

Photo: Shale Rosen, Institute of Marine Research



Catches using the new midwater trawl have been good.

Midwater trawl returns to the cod fishery

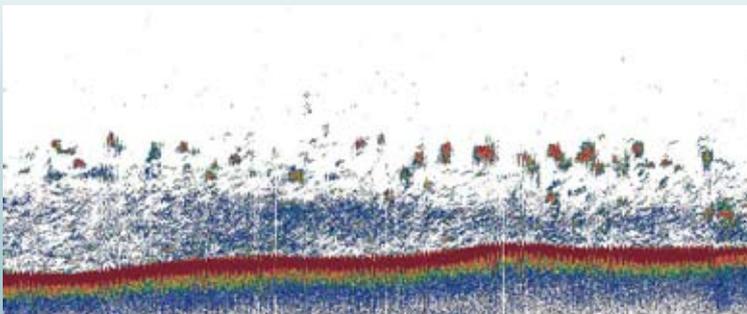
After thirty years of prohibition, the midwater trawl may once again become an alternative to the bottom trawl in the cod, haddock and saithe fisheries. A midwater trawl has no impact on the seabed and requires less energy to operate than a bottom trawl. The Institute of Marine Research is currently testing the new midwater trawl, which has turned out to be an effective fishing gear.

BY KJARTAN MÆSTAD

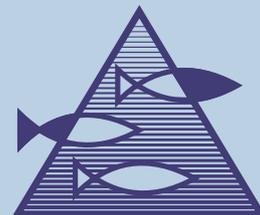
“The trawler “Atlantic Star” has been at sea, testing the new midwater trawl, and has made several hauls of between 10 and 20 tonnes of cod with the pelagic trawl. The biggest haul was all of 45 tonnes after a single hour of trawling,” says Institute of Marine Research scientist Terje Jørgensen, who has helped to develop the new gear. Catches consisted exclusively of large fish, with an average weight of around five kilos.

BACK AFTER 30 YEARS

Unlike the bottom trawl, the midwater trawl does not come into contact with the seabed. The midwater trawl, which is also known as the pelagic trawl, was used to catch cod and haddock in Norwegian waters during the 60s and 70s. The problem at that time was that the trawl also took large numbers of small fish, and in 1979 the midwater trawl was prohibited for use in the cod fishery.



This echogram indicates good registrations of the cod that were being fished in the trials.



INSTITUTE OF MARINE RESEARCH
HAVFORSKNINGSINSTITUTTET

Midwater trawl returns to the cod fishery after 30 years



Photo: Shale Rosen, Institute of Marine Research

SORT OUT SMALL FISH

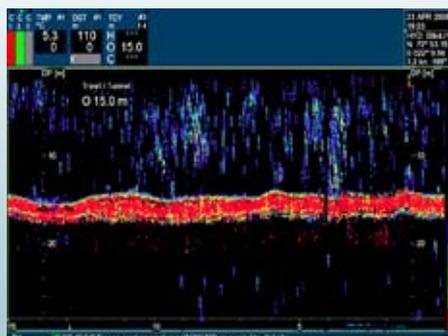
The new midwater trawl has been designed and constructed by Egersund Trål AS, and is a modified, scaled-down version of one of the company's blue whiting trawls. The opening of the new trawl is 40 m high and 75 m in width, which is a good deal less than the usual circumference of a blue whiting trawl. At the same time, however, the opening is much larger than it was when midwater trawls were last used in bottom fisheries. In order to deal with the problem of catches of small fish, a sorting grid has been installed to let such small fish go free. The mesh size of the cod-end is 135 mm, the same as is used in bottom trawls. "Together with the sorting grid, this is equivalent in practice to a 155 mm mesh, while 110 mm was used in the 60s and 70s," says Jørgensen.

The project is being funded by the Research Council of Norway to the extent of NOK 3.6 million over three years, and the new trawl is already fishing well. A lot of fish have been taken at depths of around 100 metres in an area where the seabed is 200 – 300 m deep, which means that an ordinary bottom trawl would not have been able to catch these fish there. The trawl has been designed to withstand contact with sandy or muddy seabeds.

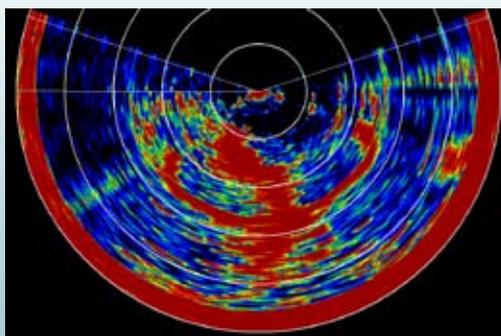
"It looks as though the trawl works very well. Since the catches so far have consisted only of large fish, we still need to do some testing to see how efficient the trawl is at releasing undersized fish," says Jørgensen.

The trawl is also due to be tested out on haddock.

Pressure is growing at international level to forbid use of the bottom trawl, which is said to destroy too much of the seabed. The trawling sector is therefore interested in the new trawl, which will allow cod, haddock and saithe to be fished without affecting the seabed. Less energy per kilo of fish caught is needed to tow a midwater trawl than a floating trawl, which means lower fuel costs and NOx emissions. Both the lower rate of emissions and the reduction in seabed damage could help to improve the reputation of the trawling industry.



A catch on its way into the trawl. The red line indicates the bottom of the trawl, while the blue-green patches above the line are fish. The image is produced by the echosounder which is mounted 120 m metres inside the trawl, in the "ceiling".



A sonar is placed at the entrance of the trawl (similar to a red smile on picture) and detects fish going in the trawl and under the trawl (red area over and under the trawl). The outer circle is noise (echoes from sonar that are not possible to interpret).

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

PUBLIC RELATIONS AND COMMUNICATION

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

CONTACTS

Terje Jørgensen
Tel: 55 23 68 25
E-mail: terje.joergensen@imr.no

RESEARCH GROUP

Fish capture

