

Gear modifications to reduce bycatch of whiting in the Irish Sea *Nephrops* fishery



NWWAC Irish Sea working group meeting, Dublin Castle, 4/09/2019

Discard plan measures

- **300 mm or 200 mm square mesh panel (SMP)**
- **SELTRA panel**
- **Swedish grid**
- **CEFAS Netgrid**
- **Flip-flap trawl**

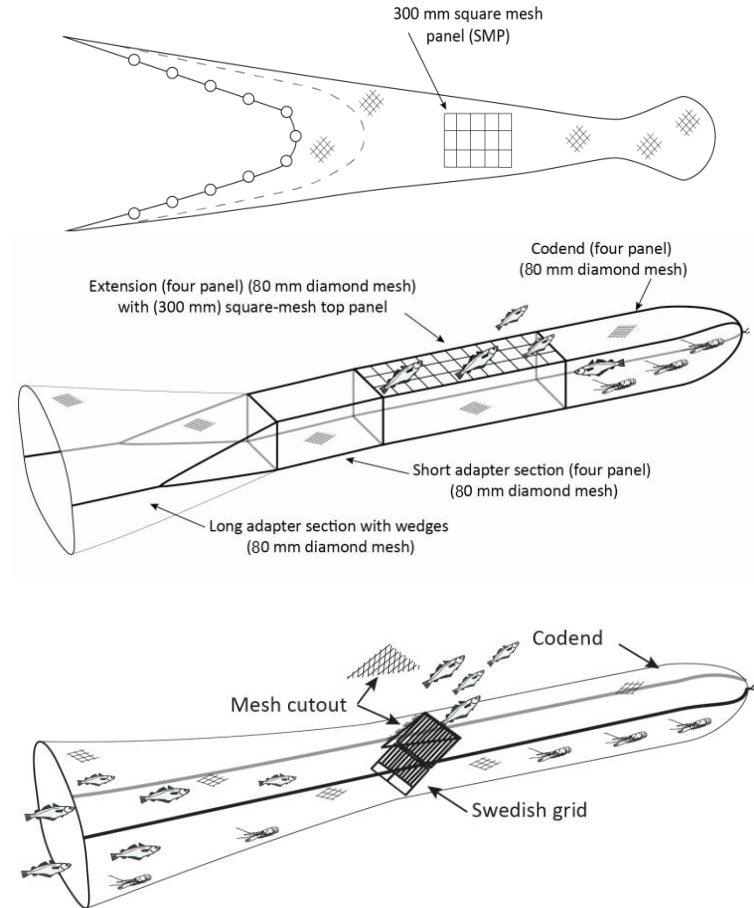
Key trial results pre-2017

% reduction (kg) compared with a 70 mm codend.

Technical measure	Whiting < 27 cm (MCRS)	Whiting < 20 cm	Nephrops ≥ 25 mm
300 mm SMP	~ - 52	~ 0	~ + 14
SELTRA 300	~ - 53	~ 0	~ + 11
Swedish grid (2015)	~ - 77	~ - 77	~ - 4
Swedish grid (2010 to 2014)*	~ - 60	~ - 50	~ - 21
90 mm codend**	~ - 58	~ - 58	~ - 21
90 V 80 mm codend**	~ - 62	~ - 62	~ - 10

*Based on observer coverage of long-term use by Industry

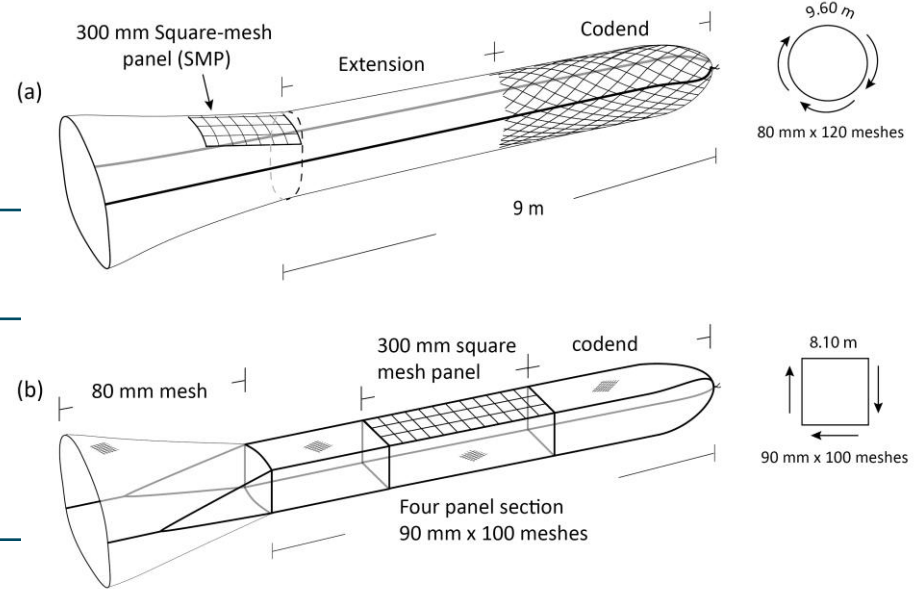
** Codend only (not extension piece)



Key trial results post 2017

% reduction (kg) of key species compared with 300 mm SMP with 80 mm codend

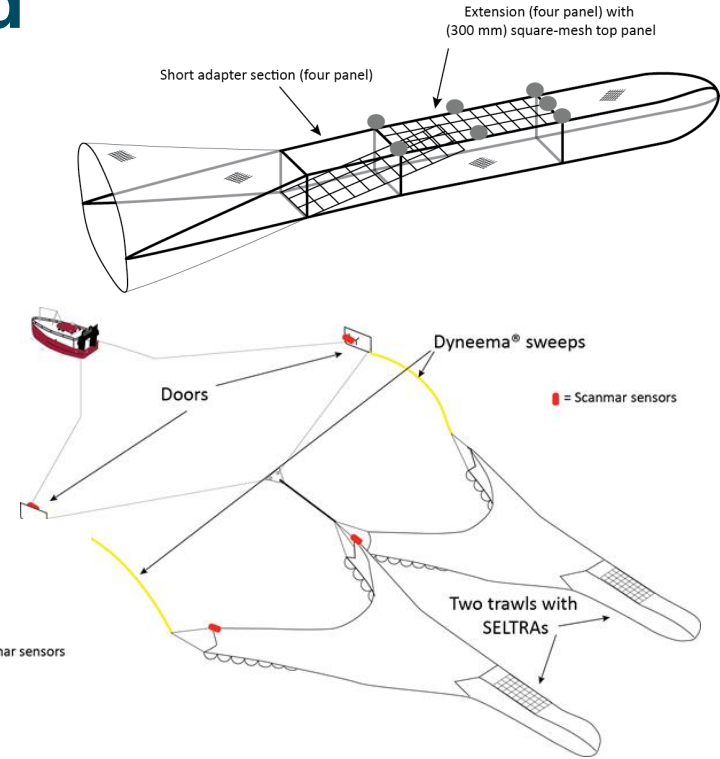
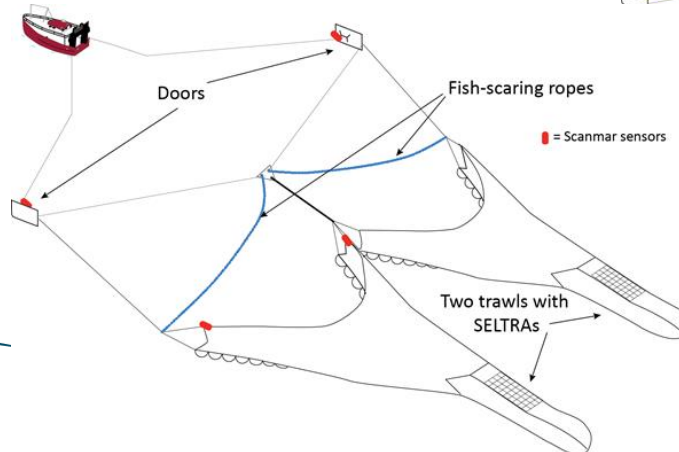
Trial	Whiting < 27 cm	Whiting < 20 cm	Nephrops ≥ 25 mm
300 mm SMP with 90 mm codend	- 47	- 60	- 31
300 mm SELTRA with 90 mm codend	- 75	- 78	- 19



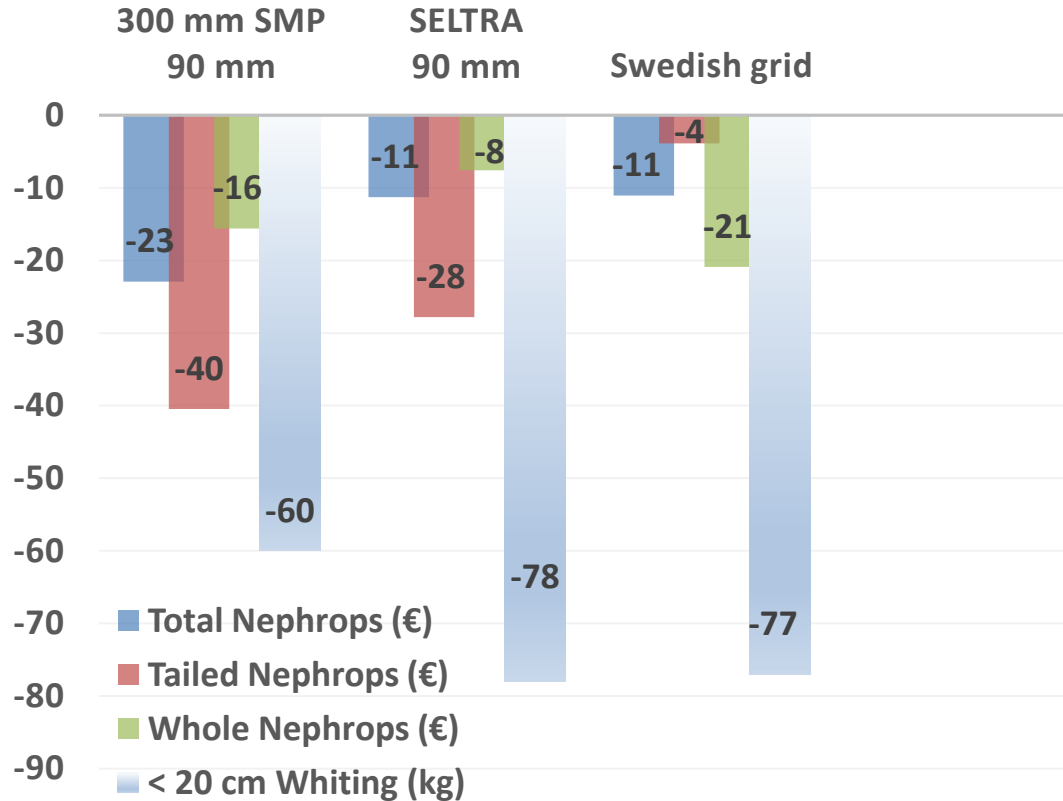
Other key modifications tested

- SELTRA 300 with inclined mesh guiding panel
- Floating Dyneema sweeps to reduce fish herding effect
- Fish scaring ropes to stimulate fish to move out of the path of the trawl
- Armstrong et al (1997), Briggs (2010)

SMP nearer the headline

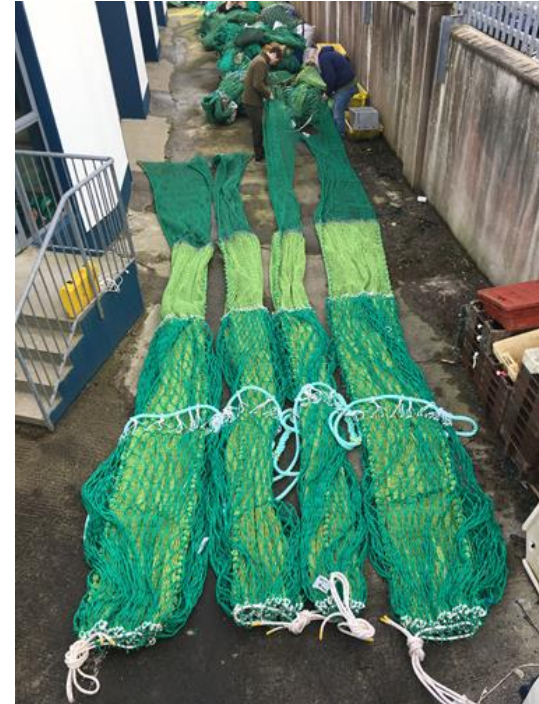


Summary catch reductions



Conclusions

- The Swedish Grid and 90 mm codends are most effective
- The grid effectively eliminates catches of all fish species and can have handling difficulties
- Most < 20 cm whiting escapement occurring through codend meshes in SELTRA and 300 mm SMP with 90 mm codends
- Mortality levels of < 20 cm whiting through codend meshes likely to be high



Thank you