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By-catches of salmon in herring fisheries

A draft report

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By-catches of Salmon in Herring Fisheries

In the fall of 2002 the Directorate of Freshwater Fisheries received an anonymous report about by-catches of salmon from an Icelandic fishing boat (multi-gear vessel) trawling for herring with a pelagic trawl in the Svalbard area. One of the salmon was carrying a Carlin tag of Norwegian origin.

The fishing took place in early August 2002 just southwest of Svalbard at 75° 40' N and 9° 20' E . The ship caught some 800 tonnes of herring in a fairly short period, which was landed in Norway. Mixed in with the herring were about 200 salmon weighing ca. 1-2 kg. The salmon were inspected for tags and one salmon weighing 2 kg gutted, was carrying a green Carlin tag with the number NG091405. According to Dr. Lars P. Hansen and the ICES tagging database, the salmon was tagged and released as a 17 cm (total length) one-year smolt into the river Drammen in Norway on the 15th of May 2001.

The vessel was trawling with an Icelandic expandable pelagic trawl but the exact size is not available. According to information from the producer (Hampiðjan inc.) such trawls for herring fishing can have an area between 17600 and 36000 m² in the opening during trawling and a circumference between 1800 and 2500 meters (figure 1). Recent development has made these trawls less noisy and increased their fishing efficiency. According to Icelandic information these trawls are considered highly efficient for herring fishing and are being used at many depths and frequently in the surface.

The temperature in the area was relatively high for the time of year, about 8,7°C. The vessel was only making a speed of 2-3 nautical miles during trawling, which is considered relatively slow for such fishing.

There were a number of other vessels fishing for herring in the area with similar gear but none have reported any salmon catches. It seems likely that receiving such a report is extraordinary and salmon are probably being caught by other vessels, which are not reporting it. The large quantity of salmon caught on this occasion, however, may be accidental and a direct interpolation between tonnage of herring and number of salmon thus probably inappropriate.

The occurrence of salmon in Icelandic herring catches is not new. In 1967 the Institute of Freshwater Fisheries issued a press release confirming that up to 30 salmon per haul had been caught in the purse seining for herring 100 miles east of Iceland in November of that year.(Appendix 1). Most of these salmon were small averaging 1 kg in weight. Some larger salmon up to 3 years in sea age were also caught. These findings were previously reported to NASCO (CNL (00)20).

Figure 1 shows a typical multi-gear fishing vessels and the size and design of the pelagic trawls made by the Icelandic company “Hampiðjan”. Also shown in relative size to the fishing gear is a multi-gear vessel utilizing these trawls. Considering the size and efficiency of this fishing gear and the number of salmon caught on this occasion, there seems to be enough evidence to suggest that fishing for schooling fish in pelagic trawls could be a significant contributor to the marine mortality of salmon on their marine feeding grounds.

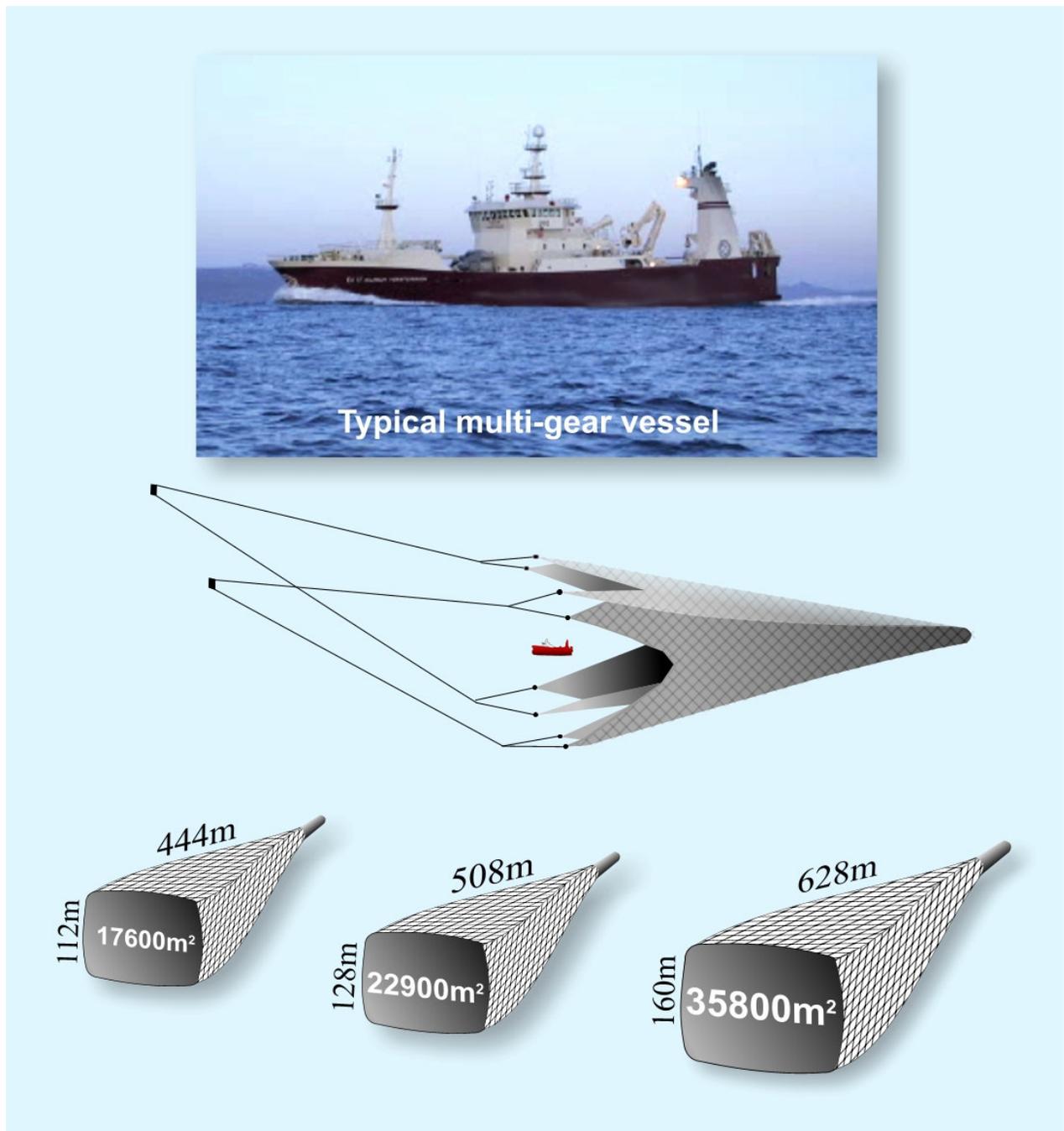


Figure 1. Icelandic expandable pelagic trawls used for herring fishing and a typical multi-gear vessel, which is usually about 70 meters in length. Also shown is the size of the vessel in proportion to the size of the largest trawl.

Appendix 1

21st of December 1967

Institute of Freshwater Fisheries Press release

(Original document prepared by Þór Guðjónsson)

Salmon catches at sea

The Institute of Freshwater Fisheries recently received an external Carlin tag from a salmon caught at west Greenland this autumn, which is the first Icelandic salmon reported from that area. The salmon was tagged and released as a smolt at the Kollafjörður Experimental Fish Farm on May 11th 1966 at a size of 15 cm. The salmon was caught in September 1967 at the town of “Sukkertoppen” in West Greenland (65°25´N and 52°50´W), which is of similar latitude as Patreksfjörður and is located approximately 900 km north of the southern tip of Greenland.

The length of the salmon was 67cm and it weighed 2,2 kg gutted. This is the classical size of salmon caught in that area and the fish was in his second oceanic summer as most salmon caught in Greenlandic waters. Salmon, which spend one year in the sea (grilse), which make up over 50 % of the Icelandic salmon stocks, have not been caught in Greenland. In 1966 the Institute of Freshwater Fisheries Carlin tagged over 8500 salmon smolts.

In the spell of good herring fishing in late November some salmon were caught along with the herring at locations 80-120 miles east of Iceland. It is known that boats were catching from a few up to some 30 salmon per purse seining haul. Most of these salmon, which have spent less than a year in the sea, weighed about 1 kg and measured 44-50 cm in length.

Additionally, some larger salmon were caught, which had spent 3 years in the sea according to scale analysis. The country of origin of these salmon is unknown and these are the first known reports of such large salmon being caught in Icelandic waters as a by-catch.

Translation by Árni Ísaksson
Directorate of Freshwater Fisheries