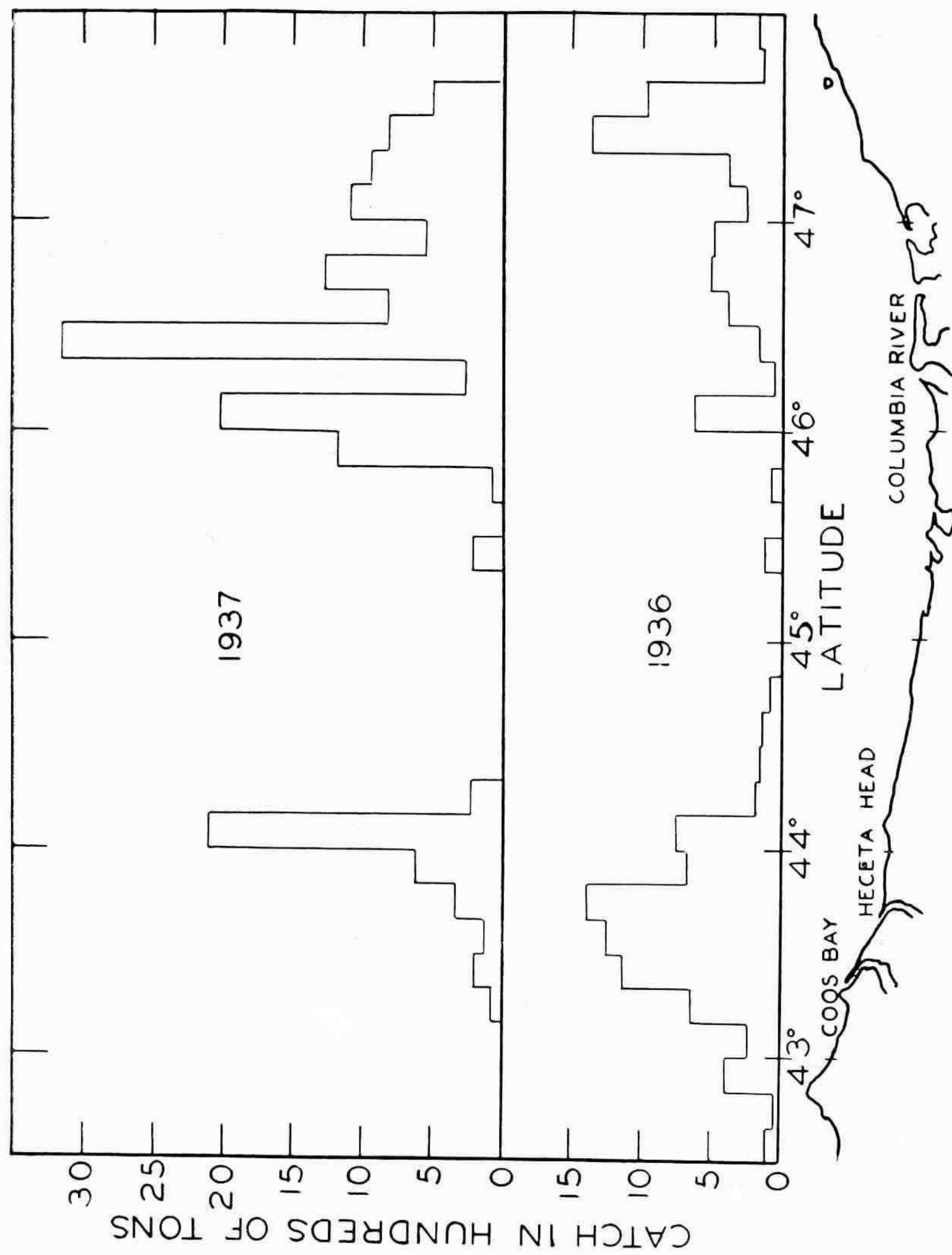


Figure 3. Size of pilchard catch from fishing localities off the Oregon Coast, 1936-37.



TABLE 1  
Catch in Tons for 1935 by Zones

Zone		Catch in Tons
A	(All catches from north of Cape Disappointment) .....	9,742.000
1	(From Cape Disappointment to Cape Falcon) .....	173.500
2	(From Cape Falcon to Cape Foulweather) .....	.....
3	(From Cape Foulweather to Heceta Head) .....	1,351.062
4	(From Heceta Head to Cape Arago) .....	14,290.432
5	(From Cape Arago to Cape Blanco) .....	675.325
6	(From Cape Blanco to Oregon-California line) .....	.....
B	(All catches from south of Oregon) .....	.....

An indication of the relative fishing success of the boats may be obtained from Table 2. This gives the average catch per set of the net for the three seasons for only those boats that made more than 10 sets during the season. As 1936 was marked by a large number of boats that made but few sets, this table does not give any indication of the relative numbers of the fishing boats for the three seasons. It is evident from Table 2 that the average catch per set for many of these boats was high. The boats that made only a few sets have not been included, for any averages based on a few sets could not be considered accurate.



TABLE 2

## Catch of Boats Making Ten Sets or More, 1935 to 1937

Season	No. of Sets	No. of Deliveries	Total Catch in Tons	Average Tons per Set	Average Tons per Delivery
1935	64	30	6290	48.3	103.1
	45	25	3399	37.7	68.0
	45	28	2994	33.2	53.4
	41	25	2405	29.3	48.0
	40	26	2947	36.8	56.7
	37	19	1621	21.9	42.6
	36	23	2287	31.7	49.7
	35	20	2180	31.1	54.5
	35	25	2230	31.8	44.6
	34	24	2440	35.9	50.7
	33	23	1807	27.3	39.2
	32	19	1526	23.8	40.1
	28	14	2838	50.6	101.2
	26	15	1591	30.6	53.0
	22	11	1764	40.0	80.0
	17	11	713	20.9	32.4
	15	7	1137	37.8	81.0
	14	11	297	10.6	13.5
	12	5	739	29.9	73.9
	12	6	776	32.3	64.6
	10	8	572	28.6	35.7
1936	19	13	660	34.7	50.8
	18	10	323	17.9	32.3
	15	8	467	31.1	58.4
	15	8	384	25.6	48.0
	15	9	401	26.7	44.5
	14	9	427	30.5	47.5
	14	9	305	21.8	33.9
	14	9	286	20.4	31.8
	13	7	538	41.4	76.8
	12	8	384	32.0	48.0
	12	8	292	24.3	36.5
	11	8	339	30.8	42.4
	11	8	233	21.2	29.1
	10	5	298	29.8	59.6
	10	8	410	41.0	51.2
	10	8	298	29.8	37.3
	10	7	257	25.7	36.7
1937	53	36	2176	41.0	60.3
	46	25	2233	48.5	89.2
	40	23	1837	46.0	80.0
	31	19	1110	35.7	58.3
	28	20	1160	41.3	57.9
	22	14	831	37.7	59.3
	21	14	1816	86.6	129.8
	21	14	590	28.1	42.1
	16	12	494	30.8	41.0
	13	8	590	45.3	73.6
	12	9	660	55.0	73.2
	10	4	379	37.9	94.7
	10	8	621	62.1	77.5

The three seasons of pilchard fishing in Oregon have apparently not been marked by any great scarcity of fish as measured by the average catch per set of the boats that were most active in the fishery. The fact that the catch of 1935 was larger than in either 1936 or 1937 appears to have been due chiefly to industrial difficulties during the last two seasons and had nothing to do with the relative abundance of fish. However, regardless of the cause, the effect has been virtually the same upon many of the fishermen and plant operators—one of discouragement. This has not served to benefit the situation. On the other hand, some have gone ahead, fishing and processing fish in season, and expanding and planning between seasons. It is upon foundations such as these alone that Oregon can hope for a permanent and prosperous pilchard fishery, and it is more than probable that those fishermen and plant operators who fish and process fish quietly and efficiently will benefit by the future development of the industry.