

**The Plymouth Mackerel Fishery of 1889—90. From  
Data collected by Mr. Wm. Roach, Associate  
Member M. B. A.**

By

**W. L. Calderwood.**

THE returns kindly sent in by Mr. Roach have been tabulated in the following pages.

The period during which Mr. Roach made his observations extends from October 23rd, 1889, to September 29th, 1890.

Concerning the particular localities in which the fish have been caught, it may be useful, for those who are not familiar with the coast, to explain that the fish make their appearance on the coast at a considerable distance to the east of Plymouth (18—20 miles). The shoals then appear to travel in a westerly direction, some going off into deeper water, all moving about in a more or less uncertain manner. The head-quarters of the fishery eventually become fixed south of Plymouth and Eddystone Light. Gradually the fish seem to approach the shore, swimming now in large shoals. Many enter Plymouth Sound and are taken in comparatively shallow water, while others travel west, also in shallow water. The "remarks" for August are instructive. We find that, besides the ordinary and large fish, there are also "small fish about the size of pilchards" in the Sound, that "numerous large shoals" are noticed, and that at a later date the fish "seem to be leaving Plymouth Sound." On September 1st we find the note that "the mackerel are going off into open water and the shoals breaking up." On the breaking up of the shoals the mackerel fishing is considered to be at an end.

Concerning the forming of the shoals Mr. Roach also makes some remarks. I quote from his paper, "May 3rd: Mackerel are now gradually drawing to land. Some years ago they used to shoal in May, but of late years they have not shoaled so early. . . . I think it is owing to our April month being often so stormy. . . . Last year they did not shoal until July (1889)."

On June 21st he says, that, on an average, the shoal mackerel are much smaller than those taken with hook and line.

Such remarks as these serve to throw some light on the systematic movements of the mackerel shoals. Like the herring, they appear at certain parts of the coast at certain seasons, are driven by instinct to approach the land, and penetrate into the arms of the sea. At the same time shoals of younger fish are present, behaving in exactly the same way. The experience of fishermen goes to prove that the shoals of different sized fish do not intermingle; after a time the fish recede from the land and the shoals break up. But we also notice that there are certain causes which may retard or accelerate this series of movements. Meteorological conditions may affect the fish directly or they may affect their food, but since we have no regular record of the state of the weather, temperature of the sea in which the shoals swim, state of their food or reproductive organs, we are unable to discuss this point.

In relation to the state of the wind and the actual takes, however, this passing note may be made, that stormy weather seems to be favourable for "whiffing" (trolling a spinning bait), as the mackerel then seem to come to the surface, but whether the smaller classes of fish may not be taken at the same time by sunken nets is uncertain. As a rule only the largest fish are caught by "whiffing."

It is difficult to give, with any degree of accuracy, the total number of mackerel landed, since the record of the number of boats fishing is often incomplete. Such a record is, of course, not easily obtained except through some one regularly in attendance at the fish quays.

In studying the price column it is necessary to understand that in Plymouth, as in almost every other fishing centre, weights and measures are considerably distorted. In selling mackerel or herring by auction, as landed from the boats, 100 always means six score.

A few notes as to the methods of catching mackerel in this locality may be of interest.

In addition to the ordinary sunk or floating net—too well known to require description—what is locally known as "brimming" is much practised, especially by the Cornishmen.

Brimming is carried on during quiet nights. As the boat sails slowly along, a man in the bows, at short intervals, stamps loudly with his feet, lets the stock of the anchor fall suddenly on the rail, or makes some other noise, keeping at the same time a sharp lookout. The shoals of mackerel, startled by the sound, make one or two darts through the water, and cause quick flashes of phosphorescence. The suddenness of the flash distinguishes herring or mackerel from other less active fish. This is called the brim, and

Date.	Locality.	No. of boats.	Catch per boat.	Wind.		Weather.	Price per 100.	Remarks.
				Force.	Direction.			
1889. Oct. 23	Between Bolt Head and Start Point	—	24,000 and under	—	—	—	14/0-17/0	—
24	16 miles off Bolt Head	—	10,000 "	—	E.	Fine	14/0	—
25	20 miles S.W. of Start Point	—	10,000 "	Fresh	E.	—	14/0-16/0	Good quality. Considerable damage done by dog-fish ( <i>Acanthias</i> ). In 10,000 mackerel, 2000 to 3000 will have pieces bitten out of them by dogs.
26	12 miles S. of Salcombe	—	6000 "	—	—	—	17/6	—
30	S.S.W. of Salcombe	—	3000 "	—	—	—	25/0 large fish; 9/0 small fish	Storm.
31	S. of Salcombe	—	3000 "	—	W.	Fine	20/0-24/0	Dog-fish again very numerous.
Nov. 1	12 miles W.S.W. of Start Point	—	900 "	Gale	W.	—	17/0-21/0	—
2	—	—	—	—	—	—	—	Too stormy.
4	10 miles S. of Salcombe	—	400 "	—	—	—	21/0-25/0	—
5	6-10 miles S.W. of Start Point	—	2000 "	—	—	—	20/0-26/6	—
6	10 miles S.W. of Bolt Head	—	A few hundred	—	—	—	24/0	Fish scarce. Bright moon given as reason.
7	15 miles S.W. of Start Point	2 or 3	200	—	—	—	25/0	—
8	20 miles S. of Salcombe	3	200	—	—	—	25/0	—
9	—	—	—	—	—	—	—	Mackerel become so scarce boats starting pilchard fishing.
15	4 miles S.E. of Eddystone	3	200-300	—	—	—	37/0	The nets worked by these boats are half mackerel and half pilchard.
16	6 miles S. of Eddystone	4	200-1000	—	—	—	30/0	P. Z. boats.
17	15 miles S.S.W. of Start Point	4	400-500	—	—	—	30/0	P. Z. boats. Dog-fish are reappearing.
18	15 miles S.S.W. of Eddystone	—	200 and under	—	—	—	30/0	—
19	15 miles S.S.W. of Start Point	—	3000 "	—	—	—	34/0	P. Z. boats using sunken nets. Thousands of small mackerel are along the coast.
20	Ditto	6	1500 "	—	—	—	27/0	—
21	20-30 miles S.S.W. of Start Point	8	2500	Strong	E.	—	25/0-27/0	—
22	15 miles S.W. of Start Point	—	800 and under	—	—	—	27/0	—
23	20 miles S.S.W. of Start Point	3	400 "	—	—	—	26/0	Stormy.
27	15 miles S.S.W. of Start Point	5	300 "	—	—	—	37/0	Stormy.
28	15-20 miles S.W. of Start Point	6	1500 "	—	—	—	36/0	About 60 boats out.
29	20 miles S.W. of Start Point	—	400 "	—	—	—	26/6	A great many boats given up for want of luck.
		2	300					

Dec.									
10	—	5	None	—	—	—	—	—	Got their nets full of dog-fish, greatly injuring the nets.
13	15 miles S.W. of Bolt Head	1	3700	—	—	—	37/0	—	—
17	15 miles S. of Plymouth	—	900 and under	—	—	—	37/0-40/0	Very large.	—
1890.									
Jan.									
14	40 miles S. of Plymouth	1	1150	—	—	—	87/0	The first take of mackerel for nearly a month.	—
16	30 miles S. of Mewstone	1	700	—	—	—	84/0	—	—
		1 or 2	100						
Feb.									
12	35-45 miles S. of Plymouth	1	2000-3000	—	—	Stormy	35/0-40/0	The presence of dog-fish complained of, injuring the mackerel.	—
		20	3000 & under						
15	28 miles S.S.W. of Start Point	—	450 and under	—	E.S.E.	„	47/0	A gale followed, blowing from N.N.W.	—
17	—	—	200	—	S.S.E.	„	100/0	—	—
18	—	10	30	—	E. by S.	„	1/0 each	—	—
20	20 miles S. of Bolt Head	1	450	—	—	—	50/0	A calm followed.	—
22	—	2	700-1000	—	—	—	41/0	Caught by "brimming," encircling fish seen at night by the phosphorescence they cause when frightened.	—
		75	A few fish						
24	30 miles S.S.W. of Start Point	1	1900	Strong	E.	—	44/0	Sunken nets.	—
		1	1500						
		70	50 and under						
26	30 miles S.S.W. of Berry Head	Several	A few hundred	—	—	—	39/0-44/0	—	—
		1	4400						
		1	3000						
		1	1000						
Mar.									
3	—	—	—	—	—	—	—	20 Lowestoft boats arrived without any fish after trying for 3 or 4 days.	—
5	—	Many	Very few	—	—	—	—	—	—
	30 miles S.S.W. of Start Point	1	250	—	—	—	50/0	—	—
7	40 miles S. of Plymouth	1	300	Strong	S.W.	—	60/0	—	—
		8	20-30						
10	35 miles S.S.W. of Mewstone	6	350 and under	—	W.	Fine	75/0	Floating nets.	—
12	—	1	1500	—	W.	—	40/0-48/0	Largest catches taken in sunken nets.	—
		2	700						
		8	200-1000						
		1	400						
13	25-30 miles S.S.E. of Mewstone	30	1500 and under	—	S.S.W.	Very fine	37/0-41/0	Equally distributed between floating and sunken nets.	—

Date.	Locality.	No. of boats.	Catch per boat.	Wind.		Weather.	Price per 100.	Remarks.
				Force.	Direction.			
Mar.								
14	30 miles S. of Mewstone	40	1300 and under	—	S.	Very fine	34/0-40/0	Sunken nets.
15	Ditto	20	100-300	—	—	—	38/0-41/0	A storm from S. followed.
		40	None					
19	Ditto	30	20-40	—	—	—		
	Ditto	5	500-600	—	—	—	53/0	Floating nets.
	40 miles S. of Mewstone	3	1000-1500					
20	40 miles S. of Plymouth	5	200-500	Fresh	N.W.	—	39/0-44/0	Floating nets. Several boats put back.
		4	1000-2000					
22	35 miles S.S.W. of Plymouth	20	1700 and under	—	—	—	31/0-33/0	Sunken nets.
24	Ditto	50	500 "	—	—	—	32/0-36/0	Storm from S.S.E. followed.
26	32-37 miles S. of Stoke Point	20	800 "	—	S.W.	Fine	44/0-50/0	Most of the boats not out. No boat with more than 800.
27	30-35 miles S. of Mewstone	30	20-1000	—	S.	Foggy	40/0	Floating nets by Lowestoft boats. Very few boats with fish, and few boats with more than a score of fish.
29	—	Several	Very few	—	—	—	—	—
31	30-35 miles S. by W. of Plymouth Harbour	1	2900	1	E.	Fine	48/0-50/0	The fish are being caught further and further west. The large takes were got by floating nets, the small by sunk nets.
		1	1000					
		15	100-400					
April								
1	30-40 miles S.W. of Eddystone	30	900 and under	—	—	—	40/0-50/0	In floating nets.
2	30 miles S.W. by W. of Eddystone	20	800 "	3	E.	—	35/0-40/0	Floating nets. Taken in the early morning after the moon went down. Fish still travelling west. Each boat getting 10 or 12 garpike with the mackerel. Large quantities of small Crustacea noted on surface of water.
		—	—					
5	—	—	—	—	N.E. a.m. S.E. noon	—	—	Poor takes. Attributed to the very bright moon.
7	—	4	400-500	—	—	—	—	Only 3 or 4 boats with fish.
10	20-30 miles S.S.W. of Start Point	50						
	30-40 miles S. of Plymouth Harbour	} 6 } 44	800 and under	3	N.	—	25/0-35/0	Many boats with no fish. Fish of poor quality.
	20-30 miles S.S.W. of Eddystone		25-100					
	30 miles S. of Deadman Point							
11	40 miles S. of Plymouth	4	400 and under	—	—	—	27/0	Floating nets. Fish of poor quality.

12	20-30 miles S.W. of Eddystone	2 7	700-800 300-400	—	E. a.m. S. noon, backing.	—	27/0-30/0	Boats taking to the floating nets.
14	40-50 miles S.S.W. of Eddystone	4	1000 and under	4	E.	—	27/0-30/0	—
15	—	4	200	4	E., abating	—	—	Too stormy for much fishing.
16	50 miles S.S.W. of Eddystone	4	2000-3000	Strong	E.	—	27/0-34/0	—
17	—	—	—	—	E. by N.	—	—	A few boats with few fish.
18	—	—	—	—	—	—	—	Too stormy for fishing.
19	45-50 miles S. by W. of Eddystone	3 Others	2900 & under 1200	Light	E. by N.	Fine	19/0-21/0	—
21	Ditto	4	2000	Fresh	S.	Foggy	19/0-20/0	—
23	Ditto	2	5000	—	S.W.	—	30/0-34/0	—
24	35 miles S. by W. of Eddystone	3 8	2000 & under 500	—	N.W.	—	30/0-32/0	Large quantity of small Crustacea noticed on surface.
28	—	—	—	—	W. by S.	Fine	28/0-30/0	Only a few hundred fish taken.
29	25 miles S.W. of Eddystone	8	500 and under	Fresh	S.E.	—	27/0	—
30	20 miles S.E. of Plymouth	20	100-300	—	E. by S.	—	31/0	—
May 1	20-30 miles S.W. of Eddystone	8	1000-2000	—	E.	Fine	30/0	—
2	10-15 miles S.S.W. of Eddystone	10	100-300	Calm	E.	—	27/0-29/0	Too calm to enable boats to go far to sea.
3	10-15 miles S. of Eddystone	15	800 and under	—	—	—	17/0-18/0	Quality rather poor. The fish are now being taken nearer the land. Mackerel said to be shoaling later.
5	5-8 miles S. of Eddystone	15	700	—	S.E.	—	30/0	—
6	Outside Eddystone	—	1000-1500	—	S.E.	Showery	17/0-18/0	—
8	10-20 miles S. of Eddystone	Several	100-300	—	E. by S.	—	17/0-20/0	Quality rather poor. Several Lowestoft boats visited Plymouth, but also doing very badly, although having tried off Falmouth and St. Ives.
10	—	—	Poor takes	—	S.E.	Fine	—	—
12	—	—	100-300	—	S.W.	—	—	—
13	30 miles W.S.W. of Eddystone	1	3000	—	N.	—	16/0-20/0	—
14, 15	—	—	1000	—	—	—	—	—
17	50 miles W.S.W. of Eddystone	1	A very few fish taken 5000	Fresh	S.W.	—	—	—
19	—	—	Poor takes	—	S.W.	Fine	—	Many boats out, but only about 1 in 20 with a few fish.
20	3-4 miles S. of Eddystone	—	—	—	—	—	2½d. each (for bait)	No boat with more than 100 fish.

Date.	Locality.	No. of boats.	Catch per boat.	Wind.		Weather.	Price per 100.	Remarks.
				Force.	Direction.			
May 22	S. of Eddystone	—	A few hundred	—	S.E.	Fine	Sold for bait	—
23	8-10 miles S. of Eddystone	8	1800 and under	—	E.	"	11/0-13/0	Also 200-300 herrings per boat. Mackerel very small. These were L. T. boats, using a smaller mesh at this season.
26	Between Penlee Point and Rame Head	—	5000	—	E.	"	12/0-14/0	Also some boats got from 4-6 doz. by hook.
27	Ditto	—	4-6 doz.	—	E.	—	—	By hook.
28	Off Penlee Point	2	3000	—	E.	Fine	12/0	Seine net.
29	Ditto	—	A few hundred	Fresh	W.	—	12/0	Drift nets.
	Close off Penlee Point	1	3000	—	—	—	—	Seine net.
June 2	—	—	2000-3000	—	N.W.a.m.	—	—	Port Rinkle boats.
	—	—	3000	—	W. p.m.	—	—	Cawsand boats.
	40 miles S. of Penzance	2	2000-3000	—	—	—	13/0-14/0	Lowestoft boats. Large fish.
3	—	—	2000-3000	Fresh	S. by W.	—	14/6	Plymouth boats.
	—	—	2000-3000	—	—	—	14/6	Cawsand boats.
4	½ mile off Penlee Point	—	3000	—	S.W.	—	12/6	Cawsand boats.
5	—	—	2000	—	S.W.	—	12/6	Cawsand boats. Each boat had also a few dozen trolled mackerel.
	—	—	6000	—	—	—	—	Port Rinkle boats. Caught by trolling.
6	—	2	1000-2000	Strong	S.W.	—	14/0	Each boat had also a few dozen trolled mackerel.
	30-40 miles off Scilly	5 or 6	2000-3000	—	—	—	16/0	Very large fish.
7	Off Scilly	—	A few thousand	—	S.W.	Fine	12/0	P. H. boats having very poor success.
9	Off mouth of Plymouth Sound	—	10-15 doz.	—	W.	—	1/4-1/6 per doz.	All taken by trolling, locally termed "whiffing."
	Off Cawsand	2	2000	—	—	—	14/6	Seine nets.
10	½ mile S. of Penlee	—	20-30 doz.	—	—	—	—	By the hook and line boats (whiffing?). Great complaint about the gun practice here.
11	Ditto	—	10-20 doz.	—	W.S.W.	—	1/2-1/4 per doz.	By hooks (whiffing?).
12	Ditto	—	10-40 doz.	—	N.W.	—	1/3-1/6 per doz.	By hooks (whiffing?). A few also caught in the drift nets.
13	1-2 miles S. of Mewstone	—	10-15 doz.	—	E.	—	1/0-1/5 per doz.	Gun practice requiring the boats to go farther to sea than they would otherwise have done.
14	Off St. Ives	10	500-1000	—	W.	Fine	12/0	Taken in drift nets. Sold at Plymouth. Boats bound home to Lowestoft. They have made £100 to £380 in 6 to 8 weeks.

16	Ditto	8	500-600	—	S.W.	„	13/0	These boats also bound home to Lowestoft. Two of them are said to have made £380; the rest about £200 each.
17	Between Rame Head and the Eddystone	—	200-900	—	S.W.	„	15/0-16/0	—
18	S. of Eddystone	—	600-700	—	W.S.W.	„	15/0	Taken by hook.
19	6-10 miles S. of Eddystone	—	400-700	—	W.	„	13/0-15/0	By drift nets.
20	5-10 miles S. of Eddystone	—	100-200	—	—	—	13/0-15/0	Drift nets.
			200-300	—	—	—	—	Whiffing.
21	—	—	200-600	—	S.W.	Fine	14/0	Whiffing.
			200-300	—	—	—	—	Drift nets. Gun practice said to break up the shoals.
23	20-30 miles S. of Plymouth	—	400-500	—	W.	Fine	14/0	Whiffing 2-3 fathoms below surface.
		20-30	1000-1800	—	—	—	15/0	Whiffing. These boats went out on 22nd.
25	—	—	400-500	—	S.W.	Fine	16/0	Whiffing.
26	—	40	400-500	—	W.N.W.	„	16/0	A number of boats after whiffing to sunset shot drift nets, but only took about 50 fish per boat.
27	—	—	200-500	—	—	—	17/0	Whiffing.
28	25-30 miles S. of Mewstone	—	300-400	—	—	—	16/0	The whiffing boats have made from £10 to £18 in the past week.
	Between Penlee Point and Rame Head	—	2000	—	—	—	12/0	Seine net. Almost all boats have given up trying to catch mackerel by drift nets.
30	—	2	4000	—	N.W.	—	14/0	Seine net.
July								
1	Port Rinkle	4	1000-2000	—	S.W.	—	15/0-16/0	—
3	Ditto	6	1000-2000	—	—	—	16/0	Seine net.
	20 miles S. of Eddystone	—	400-1000	—	N.W.	Fine	16/0	Whiffing.
4	—	—	400-500	—	—	—	14/0	Whiffing.
5	—	—	500-1000	—	—	—	13/6	Whiffing.
7	—	2	1000-2000	Strong	S.W.	Rain	14/0	Seine nets.
			100-300	—	—	—	—	Drift nets.
8	—	20	100-600	—	—	—	16/0-18/0	Whiffing. Wind increased to a gale, which seemed to favour the whiffing, the mackerel coming to the surface in great numbers.
10	—	—	—	—	S.W.	Fine	—	No mackerel to be found by any boat. Messages sent over from Guernsey asking boats to come over, fishing being good there.
16	Between Penlee Point and Eddystone	—	2 or 3 doz.	—	—	—	—	Still no mackerel on usual ground.
17	Ditto	—	10-15 doz.	—	Variable	Showery	2/0 per doz.	Fresh shoals of mackerel arrived. Whiffing.
		1	2000	—	—	—	21/0	Seine net.
		1	1000	—	—	—	—	Seine net.

Date.	Locality.	No. of boats.	Catch per boat.	Wind.		Weather.	Price per 100.	Remarks.
				Force.	Direction.			
July 21	1 mile S. of Mewstone, Penlee Point, and Rame Head	—	100-300	—	N.W.	Dull a.m. Fine p.m.	17/0-18/0	Whiffing.
22	—	—	100-200	Fresh	N.W.	—	16/0	Whiffing.
		1	1000					
		1	1500					
23	—	—	100-200	—	N.W.	Fine	—	Whiffing.
		1	1500					
24	—	2	800	Fresh	W.	—	12/0	Seine nets.
25	—	2	500-600	Light	S.	—	11/6	Seine nets.
	Mouth of Plymouth Sound	30	100-300	—	—	—	12/6	Whiffing.
26	Cawsand	1	1000	—	S.W.	—	—	Seine net.
29	—	—	100-300	—	S.W.	Fine	12/0	Whiffing.
30	—	—	100-150	—	—	—	—	Whiffing.
		1	1000				11/6	
31	Between Knap Buoy and Penlee Point	—	100-200	Fresh	S.W.	—	11/0	Whiffing.
Aug. 1	—	—	5-10 doz.	—	S.W.	Foggy	11/6	—
2	—	—	A few hundred	—	N.	"	—	6 large shoals of mackerel seen off the Sound, but not taken in any quantity (a few hundred by whiffing).
4	Cawsand Bay and Whitsand Bay	6	1000-1500	—	N.W.	Fine	10/0-11/0	Seine nets.
5	—	—	3000	0	—	"	11/0	—
6	—	5	1000-2000	—	—	—	14/0-14/6	Seine net.
7	—	3	3000	—	—	—	13/0-14/0	Seine net.
9	Between Mewstone and Rame Head	—	100-300	—	—	—	15/0	Whiffing.
		—	4000		E.	Fine	14/6	Seine net.
11	—	—	100-200	Fresh	W.	—	15/0	Whiffing.
12	—	—	100-150	—	—	—	14/6	Many small mackerel on the coast at present.
19	Plymouth Sound, inside	—	3-4 doz.	—	Variable	—	2/0-2/6 per doz.	When caught sold at 4/0 per 100.
22	—	—	100-200	—	—	—	12/0-14/0	Large fish.
		—	100-200	—	W.	Fine	2/0-4/0	Small fish; about the size of pilchards.
23	Between Penlee Point and Rame Head	—	100-200	—	—	—	—	Numerous large shoals noticed, but poor fishing. Seem to be leaving Plymouth Sound.

25	—	—	100-300	—	—	—	14/0and3/0	Large and small. Whiffing.
26	—	—	100-300	—	—	—	14/0and3/0	—
30	—	—	50-100	—	—	—	25/0	Large.
			100-200	—	—	—	7/0	Small.
Sept. 1	5-10 miles S. of Eddystone	2	200-400	—	—	—	35/0	Drift nets. These boats are now fitting out, the mackerel going off into open water. Shoals breaking up.
2	Ditto	4	500-1000	—	—	—	—	Drift nets.
3	—	—	300-1500	—	N.W., backing	—	—	—
4	—	—	500-800	—	N.W. and	—	25/0-35/0	—
	Centre of Sound	—	1-2 doz.	—	S.W.	—	—	Whiffing. Large fish.
5	—	—	500-3000	—	—	—	10/0-15/0	Drift nets. Also large quantities of small mackerel by hook and net.
6	—	—	100-2000	—	Very variable	—	6/0-7/0	Market too full of all kinds of fish for prices to be good. Pilchards as low as 1/6 per 1000.
8	5-10 miles S. of Eddystone	—	500-5000	—	E.	Fine	—	Still enormous quantities of pilchards and thousands of common shad.
11	—	60	500-1500	—	—	—	10/0-12/6	—
13	—	—	500-600	—	—	—	10/0-12/6	—
15	—	—	100-500	—	—	—	14/0-16/0	—
18	—	—	Poor takes	—	S.E.	—	0/9-2/6 per doz.	—
23	—	10	400	—	S.W.	—	15/0-17/0	—
24	—	2	2500	—	—	—	—	—
	—	5	600	—	—	—	—	—
	—	40-50	25-2000	—	—	—	17/0	—
25	—	—	100-600	—	—	—	17/6	—
26	10-15 miles S. of Eddystone	40	2000 and under	—	—	—	15/0-17/0	Majority of catches 300-600.
	8-10 miles off Foyee and Lowe	40	2000-4000	—	—	—	17/0	—
27	—	3	2000	—	S.W.	Fine	11/0-13/0	—
	—	6	800-900	—	—	—	—	—
	—	20	100-200	—	—	—	—	—
29	—	4	300 and under	—	—	—	—	—

by it the size of the shoal is estimated, as well as the depth at which the fish are swimming. The net is regulated accordingly, and the shoal encircled.

The famous Lochfyne herring are also for the most part caught by this process.

Whiffing or trolling for mackerel with a spinning bait has also been practised for many years. Each boat works six lines. Each line is attached to a sinker, from which depend first a fathom of snood, then a fathom or a fathom and a half of gimp, a swivel, a foot or so of gut, and the swivel bait or spinner. When fish are plentiful, the bare spinner will take fish well. At other times it is necessary to have a fish bait.

The bait most preferred is called "britt" or "mackerel bait" (young sprat, whitebait). When this cannot be procured a substitute is manufactured by cutting about an inch out of the under or white surface of a mackerel's tail.

One remarkable circumstance of last season's "whiffing" was that boats engaged in this method of fishing south of the Eddystone had to be sailed in a southerly direction. In June boats sailing for ten to fifteen miles south of the Eddystone would pick up from 200—400 in one course. They then got "outside" of the fish, and had to return to their starting-point to repeat the process. While sailing back, although the lines were kept out all the while, only a very few fish could be taken.

This method of fishing can only be employed during daylight.