NO. 4–2012

Cod gillnets with a net panel reduce the king crab bycatch

Within its range, the king crab has become an increasing problem in gillnet fisheries for cod. Experiments show that skirts at the bottom of the gillnets significantly reduce the bycatch of king crab, but also slightly lower the catch rates of cod.

BY DAG FUREVIK AND BENTE HODDEVIK ULVESTAD

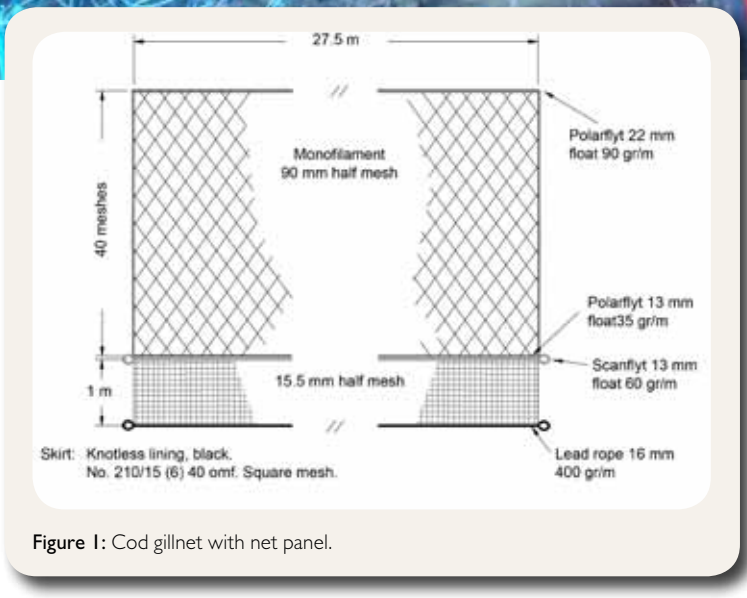

Figure 1: Cod gillnet with net panel.

BACKGROUND

In 2003, the Institute of Marine Research carried out experiments using raised gillnets off Havøysund and at Bugøynes in Finnmark. These raised gillnets only have posts between the groundline and the intermediate line. In these experiments, the catch rates fell by around twenty per cent.

A skirt was first tested on lumpsucker gillnets in an experiment at Bugøynes in 2007. There was a small reduction (around ten per cent) in the number of lumpsuckers caught in the test nets relative to the standard gillnets, while the bycatch of king crab fell sharply.

Based on those positive results, we wanted to test the method on the gillnet fishery for cod in Finnmark. The project has been supported by the Norwegian Seafood Research Fund.

Retur: Havforskningsinstituttet, Postboks 1870 Nordnes, NO-5817 Bergen, Norway

Cod gillnets with a net panel reduce the king crab bycatch

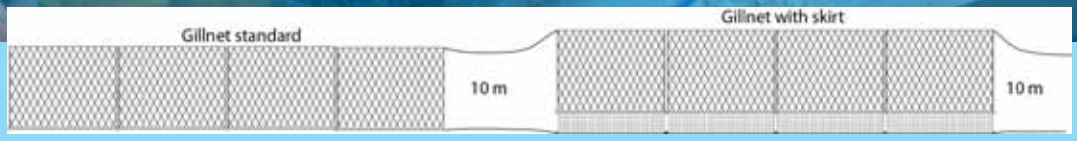

Figure 2: Standard gillnets and gillnets with skirts combined.

THE EQUIPMENT

The experiments were carried out off Båtsfjord and Bugøynes during four separate periods. The three coastal vessels used in the experiments were all equipped for gillnet fishing. At the bottom of the cod gillnets, a one metre high net panel was fitted. Two trains of nets, each with 16 individual nets, were joined together. Each train of nets alternated between four standard gillnets and four gillnets with skirts, with approximately ten metres between each group of nets (see figure).

To help us assess how much fish was caught at the bottom of the net, we ran a thin rope one metre above the groundline on some of the standard gillnets. Similarly, plastic ties were fitted one metre below the headline of the gillnets with skirts, in order to assess the impact of the extra height.

During one of the fishing periods, ocean current data was obtained.

THE FISHERY

During three of the fishing periods, the vast majority of the catch was composed of large fish (70-85 cm), whereas in the fourth period there were lots of king crabs.

The difference between the fish catches in the two types of gillnet varied. In some periods, there was little difference between them, whereas in other periods there was quite a big difference. The explanation for this may be that in one of the periods the target fish were spawning adults, which display slightly different behaviour. In another period the current was strong, which tends to make the fish swim closer to the sea bottom, and in a third period there were lots of crabs, with small fish catches.

All of the crabs were caught in the standard gillnets: none were caught by the gillnets with skirts. It therefore appears that the skirts are successful at preventing crabs from being caught. They also appear to reduce the cod catch slightly. Nevertheless, the benefits of not having crabs caught in the nets largely compensate for the reduction in the remaining catch, and for the fact that the gillnets with skirts take considerably more space in the net bin. Overall, they are therefore feasible as a way of avoiding king crab bycatches.

INSTITUTE OF MARINE RESEARCH
HAVFORSKNINGSINSTITUTTET

INSTITUTE OF MARINE RESEARCH
Nordnesgaten 50
P.O. Box 1870 Nordnes
NO-5817 Bergen – Norway
Tel.: +47 55 23 85 00
Fax: +47 55 23 85 31

www.imr.no

TROMSØ DEPARTMENT
Sykehusveien 23
P.O. Box 6404
NO-9294 Tromsø – Norway
Tel.: +47 55 23 85 00
Fax: +47 77 60 97 01

FLØDEVIGEN RESEARCH STATION
NO-4817 His – Norway
Tel.: +47 55 23 85 00
Fax: +47 37 05 90 01

AUSTEVOLL RESEARCH STATION
NO-5392 Storebø – Norway
Tel.: +47 55 23 85 00
Fax: +47 56 18 22 22

MATRE RESEARCH STATION
NO-5984 Matredal – Norway
Tel.: +47 55 23 85 00
Fax: +47 56 36 75 85

RESEARCH VESSELS DEPARTMENT
Tel.: +47 55 23 68 49
Fax: +47 55 23 85 32

PUBLIC RELATIONS AND COMMUNICATION
Tel.: +47 55 23 85 38
Fax: +47 55 23 85 55
E-mail: informasjonen@imr.no

CONTACTS
Dag Furevik
Faggruppe: Fangst
Tel.: +47 55 23 68 29
E-mail: dag.furevik@imr.no

Jostein Saltskår
Research group: Fish capture
Tel.: +47 55 23 68 05
E-mail: jostein.saltskår@imr.no