

Fishery / target species: Directed bottom trawling for Norway lobster (*Nephrops norvegicus*)

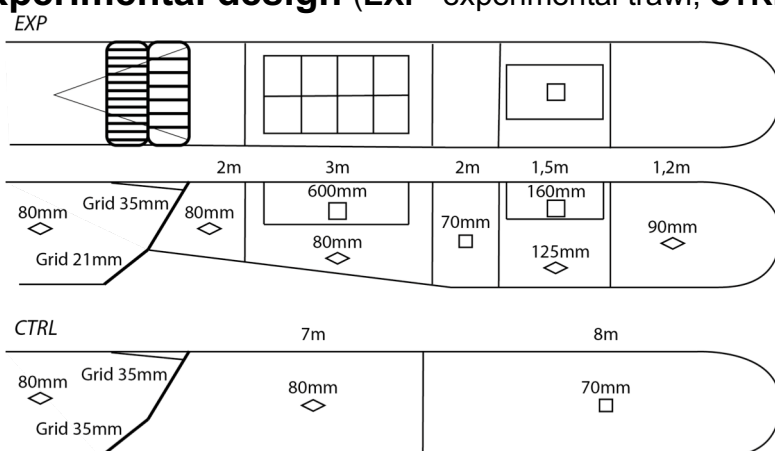
Area: the Skagerrak and Kattegat, ICES SD 20, 21

Vessel: VG 350 Althea, LOA 16,7 m / 405 kW

Gear: *Nephrops* grid trawl

Gear modification: A two-section Nordmøre grid for improvement of *Nephrops* size selectivity and an improved codend design to minimize fish by-catches: The lower grid section has narrower (21 mm) bar spacing to sort out small *Nephrops* and the upper grid section has standard 35 mm bar spacing. A composite codend with diamond- and square mesh sections and additional escape panels.

Experimental design (EXP=experimental trawl, CTRL= standard Swedish grid trawl)



Results (Average catches for the dominating species in the CTRL and EXP trawl and difference (in %). Significant differences are indicated in the far right column. (ns=p>0,05, *<0,05, **<0,01, ***<0,001.)

Species (weight)	CTRL	TEST	Difference (%)	sign.
Nephrops tot	28.4	21.1	-26	***
Nephrops legal	20.15	17.8	-12	*
Nephrops small (<13cm)	8.26	3.3	-60	***
Cod	5.17	1.27	-75	***
Plaice	21.7	8.3	-62	*
Dab	60.1	8.12	-86	***
Long rough dab	17.8	2.49	-86	***
Whiting	5.3	1.2	-77	*

Conclusions

- The improved grid design reduced catches of *Nephrops* <13 cm by more than 50 %, with a limited loss of prawns >13 cm compared to the standard Swedish grid.
- The improved design showed large reductions in catches of cod, whiting, dab, plaice and long rough dab compared to the proven highly selective standard Swedish grid.
- The tested gear is legal to use outside coastal waters in Sweden. However, the lowered MCRS (to 10,5 cm) for *Nephrops* in area IIIa at the onset of the landing obligation in 2016 drastically reduced incentives for industry up-take..

Fishery / target species: Demersal trawl fishery / Nephrops

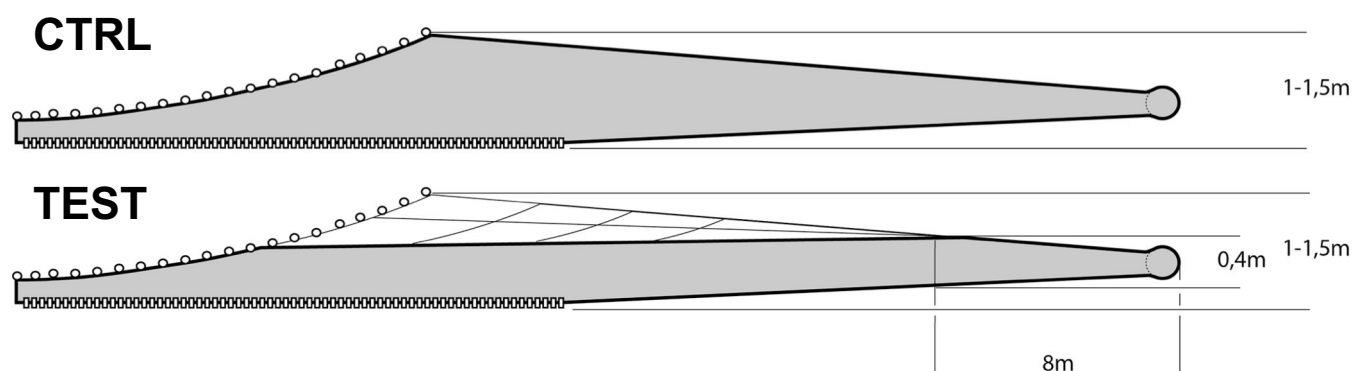
Area: Skagerrak, Kattegat, ICES 20 / 21

Vessel: GG 840 Rossö, LOA 24 m / 551 kW

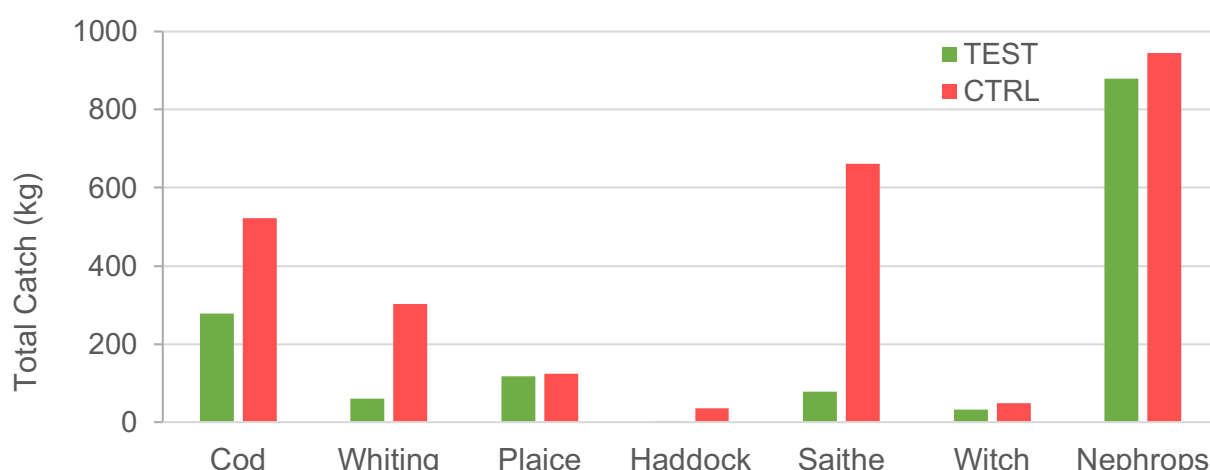
Gear: Nephrops trawl

Gear modification: The top panel of the trawl was removed

Gear design (CTRL= standard nephrops trawl, TEST = Low topless trawl)



Results (Total catch)



Conclusions

- Bycatch of Haddock, Saithe and Whiting was reduced with > 80%.
- Bycatch of Cod was reduced with 47%
- Reduction in the catch of the target species was marginal to nonexistent