

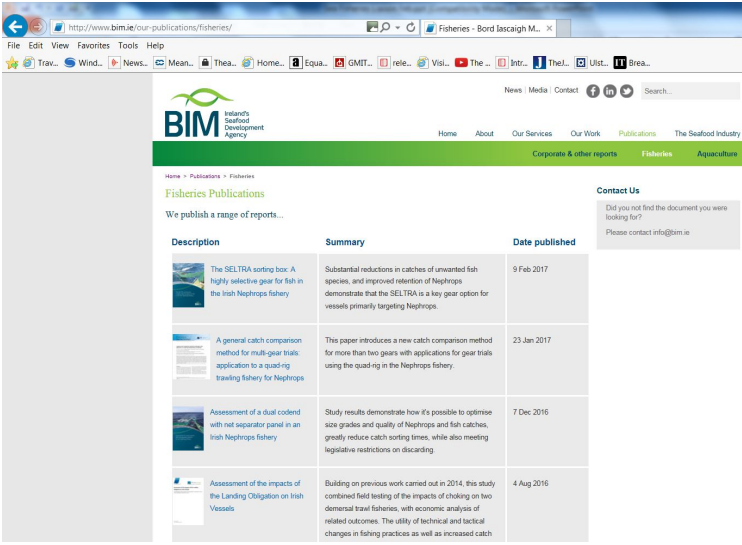








Measures to reduce unwanted catches in *Nephrops* trawls


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Reports at: www.bim.ie/our-publications/fisheries



The screenshot shows a web browser displaying the BIM website. The page title is "Fisheries Publications" and the URL is "http://www.bim.ie/our-publications/fisheries/". The page features a navigation menu with "Home", "About", "Our Services", "Our Work", "Publications", and "The Seafood Industry". Below the navigation, there is a "Fisheries Publications" section with the heading "We publish a range of reports...". A table lists four publications:

Description	Summary	Date published
 The SELTRA sorting box: A highly selective gear for fish in the Irish <i>Nephrops</i> fishery	Substantial reductions in catches of unwanted fish species, and improved retention of <i>Nephrops</i> , demonstrate that the SELTRA is a key gear option for vessels primarily targeting <i>Nephrops</i> .	9 Feb 2017
 A general catch comparison method for multi-gear trials: application to a quad-rig trawling fishery for <i>Nephrops</i>	This paper introduces a new catch comparison method for more than two gears with applications for gear trials using the quad-rig in the <i>Nephrops</i> fishery.	23 Jan 2017
 Assessment of a fluit cabinet with net separator panel in an Irish <i>Nephrops</i> fishery	Study results demonstrate how it's possible to optimise size grades and quality of <i>Nephrops</i> and fish catches, greatly reduce catch sorting times, while also meeting legislative restrictions on discarding.	7 Dec 2016
 Assessment of the impacts of the Landing Obligation on Irish Vessels	Building on previous work carried out in 2014, this study combined field testing of the impacts of chinking on two dominant trawl fisheries, with economic analysis of related outcomes. The utility of technical and tactical changes in fishing practices as well as increased catch	4 Aug 2016



Technical detail: www.discardless.eu/selectivity_manual

1. Using 70 (Burned 80) mesh to reduce whiting discards in a whitefish trawl

2. Using a diamond trawl to improve selectivity in a Nephrops fishery

3. Increasing codend mesh size from 70 to 80 mm to reduce discards in a Nephrops trawl

4. Using a modified diamond grid to reduce discards in a Nephrops trawl

5. Using a 45 mm square mesh codend to reduce discards in a Nephrops trawl

6. Using a 50 mm square mesh codend to reduce discards in a Nephrops trawl

7. Using a 50 mm square mesh Pawl to reduce fish discards in a Nephrops trawl

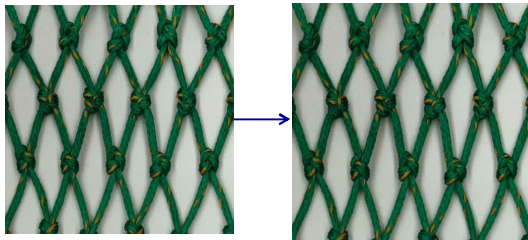
8. Using a Swedish grid with a bottom gap to reduce fish discards in a Nephrops trawl

9. Using the SELTRA sorting box to reduce fish discards in a beam-trawled Nephrops trawl

10. Using the SELTRA sorting box to further reduce fish discards in a beam-trawled Nephrops trawl

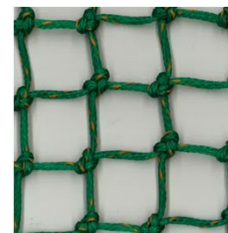
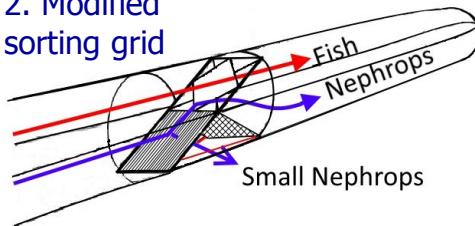
BIM Ireland's Seafood Development Agency

Measures to improve *Nephrops* selectivity



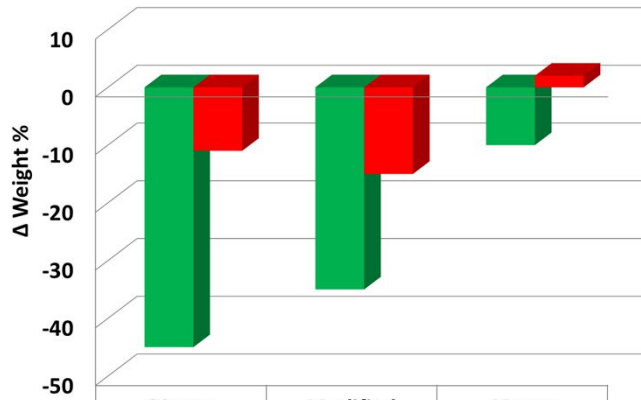
1. 70 to 80 mm codend

2. Modified sorting grid



3. 45, 55, 65 mm square mesh codend

Measures to Improve *Nephrops* selectivity



	80 mm codend mesh size	Modified sorting grid	45 mm square mesh codend
■ < MCRS	-45	-35	-10
■ ≥ MCRS	-11	-15	2



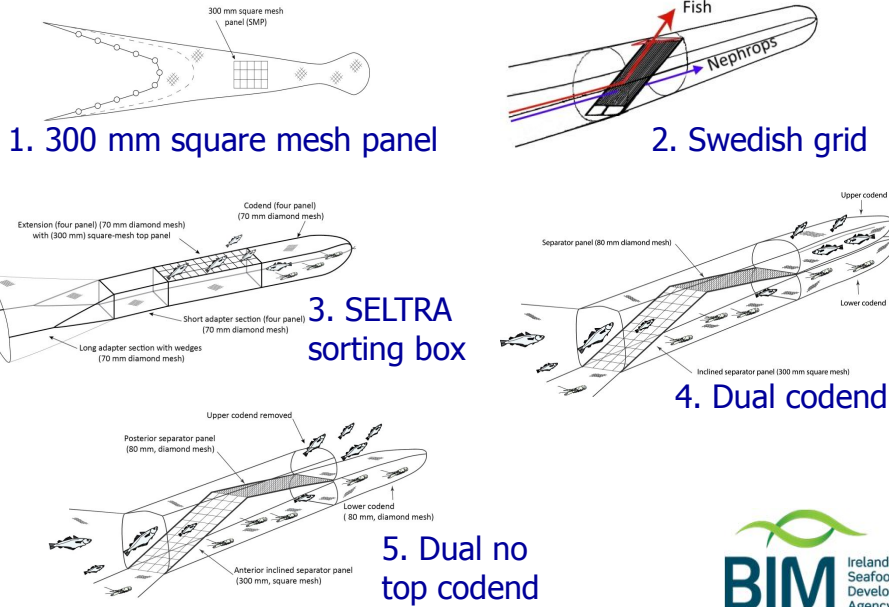
Measures to Improve *Nephrops* selectivity

	80 mm mesh	Sorting grid	Square mesh
<i>Nephrops</i> retention ≥ MCRS	0	0	+
<i>Nephrops</i> retention < MCRS	++	++	+
Fish selectivity	+	0	-
Catch quality & sorting	0	0	0
Practicality	++	-	++
Gear cost	++	+	+
Legal status	++	++	--

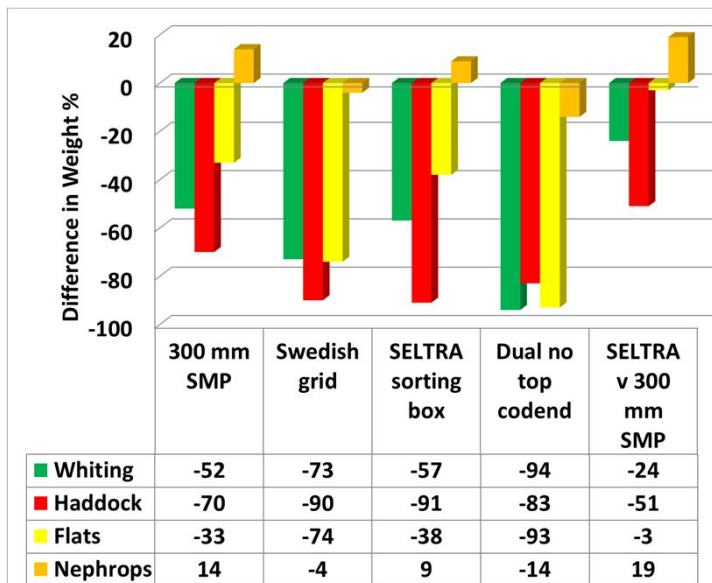
Key: ++ Very Good, + Good, 0 Neutral, - Poor, Very Poor
NA Not applicable



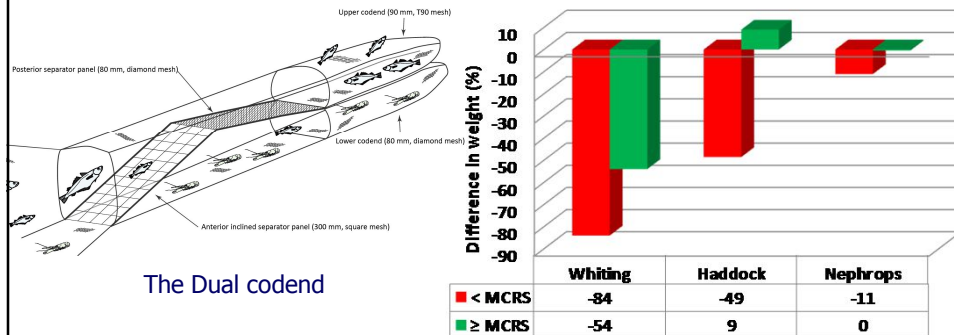
Measures to reduce unwanted fish catches *Nephrops* trawl



Measures to reduce unwanted fish catches *Nephrops* trawl



Measures to reduce unwanted fish catches *Nephrops* trawl



The Dual codend

- Facilitates improved fish selectivity
- 80 mm diamond in bottom, 90 mm T90 mesh in top codend
- Major reductions in < MCRS haddock and whiting
- No loss in catches of >MCRS Nephrops, haddock, flatfish, monkfish and cod



Measures to reduce unwanted fish catches *Nephrops* trawl

	300 mm SMP	Swedish grid	SELTRA	Dual no top codend	Dual codend
Fish exclusion	+	++	++	++	NA
Fish selectivity	NA	NA	NA	NA	++
Catch quality & sorting	+	+	+	+	++
<i>Nephrops</i> retention	+	0	++	-	0
Practicality	++	-	++	+	+
Gear outlay	++	+	+	0	0
Legal status	++	++	++	++	+

Key: ++ Very Good, + Good, 0 Neutral, - Poor, Very Poor, NA Not applicable



Conclusions to date

- Increase in codend mesh size is the best option for *Nephrops* selectivity
- SELTRA is most promising measure in the short term for vessels primarily targeting *Nephrops*
- Dual codend a good option for vessels targeting *Nephrops* and fish
- Swedish grid or Dual less top codend can be used to exclude fish when required



Nephrops survivability

North Sea discard plan EU 2016/2250 Article 4

Survivability exemptions for Norway lobster

1. The exemption from the landing obligation pursuant to Article 15(4)(b) of Regulation (EU) No 1380/2013, for species for which scientific evidence demonstrates high survival rates, shall apply to the following catches of Norway lobster:

- (a) catches with pots (FPO (!));
- (b) catches in ICES Division IIIa with bottom trawls (OTB, TBN) with a mesh size of at least 70 mm equipped with a species selective grid with bar spacing of maximum 35 mm;
- (c) catches in ICES Division IIIa with bottom trawls (OTB, TBN) with a mesh size of at least 90 mm equipped with a seltra panel;
- (d) in 2017, catches in ICES-Division IV with bottom trawls (OTB, TBN) with a mesh size of at least 80 mm equipped with a netgrid selectivity device.

2. Norway lobster caught in cases referred to in paragraph 1 shall be released whole, immediately and in the area where it has been caught.

3. Before 1 May 2017, Member States having a direct management interest in the North Sea shall submit to the Commission additional data to those provided for in the Joint Recommendation of 3 June 2016 and any other relevant scientific information supporting the exemption laid down in paragraph 1, point d. The Scientific, Technical and Economic Committee for Fisheries (STECF) shall assess those data and that information before 1 September 2017.



Nephrops survivability

- A further means of reducing unwanted catches
- Major scope for similar exemption in Area VII
- Irish study (possibly with the SELTRA) planned