

Discarding of fish in North-East Atlantic

by

Arvid Hysten

Institute of Marine Research, Bergen

Introduction

Discarding of cod and haddock have been given for Norwegian trawlers fishing in North-East Atlantic on an experimental basis with slightly different chafers (Hysten 1965 and 1967). An agreement with Norwegian trawler companies made it possible to study the discarding in November 1965, and 1966, and in June - July 1967. The method for estimating discard described by Hysten (1967), was used.

1965

The trawler was fishing from 28 November to 6 December 1965 at the Skolpen Bank with a double ulstron cod-end of mesh size 121.6 mm. An old cod-end of the same material with mesh size 124.8 mm was used as chafer. The length of the cod-end was 46 meshes, while the chafer covered $25\frac{1}{2}$ meshes of the posterior part of the cod-end. It was tightly laced knot by knot to the cod-end along the anterior and posterior sides.

Alltogether 29 haul were made during the trip, while cod and haddock were measured from 22 hauls. About 64 and 76 percent of the total catch of cod and haddock were measured respectively. Few cod and haddock smaller than 35 cm were caught and no fish were discarded.

1966

Discarding of fish were studied 12-19 November 1966 onboard the same trawler. At this time the trawler was fishing on the Kildin Bank and East Bank. The trawler made alltogether 30 hauls with a small Granton trawl made of Courlene fitted with a double cod-end made of twaine. The mesh size of the cod-end and the chafer were about 130 mm. Half a basket of small cod and haddock were discarded at sea during this trip, and the discarding rate in weight was less than half a percent for both cod and haddock (Table 1).

Trawler B were fishing the 4-12 November 1966 in the same area, and this trawler made 46 hauls with a small Granton trawl of ulstron fitted with double cod-end made of ulstron. The mesh size was about 130 mm, both in the cod-end and in the chafer. The number of cod and haddock discarded, were recorded for 18 hauls, and the discarding rate in numbers for cod and haddock were estimated to 1.2 and 1.8 percent respectively (Table 2A).

The discarding rate in weight could not be estimated for the same hauls, since discarded fish were only recorded in numbers. Discarding in weight were recorded for some other hauls, and the rate of discarded cod and haddock for these hauls were estimated to 1.7 and 5.5 percent respectively. (Table 2 F).

1967

The discarding practise were studied in June 1967 onboard trawler C fishing along the East- and West-Coast of Finnmark. Nineteen hauls were made in the East-Finnmark area, but the discarding were studied in 16 hauls. This trawler used a single ulstron cod-end with mesh size about 130 mm. Cod discarded from this trawler was estimated to 25 percent in number and 10 percent in weight, while the discarding rates of haddock were estimated to 84 and 59 percent respectively (Table 3).

The discarding rates of cod for the same trawler fishing at West-Finnmark were about 8 percent in number, which are similar to the discarding rate estimated for trawler B fishing in the same area (Table 3). The discarding rate in weight could not be estimated for the trawler, because the discarded fish were only recorded in numbers. However, when using the same average weight as for cod discarded at East-Finnmark, the rates are estimated to 1-2 percent.

The discarding rates of haddock for trawler C fishing in June at the West-Finnmark Coast were estimated to 82 percent in number and 61 percent in weight, while the rates estimated for the trawler D fishing in July in the same area are 3 percent in number and 1 percent in weight.

The discarding of coalfish from the two trawlers studied in 1967 were negligible. (Table 2).

Good catches of redfish were only taken by trawler C at the West Coast of Finnmark (Table 3). The discarding rate for this trawler is estimated to 14 percent in weight, while trawler D discarded 92 percent in the same area. Trawler C fishing in June at the East-Finnmark Coast discarded 28 percent of the catch in weight.

Discussion

The 50 percent retaining length for landing of cod taken in June 1967 by trawl at the East-Finnmark Coast is estimated to 43 cm, and the 25-75 percent selection range for landing is 6 cm. Corresponding figures for trawlers fishing in May 1965 in the same area were 45 cm and 3 cm respectively (Hysten 1967).

Differences in discarding rates for trawlers fishing in 1967 at the West-Finnmark Coast might have been caused by differences in size composition of the populations in the area fished. While trawler D was fishing near the coast, trawler C was fishing some distance away. Unfortunately the size composition of the catches could not be given.

Differences in the prizes paid for the fish, might have affected the discarding rates too (Hysten 1967). When smaller fish are paid less than the bigger, the latter are preferred for landing.

References

- Hysten, A. 1965 Utkast av torsk fra trålfangster.
Fiskets Gang 51: 433-435
- " " 1967 On the estimation of cod and haddock discarded by
trawlers using different chafers. Coop.Res.Rep.
Copenh. 1966: 65-77

Table 1. Fish landed and discarded by trawler A fishing 12 - 19 November 1966 on Kildin Bank and East Bank,

Species	Landings kg	Discards kg	Percent discarded
Cod	19593	10	0.05
Haddock	2531	10	0.04

Table 2 A. Fish landed and discarded by trawler B fishing 4 - 12 November 1966 on Kilding Bank and East Bank,

Species	Landings NO	Discards NO	Percent discarded
Cod	11703	143	1.2
Haddock	7047	132	1.8

Table 2 B.

Species	Landings kg	Discards kg	Percent NO
Cod	4980	85	1.7
Haddock	1469	85	5.5

Table 3. Fish landed and discarded by trawlers fishing in 1967.

Trawler	Locality	Date	Landings		Discards		Percent discarded	
			NO	Kg	NO	Kg	NO	Kg
<u>Cod</u>								
C	East-Finmark	10-13 June	11183	18899	3670	2129	24.7	10.1
C	West-Finmark	14-21 June	5460	11521	447	259	7.6	2.2
D	" "	7-13 July	4794	13519	281	163	5.5	1.2
<u>Haddock</u>								
C	East-Finmark	10-13 June	165	251	861	362	83.9	59.1
C	West-Finmark	14-21 June	770	1170	3501	1855	82.0	61.3
D	" "	7-13 July	3795	5768	116	61	3.0	1.1
<u>Coalfish</u>								
C	East-Finmark	10-13 June	1364		0		0	
C	West-Finmark	14-21 June	43522		25		0.06	
D	" "	17-13 July	31770		16		0.05	
<u>Redfish</u>								
C	East-Finmark	10-13 June		1590		632		28.4
C	West-Finmark	14-21 July		1 8730		3116		14.3
D	" "	7-13 July		177		1992		91.8