

# Selective Gear Innovation in Northern Ireland

## Northern Ireland Gear Trials Project 2017 - 2020

seafish

afbi AGRI-FOOD  
& BIOSCIENCES  
INSTITUTE



nifpo  
NORTHERN IRELAND  
Fish Producers' Organisation

Department of  
Agriculture, Environment  
and Rural Affairs



# Overview

- 4 Year Industry led project
- Collaborative with DAERA, AFBI & Seafish
- Commenced February 2017, funded up to December 2020
- EMFF Funded
- Emphasis on industry engagement

# Northern Ireland harbours and gear trials area





# Aims

Design



Trial



Implement



More  
selective  
fishing  
gears

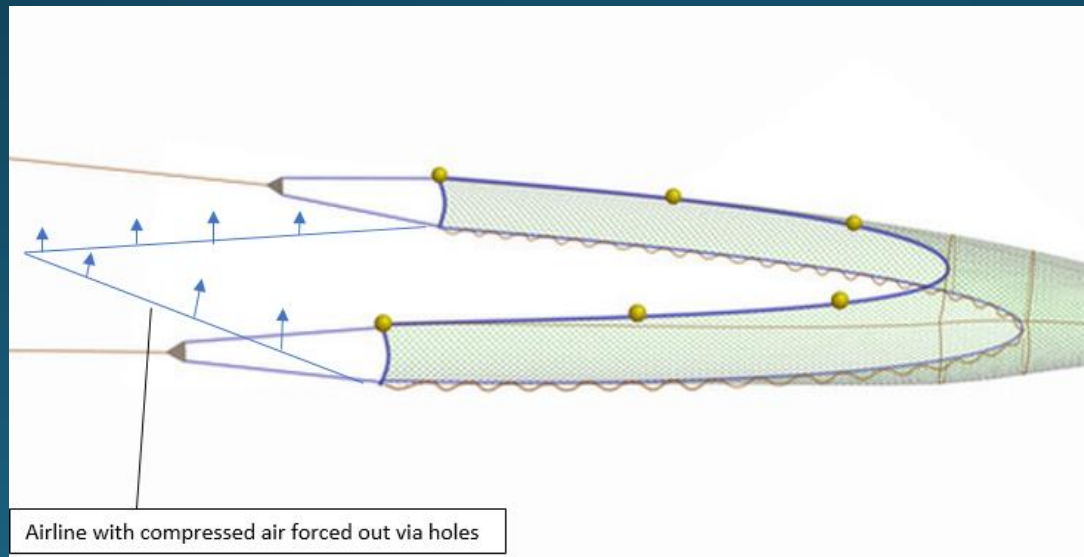
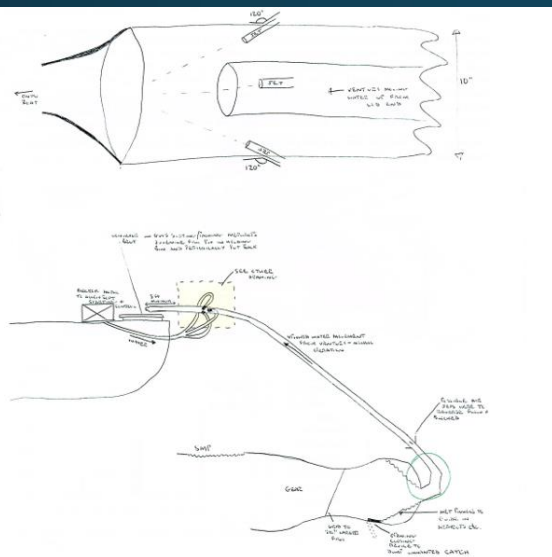
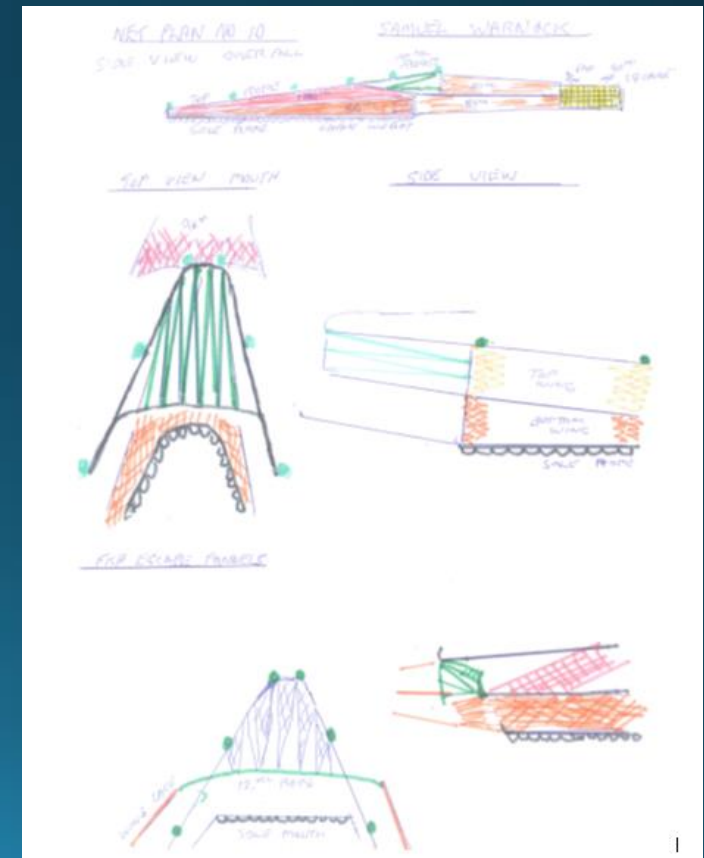
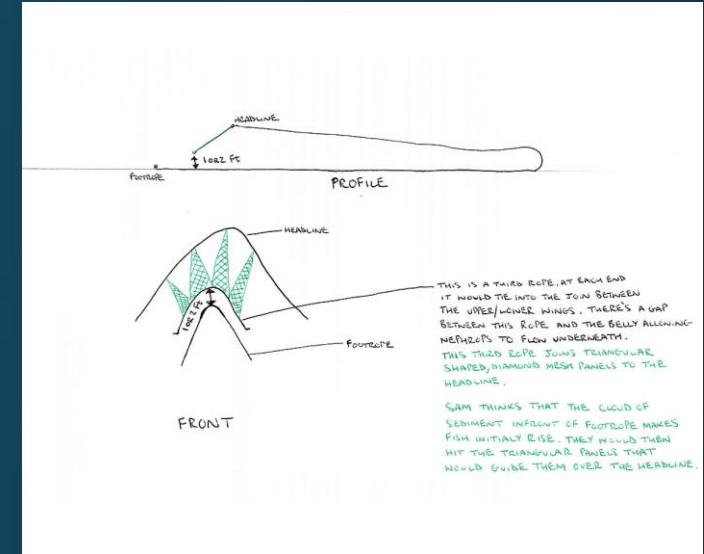
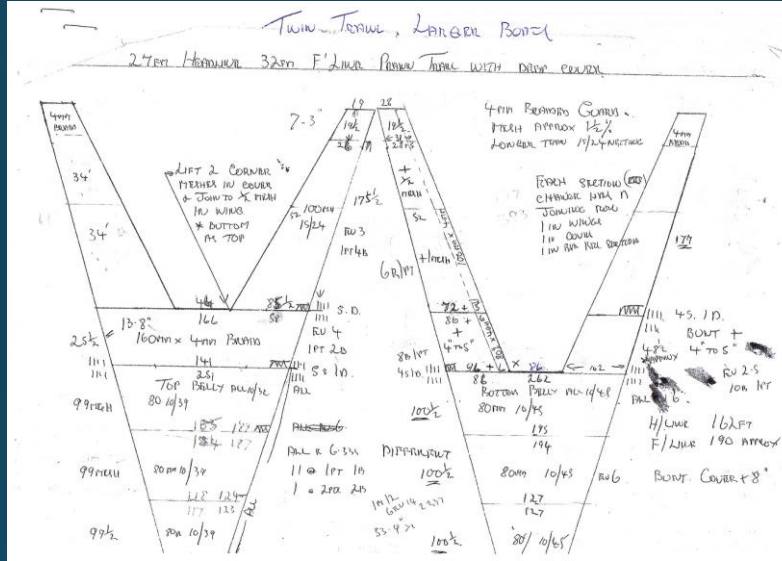


Full implementation  
of the Landing  
Obligation, January  
2019

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

# Ideas Received – 2017/2018/2019.....

- From industry.
- From other researchers.
- From gear technologists.



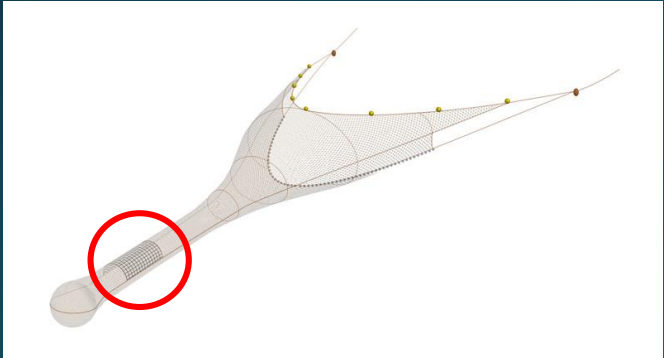
# Square Mesh Panels

120mm SMP

190mm SMP

120mm SMP

300mm SMP (2014)



300mm SMP (2019)



# Historical SMP results

	AFBI 2013	BIM 2014	NW England 2010
<b>SMP</b>	<b>300mm</b>	<b>300mm</b>	<b>200mm</b>
<b>Whiting</b>	-54	-52%	-91
<b>Haddock</b>	-42	-70%	n/a
<b>Nephrops</b>	n/a	+14	n/a

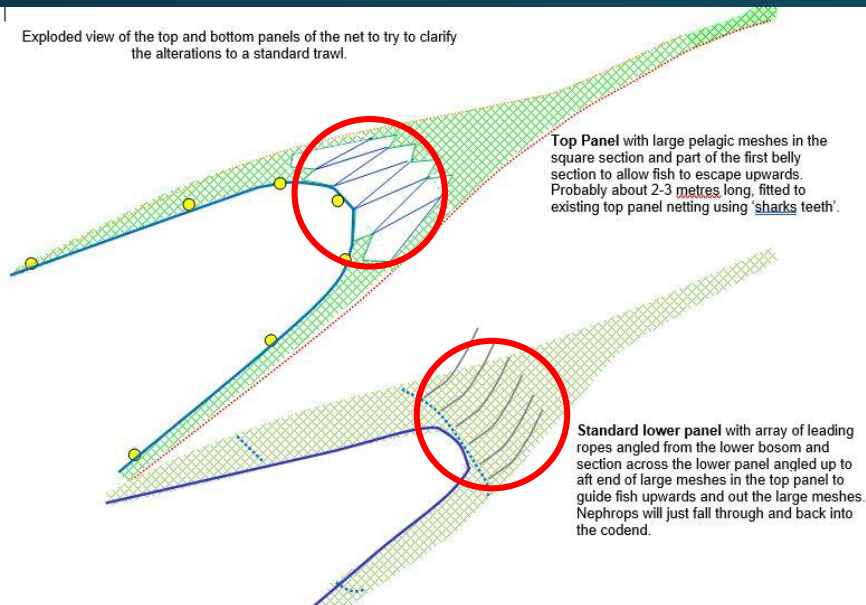
STECF. 2013. 44th Plenary Meeting Report (PLEN-13-03), Scientific, Technical and Economic Committee for Fisheries (STECF). Publications Office of the European Union, Luxembourg, EUR 26332 EN, JRC 86096. 62-69 pp.

BIM. 2014. Assessment of a 300 mm square-mesh panel in the Irish Sea Nephrops fishery.



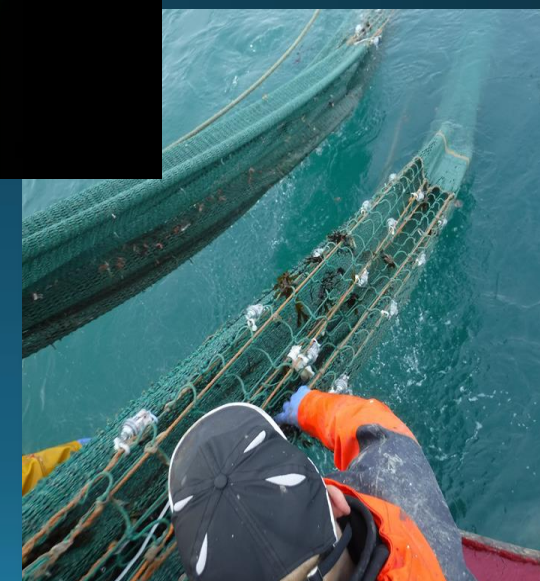
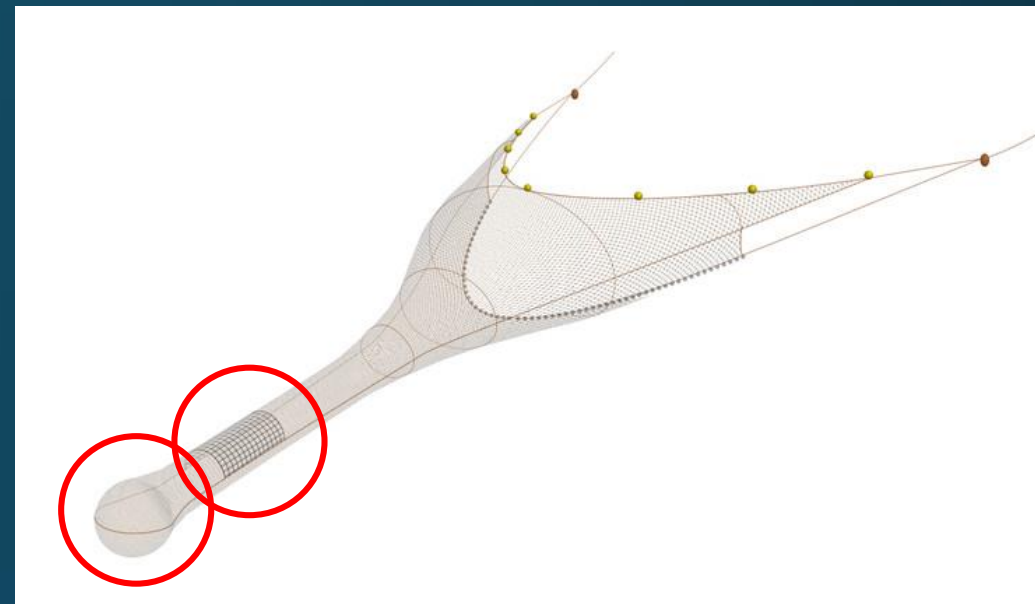
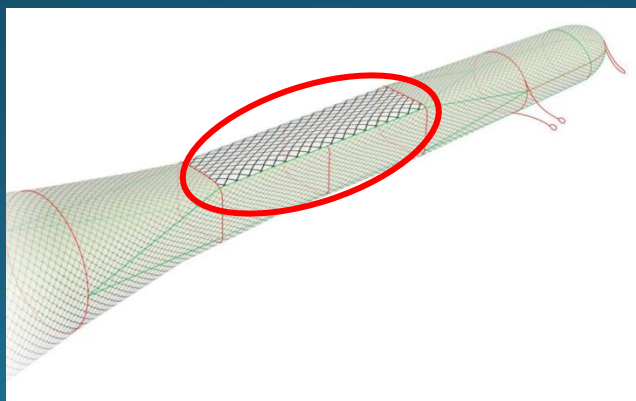
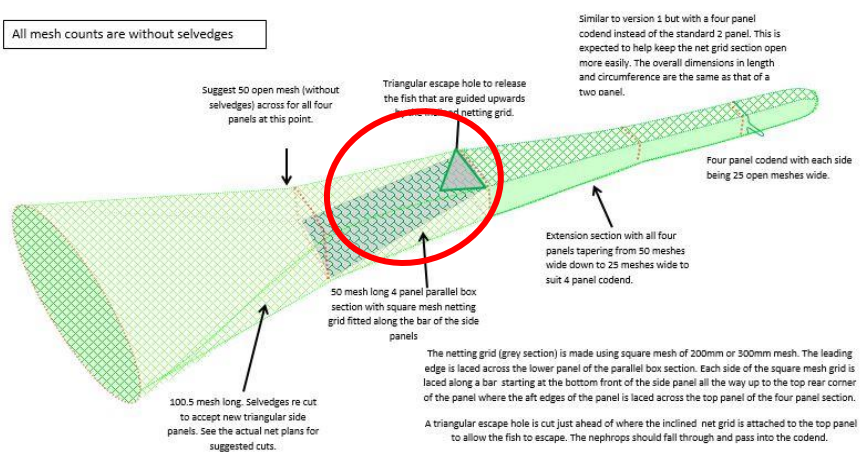
# Gear Trials 2017/18

Exploded view of the top and bottom panels of the net to try to clarify the alterations to a standard trawl.



Inclined Netting Grid - with a four panel codend fitted  
Short design with escape hole. (to release all fish)

All mesh counts are without selvages





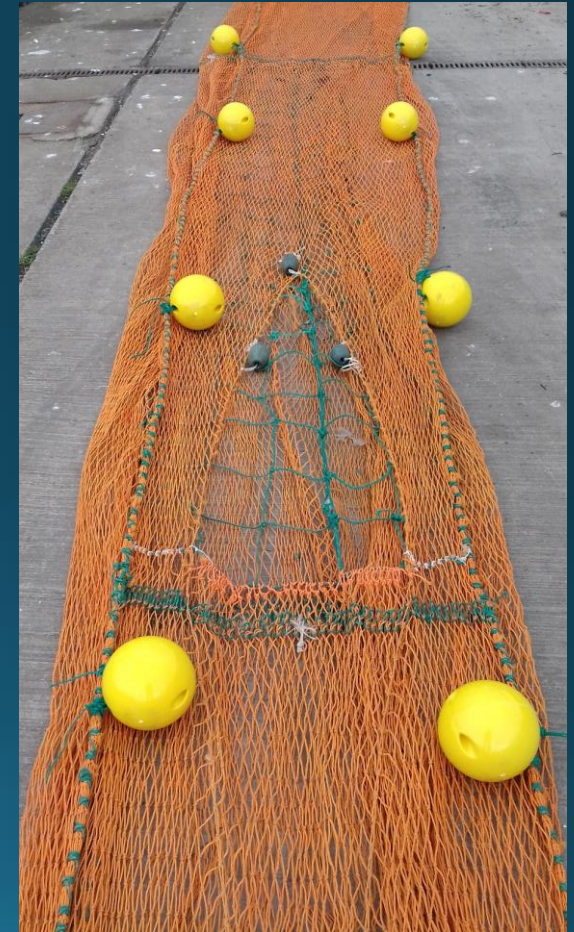
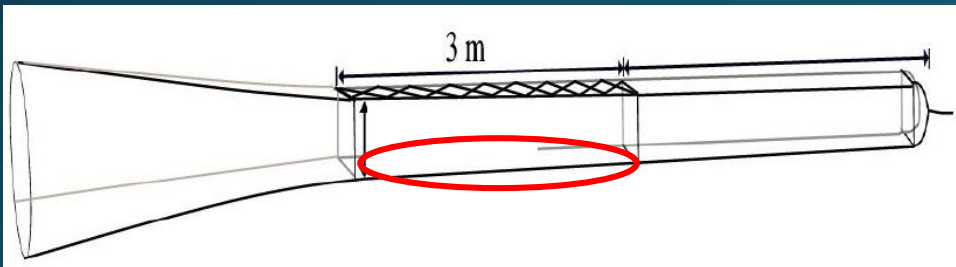
# Gear Trials 2017/18

	Large Mesh Cover	Inclined Net Grid 200	Inclined Net Grid 400	Light on SMP	Lights inside trawl	90mm codend/Ext	SELTRA270
Bulk catch	-56	-37	-29	+10	-46	-37	+6
Whiting		-48	-30		-35	-65	+2
Nephrops	-4%	-16	-7.8	+10	-26	-53	+16

# Gear Trials 2019

- **June 2019** - Inclined Net grid 400, further modifications
- August 2019 - SELTRA/Luminous netting
- **September 2019** - Inclined Net Grid 400, further modifications
- October - Lights on <10m vessel

ING <sub>400</sub> Gear	<b>June 2019</b>	<b>Sep 2019</b>
Whiting	+9	-68
Nephrops	-35.6	-42



# Summary

- Artificial light sources inside trawls affect fish behaviour. Results indicate a deterrence effect.
- Indicative results from gear trials suggest a 30-68% reduction in whiting catch is achievable with a variant of the inclined net grid suited to local conditions.
- Further work is needed to address nephrops loss from the inclined net grid.
- A more comprehensive understanding of gears currently being used by the NI fleet is being compiled.
- Continued work on lights and other selective gear work will continue throughout 2020.



# Thank you for listening

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