

Addressing undersized whiting by-catch in the Northern Ireland nephrops fishery

Northern Ireland Gear Trials Project 2017 - 2022

seafish

afbi AGRI-FOOD
& BIOSCIENCES
INSTITUTE



nifpo
NORTHERN IRELAND
Fish Producers' Organisation

Department of
Agriculture, Environment
and Rural Affairs



 **Background**

 **Aims**

 **Approach/ Examples of ideas on improving selectivity**

 **Control gears**

 **Details of Gear Trials/ Results**

Background

- 6Year Industry led project – ANIFPO & NIFPO
- EMFF funded
- Commenced February 2017, funded up to December 2022
- Collaborative with DAERA, AFBI & Seafish
- Emphasis on industry engagement – The PO network

Aims

Design

Trial

Implement

More
selective
fishing
gears

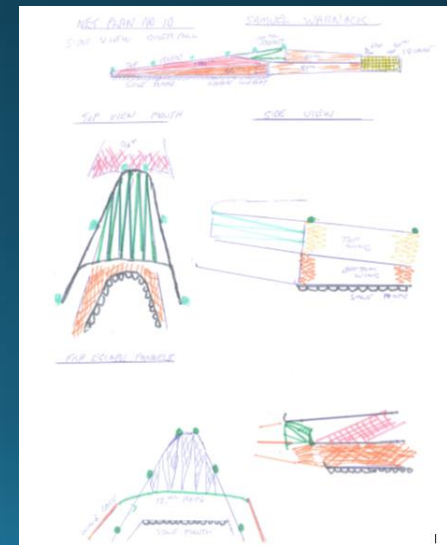
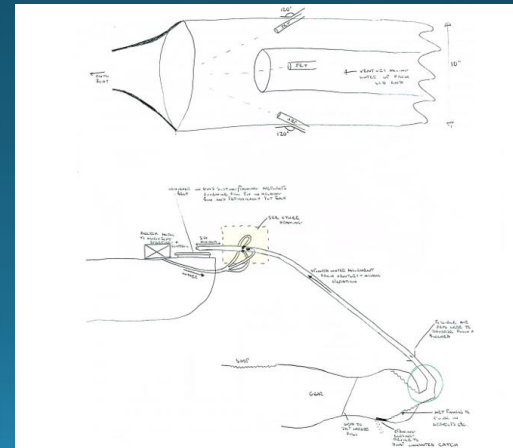
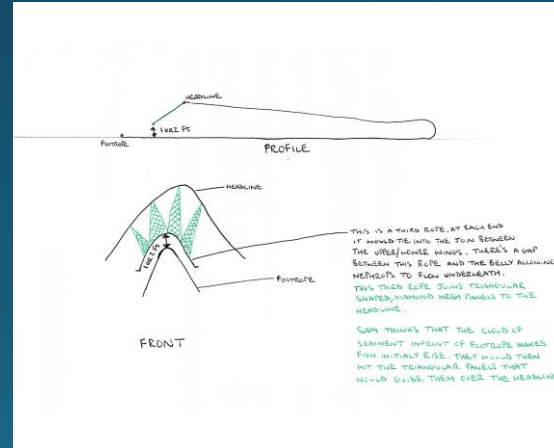
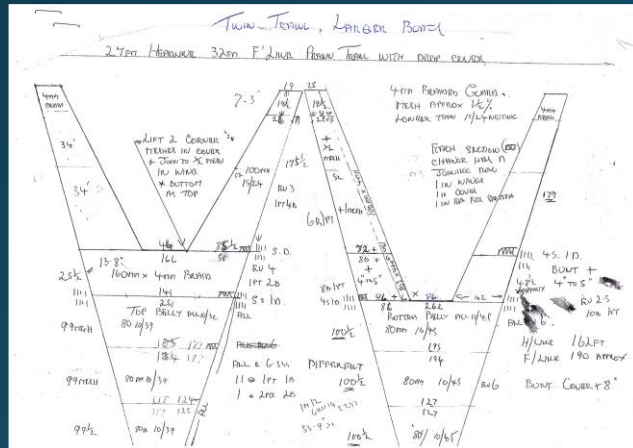
Full implementation
of the Landing
Obligation, CFP,
January 2019

Also covered by the
bycatch objective of
the UK Fisheries Act
2020

- Reduce unwanted by-catch of quota species
- Avoid the catching of juvenile fish species
- Retain commercially valuable target species

“the catching of fish that are below minimum conservation reference size, and other bycatch, is avoided or reduced” Fisheries Act 2020

Approach taken at harbours and ideas

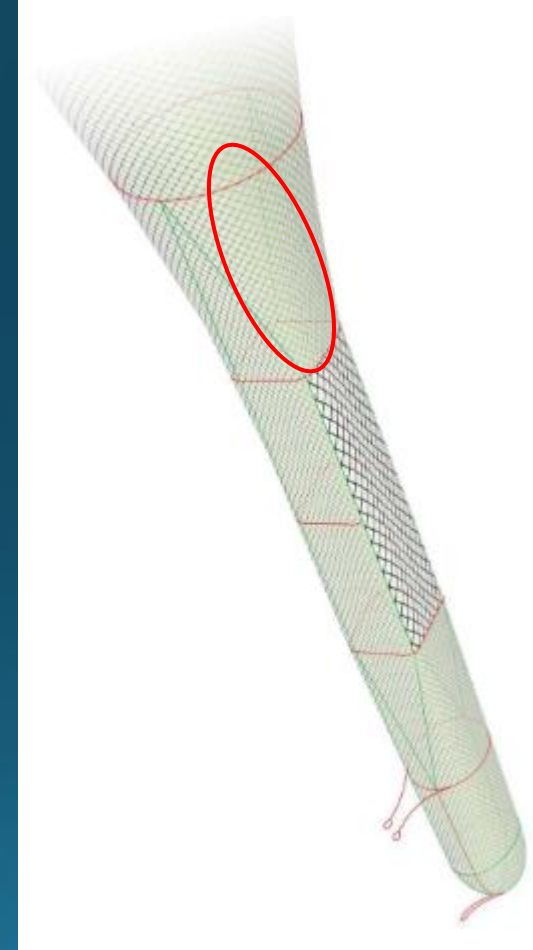


Control Gears – what do we compare catch in our experimental gears to?



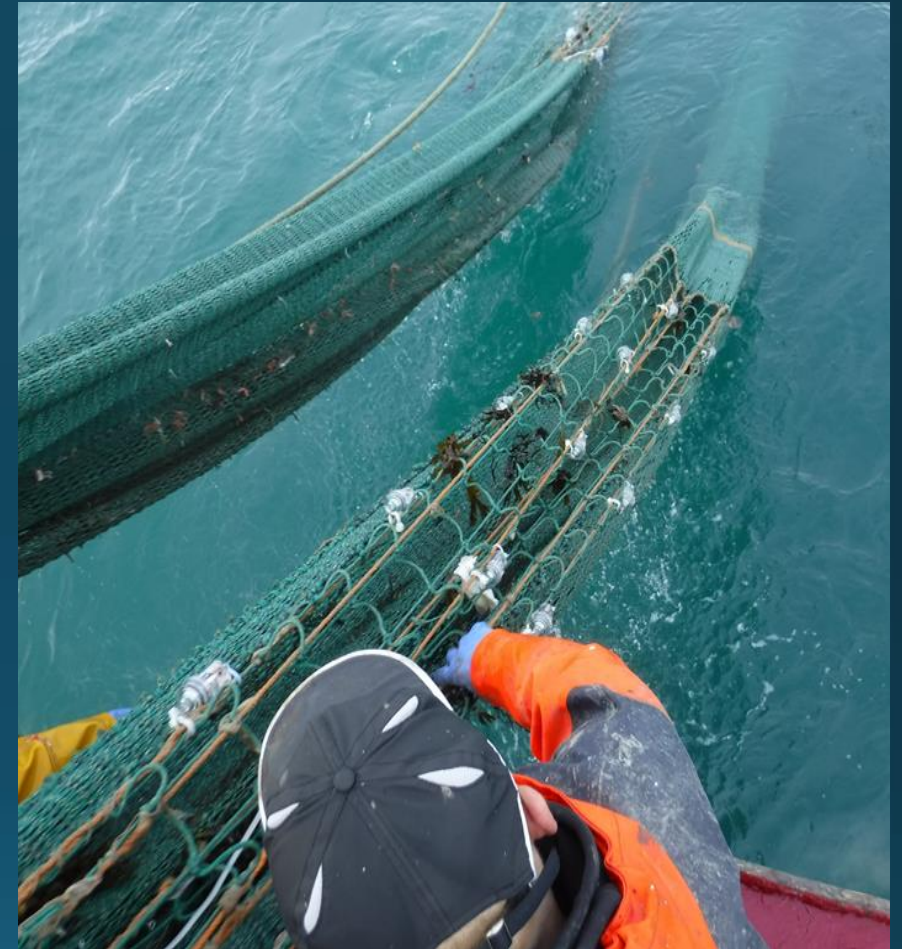
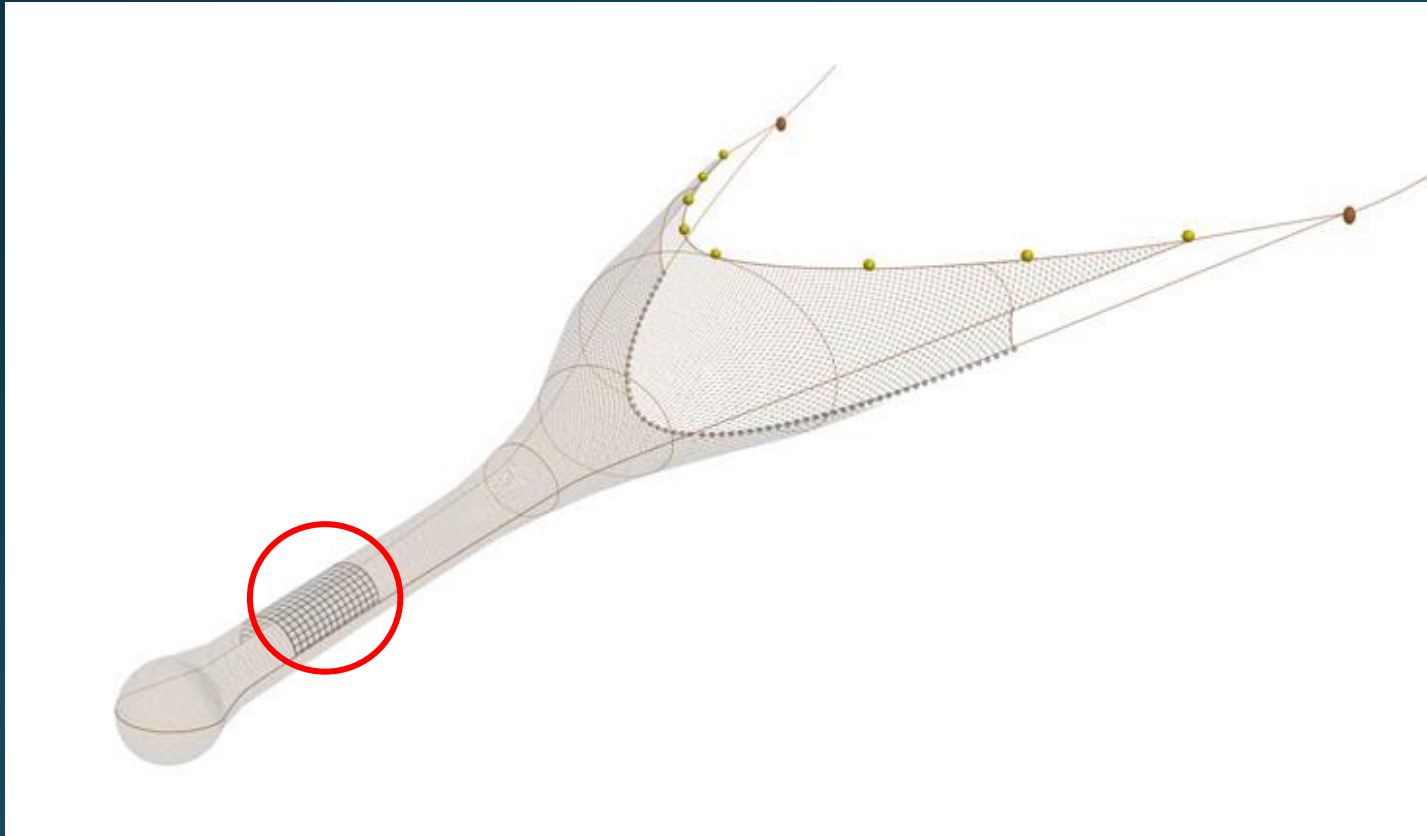
- 300mm square mesh panel
- 3 meters long
- Fitted into tapered section of trawl

- ❖ Two most commonly used selective devices used in the fishery
- ❖ Comparable selectivity for whiting
- ❖ Allows us to gauge the effectiveness of our experimental gear

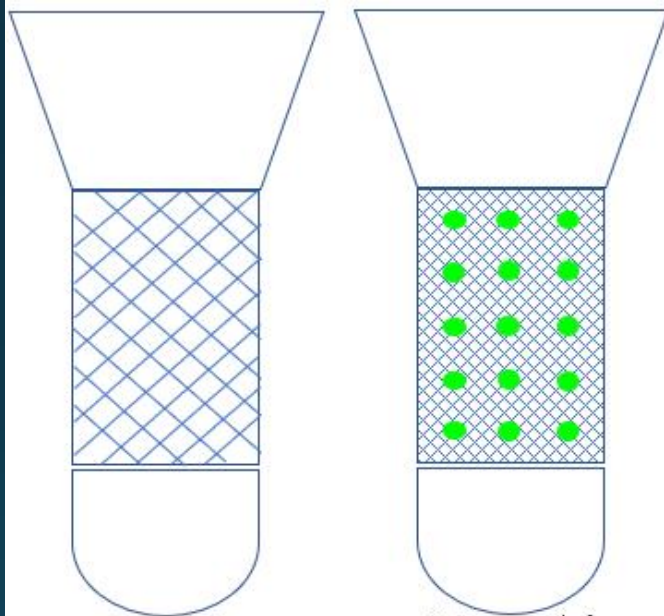
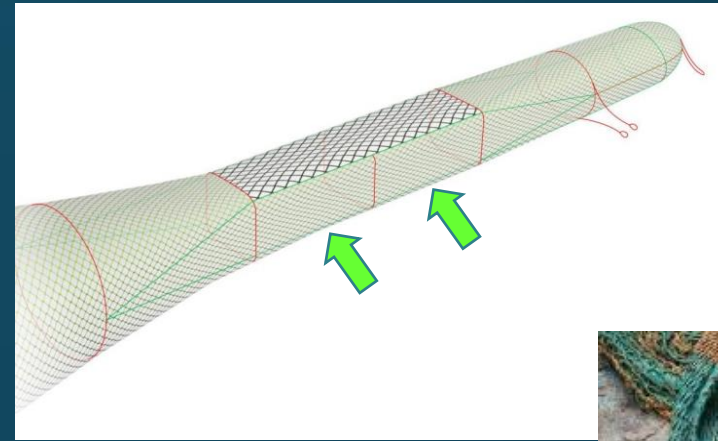


- Four panel SELTRA box section
- 270mm diamond mesh top panel
- 3 meters long
- Additional 90mm square mesh panel, 3 meters long fitted into first tapered section of trawl

Illuminating Square Mesh Panels

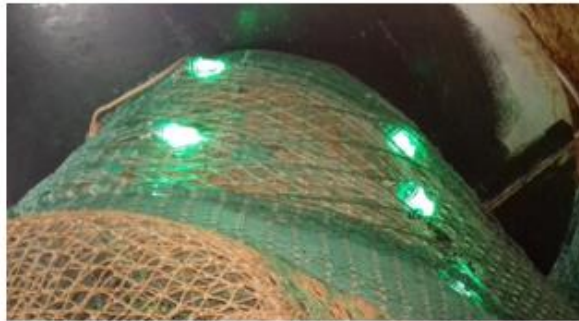


Illuminating bottom panel of a SELTRA270

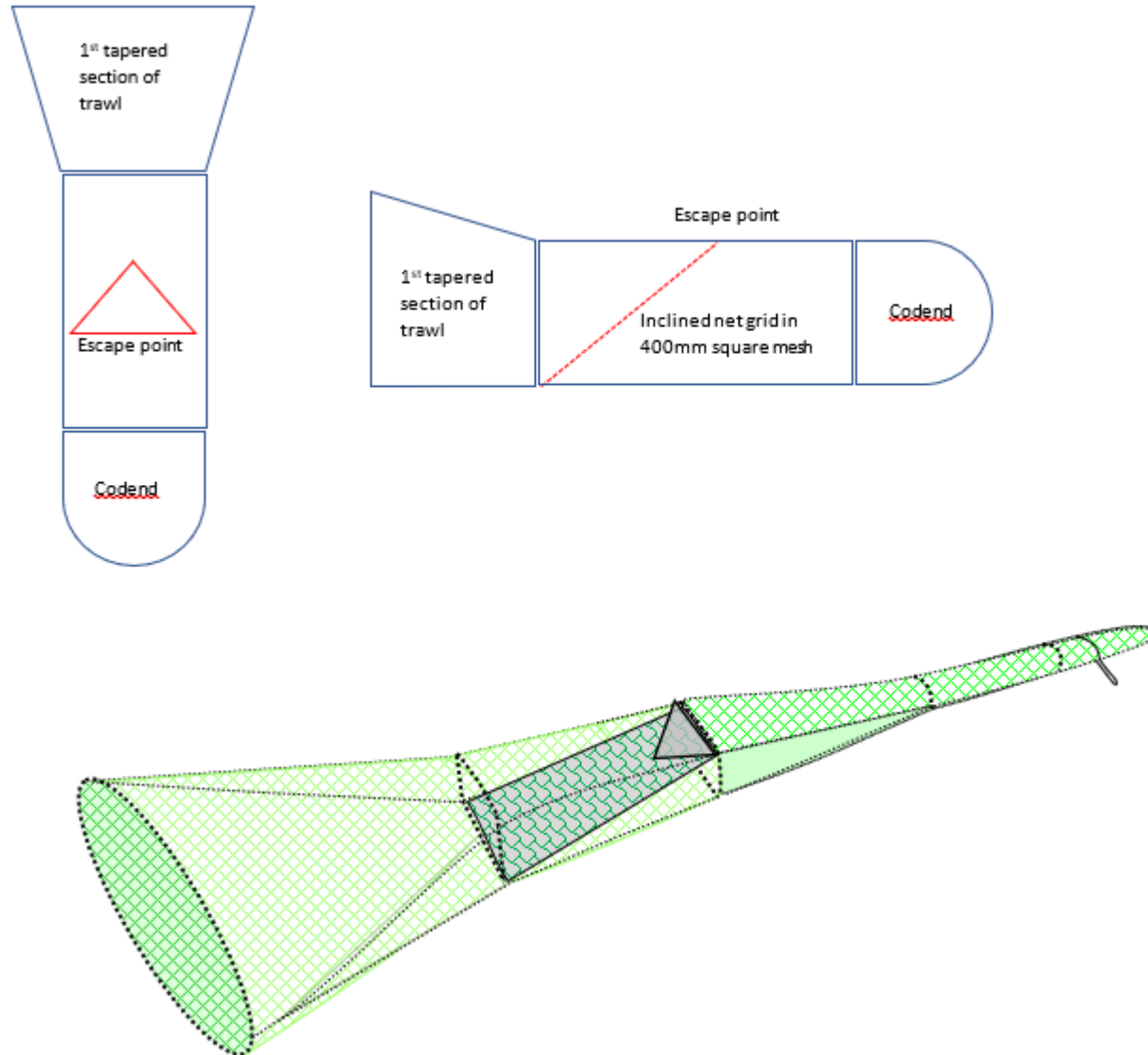


Top panel of
SELTRA box
section with
270mm
diamond mesh
escape point.

Bottom panel of
SELTRA box
section showing
configuration of
lights attached
to the 80mm
diamond mesh
bottom sheet.



Inclined Net Grid trawl

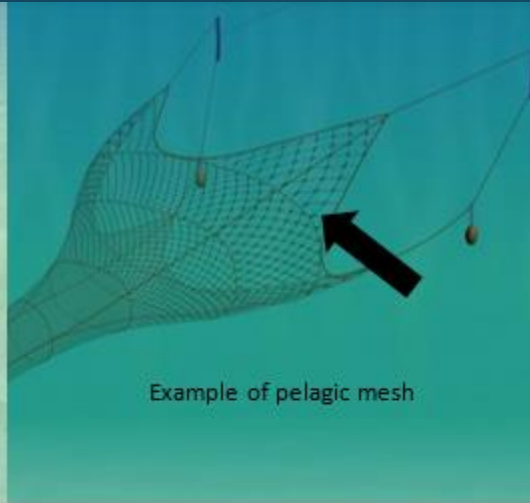
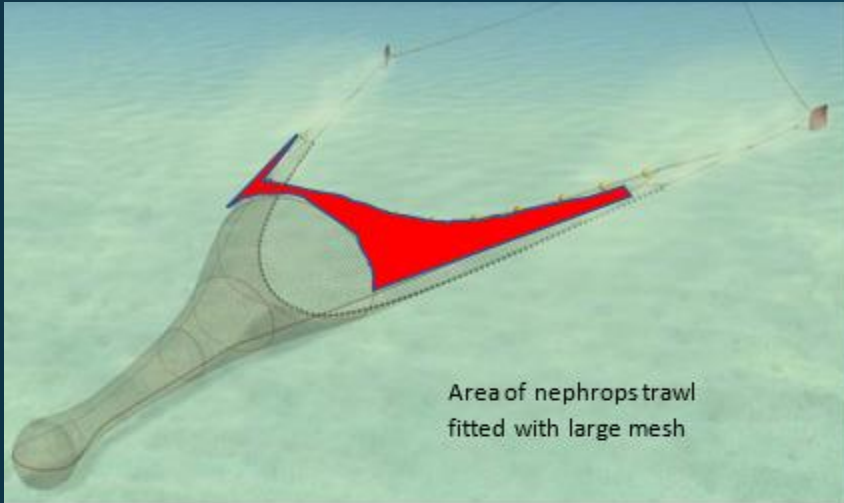


200mm version



400mm version

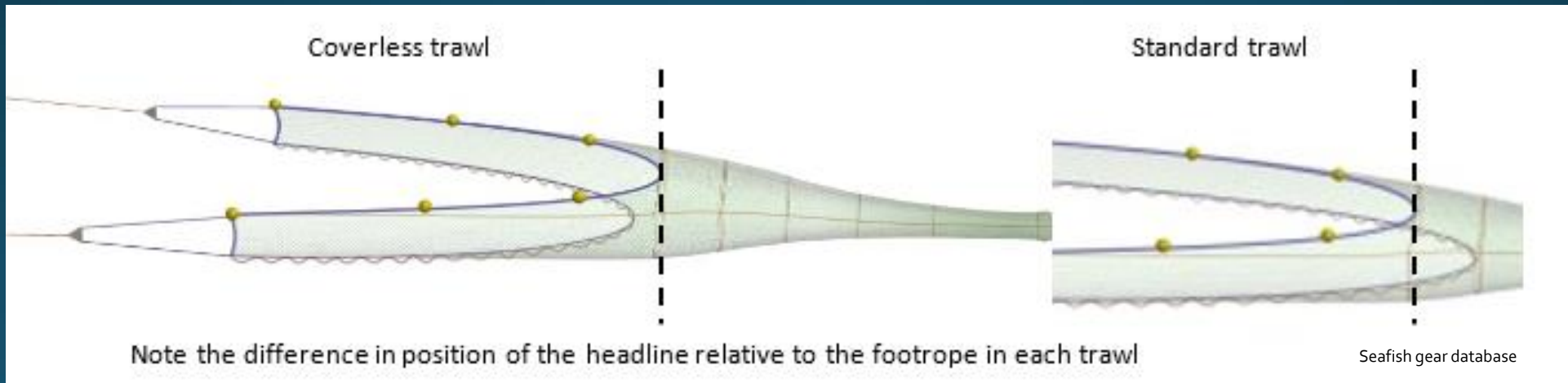
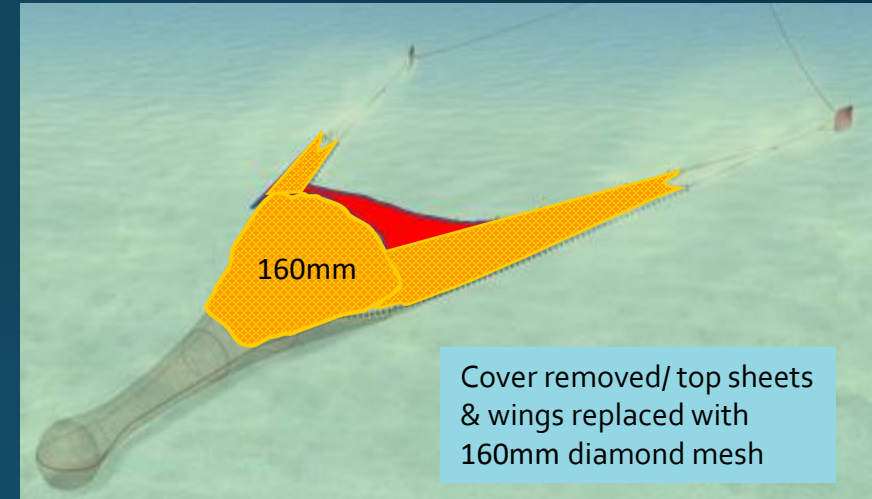
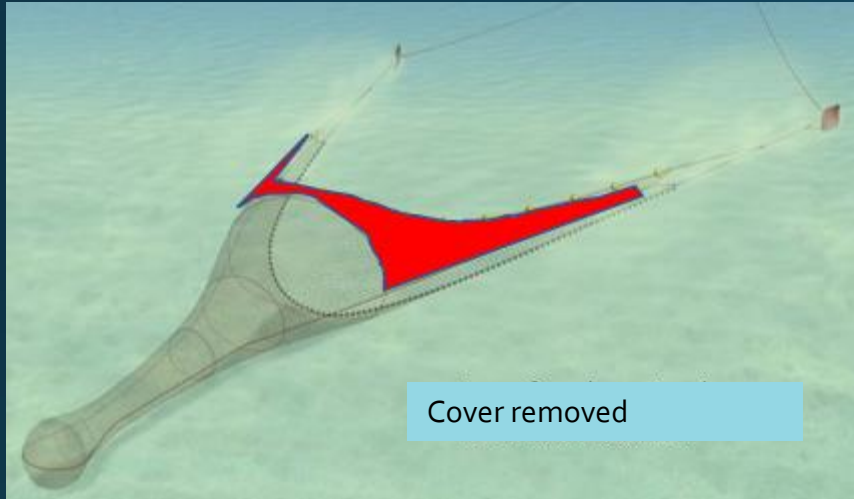
Replacing front cover & wings with large mesh



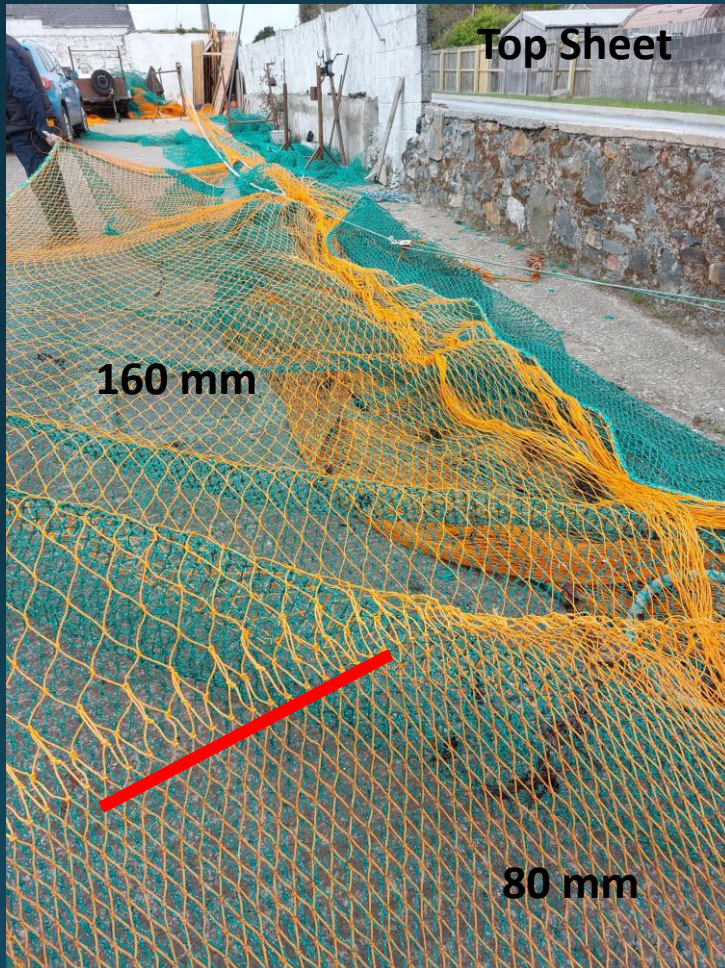
400mm
diamond mesh
in upper wing -
foreground, and
in cover -
background




Removing front cover (& adding 160mm ♦ mesh top sheets/ wings)



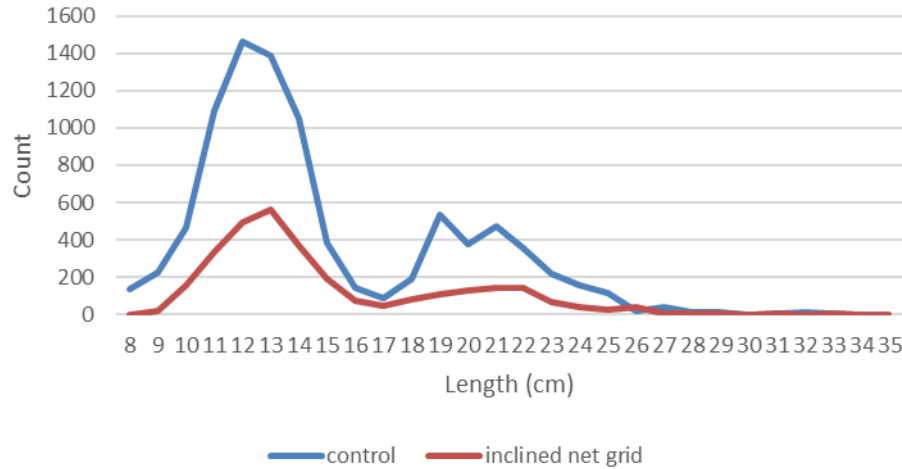
160mm diamond mesh top sheets/ wings on coverless trawls



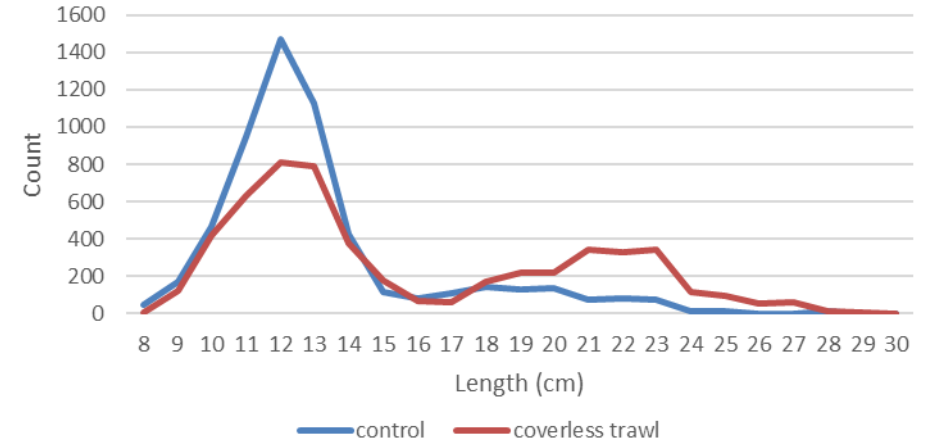
Vessel	Area	Date	Gear Trial	Result	Vessel	Area	Date	Gear Trial	Result
1	VIIa Irish Sea	Aug 2017	FFF&Inclined Net Grid 200mm	Bulk -56%, nephrops -4% Bulk -25%, nephrops -45%	6	VIIa Irish Sea	Aug 2019	Luminous netting in SELTRA	Observational from skipper
1	VIIa Irish Sea	Sep 2017	Lights on SMP	Increased bulk, all 3 colours	7	VIIa Irish Sea	Sep 2019	Inclined net grid 400mm modified	whiting -68% nephrops -42%
2	VIIa Irish Sea	Mar 2018	90mm codend	whiting +51% nephrops -31%	4	VIIa Irish Sea	Oct 2019	Lights on SMP	n/a
2	VIIa Irish Sea	Mar 2018	Inclined net grid blue lights	whiting -35% nephrops -26%	6	VIIA Irish Sea	Feb 2020	Green lights on bottom of SELTRA	whiting +66% nephrops +14%
3	VIIa Irish Sea	Mar 2018	FFF green lights	whiting +25% nephrops -21%	6	VIIa Irish Sea	Mar 2020	Pelagic mesh cover	whiting +27% nephrops -27%
4&5	VIIa Irish Sea	Apr 2018	90mm codend	whiting -65% nephrops -53%	7	VIIa Irish Sea	Apr 2020	Inclined net grid 400mm modified	whiting -58% nephrops -30%
6	VIIa Irish Sea	Aug 2018	300SMP/SELTRA	SELTRA whiting +2% nephrops +13%	6&7	VIIa Irish Sea	Sep 2020	Set of coverless trawls	whiting -4% nephrops tails +9st, whole +5st
3	VIIa Irish Sea	Aug 2018	Inclined net grid 200mm no lights	whiting -48% nephrops -16%	8&9	VIIa Irish Sea	Sep 2020	Complete inclined net grid 400 trawl	whiting -66% nephrops +9%
1	VIIa Irish Sea	Aug 2018	Inclined net grid 400mm no lights	whiting -30% nephrops -7.6%	6&7	VIIa Irish Sea	Mar 2022	Set of coverless trawls	whiting-11.5% nephrops +7st tails
1	VIIa Irish Sea	Jul 2019	Inclined net grid 400mm modified	whiting +9% nephrops -35.6%	6&7	VIIa Irish Sea	May 2022	Set of coverless trawls with top sheets replaced with 160mm  mesh	whiting -30% nephrops -10st tails

Results - whiting catches

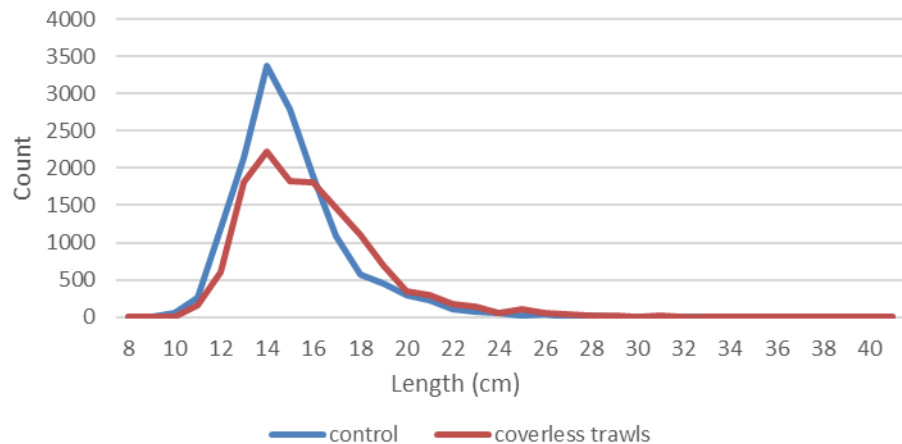
Whiting catches, Inclined Net Grid - Sep 2020



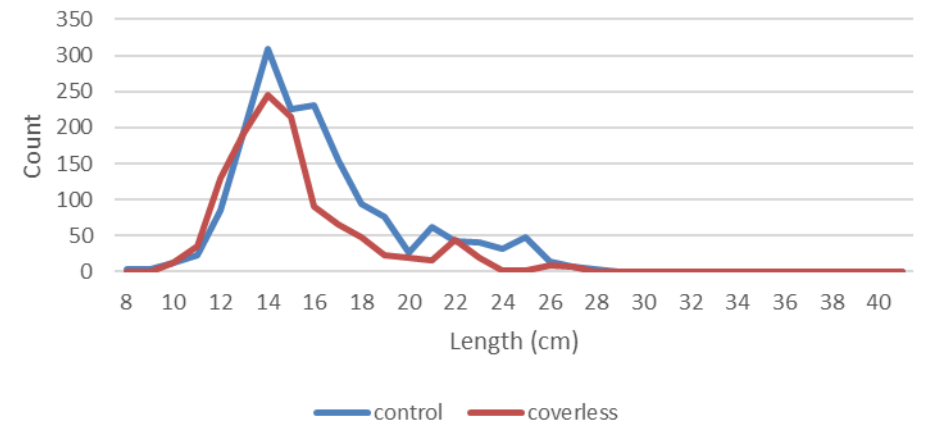
Whiting catches, Coverless Trawls - Sep 2020



Whiting catches, Coverless Trawls - March 2022



Whiting catches, Coverless Trawls with 160mm topsheets - May 2022



Thank you for listening

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Northern Ireland Gear Trialling project 2017-2022

The logo for Seafish, featuring the word 'seafish' in a blue, lowercase, sans-serif font. Above the 'i' in 'fish' is a small graphic of a fish's head and scales.The logo for the Agri-Food & Biosciences Institute (AFBI). It features the lowercase letters 'afbi' in a bold, teal, sans-serif font. To the right of 'afbi' is the text 'AGRI-FOOD & BIOSCIENCES INSTITUTE' in a smaller, black, uppercase, sans-serif font.