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What does the new EU landings obligation mean for prawn fisheries?



Photo credit:
National Museum Ireland, Encyclopedia of Life

Based on a MASTS workshop held in May 2014

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Policy driven science versus Evidence-based policy

- Political background
- What causes discarding
- UK Nephrops fisheries
- Particular impacts of change in policy to Nephrops trawl sector
- Where can research help?



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Discards move up the political agenda 2010 - 2013



Oh no, you told me
he just wrote cookery
books!

FISH FIGHT

HOME THE FISH FIGHT STORY INTERNATIONAL TIMELINE

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Hugh Fearnley-Whittingstall launched the Fish Fight campaign to end discards in 2010.

Now that European fisheries policy has changed, the campaign has come to an end.

[READ THE FISH FIGHT STORY >](#)

To stay involved in protecting our fish stocks and our seas, visit our friends at the Marine Conservation Society >. They have great advice on what fish to eat in their Good Fish Guide >.

THE FISH FIGHTER'S TOOLKIT

THE POWER TO PROTECT OUR OCEANS IS IN YOUR HANDS NOW, SO MAKE SURE OUR SUPERMARKETS AND OUR POLITICIANS HEAR YOUR VOICE. ASK THEM A QUESTION, TELL THEM WHAT YOU THINK, AND DON'T GIVE UP UNTIL THEY RESPOND TO YOU!



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Campaign was
phenomenally successful
...

Although not true it was only
factor – UK fishing industry has
been working on reducing
unwanted catches (particularly
of cod) for a long-time

Led to adoption of a “landings
obligation” within the 2013
reform of the Common
Fisheries Policy ...



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Discard ban is the biggest challenge facing Scottish fishing



UK Minister for Farming, Food and Fisheries George Eusden (right) met with Scottish Fishermen's Federation officials including Bertie Armstrong (centre).

The new landings obligation ...

Any quota managed species caught must be landed and counted against quota

Discard plans for demersal sector due summer 2015 - implement in 2016

Very tight timeframe to work out all issues



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The National Federation of Fishermen's Organisations

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DISCARDS WILL DOMINATE INDUSTRY IN 2015, SAYS NFFO

23RD DECEMBER 2014 IN DISCARDS

With just 12 months to go before the introduction of a landing obligation, which will be the most dramatic change the European fishing industry has seen for 30 years, the National Federation of Fishermen's Organisations (NFFO) believes there are still major issues yet to be addressed.



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Complications ...

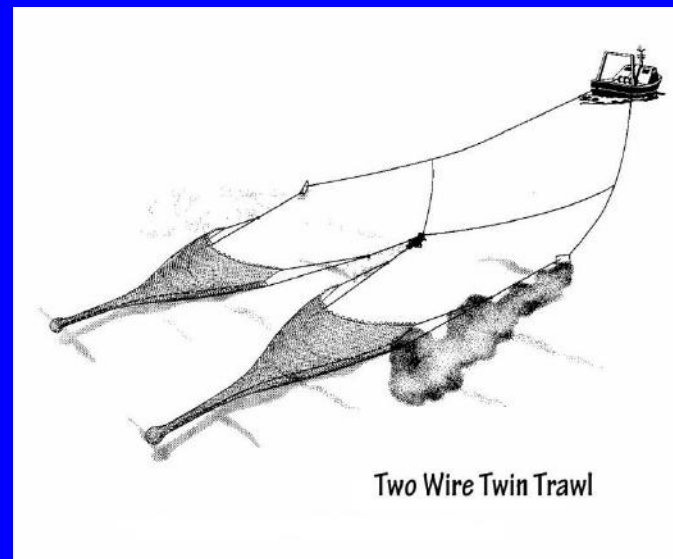
- The obligation only applies to species which are managed under quota (TAC species)
- Limited 'swaps' are allowed so that a % of quota can be shifted between fleets (and species) – what this last bit means is confusing
- One can also argue for a limited exemption the 'de minimus'
- One can argue for exceptions on the grounds of 'high' survivability
- One can argue for a limited exemption on grounds of 'excessive' cost



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Nephrops norvegicus
Dublin Bay prawns,
langoustines, scampi



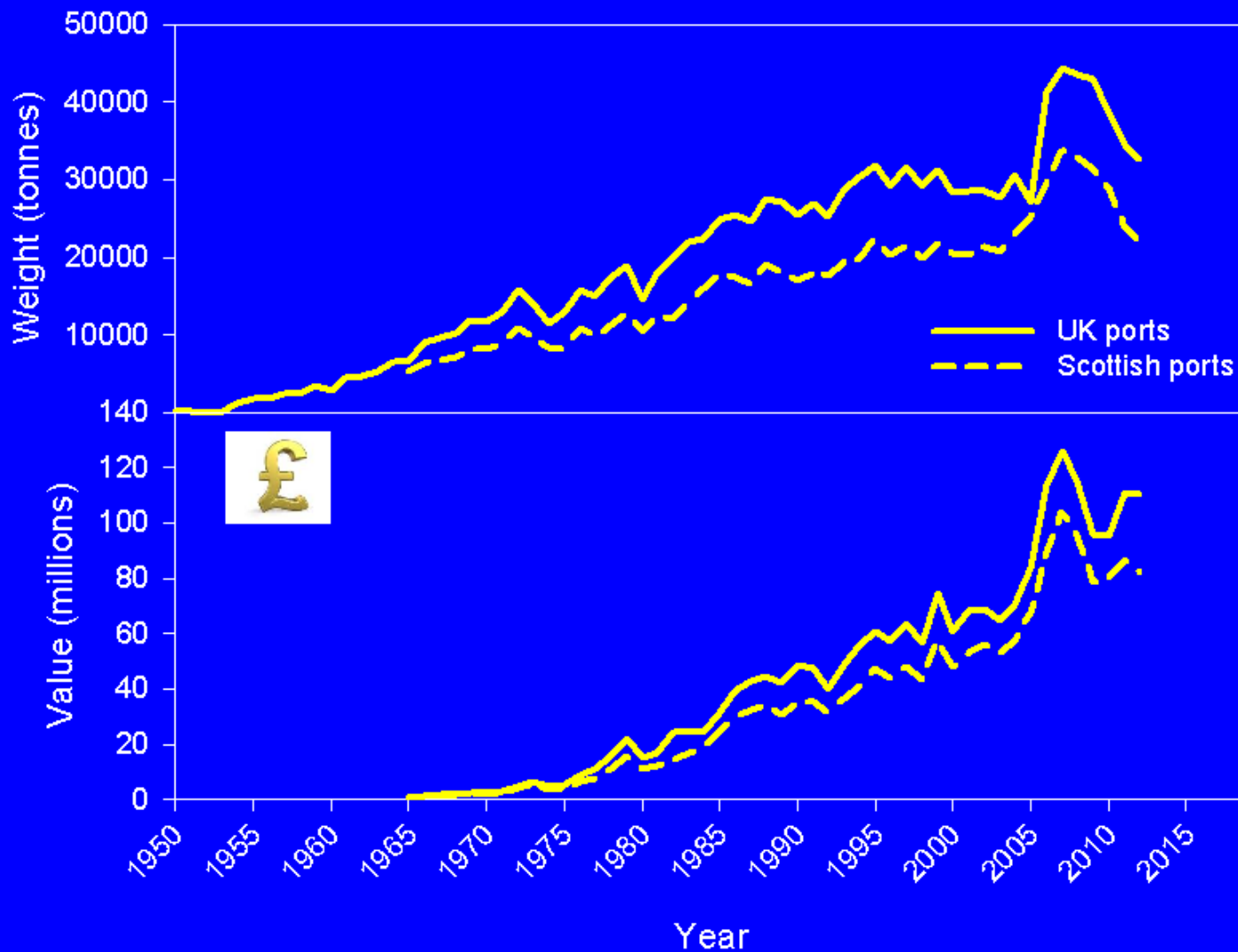
Pictures: MarLin (Sue Scott), JNCC, SAMS (Fox)



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Nephrops landings by UK fleet



Sources: Official Fisheries Statistics, MAFF, Defra, MMO, FAO

Ratio of trawl:creel landings by value about 5:1



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Discards

Any organism which is caught and actively returned to the sea.

Target species



Marketable
by-catch



Un-marketable by-catch



Landed = ££££

Quota

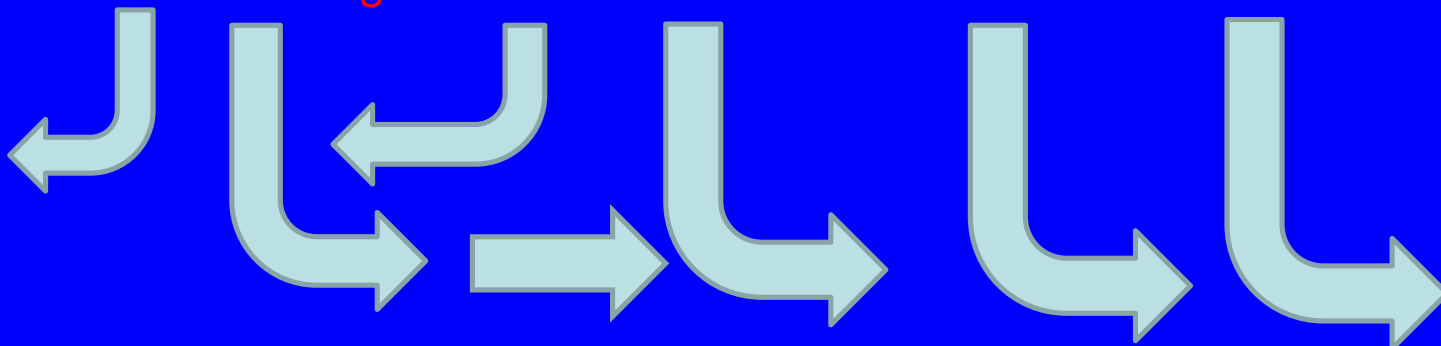
Under-size
or damaged

Quota

Over
quota

Under-sized

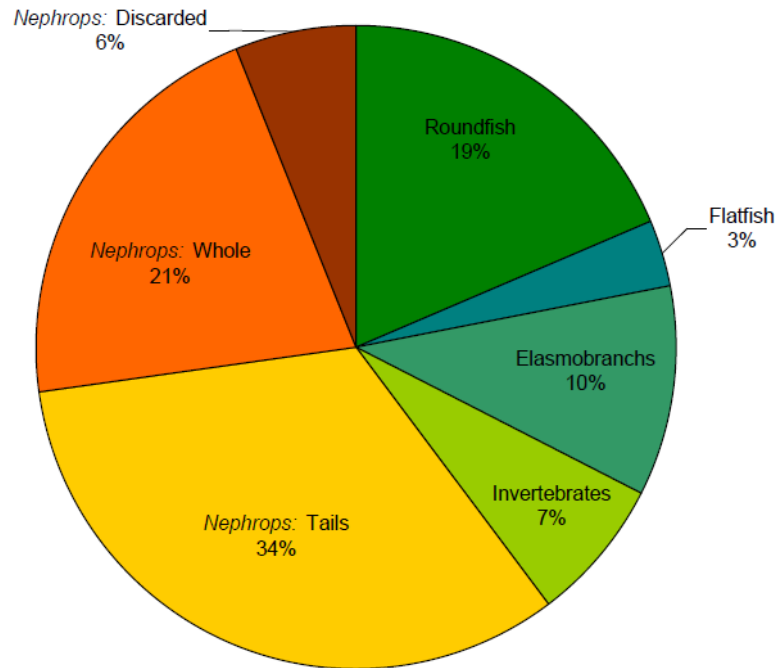
Others



Discarded



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Overall catch composition by weight 57 hauls in
Minches - Dec 2008 to June 2010

Fairly small mesh nets needed to catch prawns – typically 80 mm - so will catch other species including juvenile fish if they are on the grounds.

Typical discard rates 30 to > 50% by weight.

Milligan RJ, Neil DM, Albalat A (2013) Scottish Nephrops Survey Phase III: Evaluation of Measures for Reducing Bycatch and Discards in a Nephrops Fishery. , Project Report, University of Glasgow, Glasgow, 124 pp .



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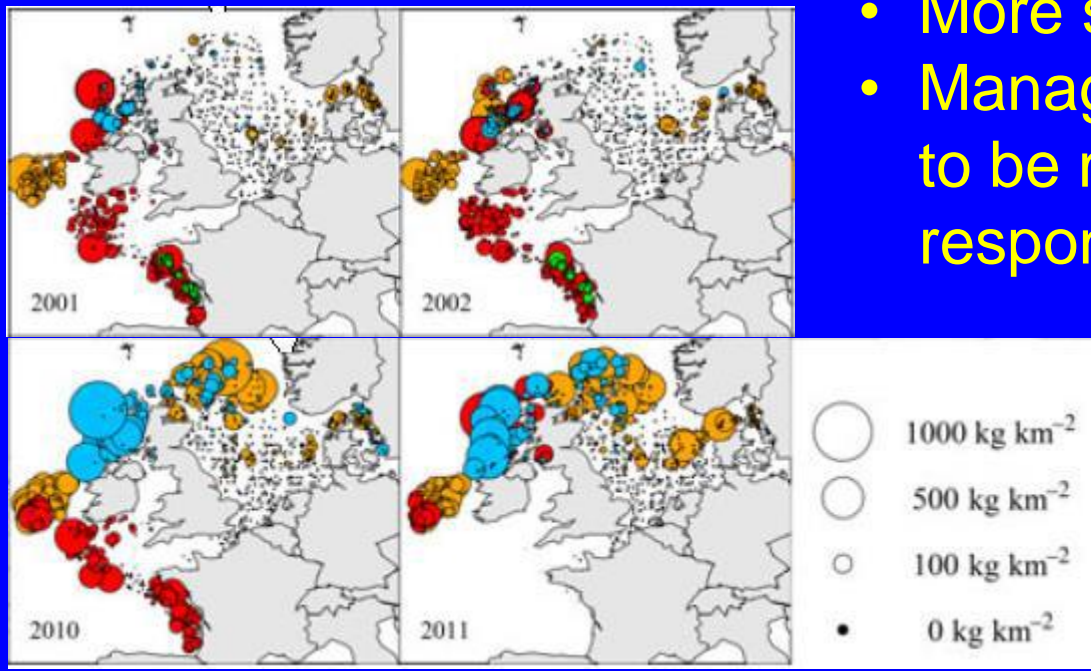
Workshop in May 2014 with industry, science, policy, other stakeholders identified 4 main issues the landings obligation raises

1. Choke species - could force prawn fisheries to close earlier in year?
2. Gear innovation - constrained by technical rules
3. Forced to land under-sized prawns - damage to stock sustainability.
4. What to do with landed 'discards'?

Choke species : –
Historically cod and whiting
but can rapidly change e.g.
recent increase in juvenile
hake



- Swaps, quota uplift
- More selective gears
- Management needs to be more responsive



Baudron AR, Fernandes PG (2014) Adverse consequences of stock recovery: European hake, a new “choke” species under a discard ban? Fish and Fisheries



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Innovation :-

- Real-time management – temporary move-on zones – may be not so easy for prawn fisheries where grounds are limited in extent.
- Quite a few options for modifying gear but also pitfalls – loss target species, operational problems, safety.

Technical conservation measures

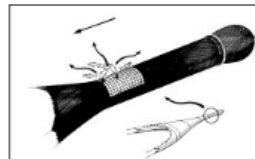


Figure 2 Square mesh panel. Statutory measure for release of haddock and whiting in EU *Nephrops* trawls; fish escape by swimming upwards through the panel.

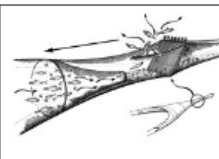


Figure 3 Swedish grid. Fish pass through the upper window of the trawl. *Nephrops* pass through the grid into the cod-end.

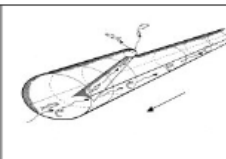


Figure 4 Inclined separator panel, as used in Irish sea fisheries, to separate cod, haddock and whiting from *Nephrops*.

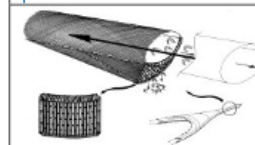


Figure 5 (Left) Flexible grid systems, as used in French fisheries, for improving *Nephrops* size selectivity (16).

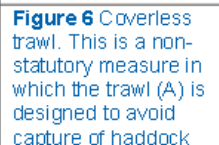


Figure 6 Coverless trawl. This is a non-statutory measure in which the trawl (A) is designed to avoid capture of haddock

and whiting - the fish can swim over the top of the trawl. This is more effective than the conventional arrangement (B), where the 'cover' in the top of the trawl extends forward of the footrope and is made of large mesh (17).



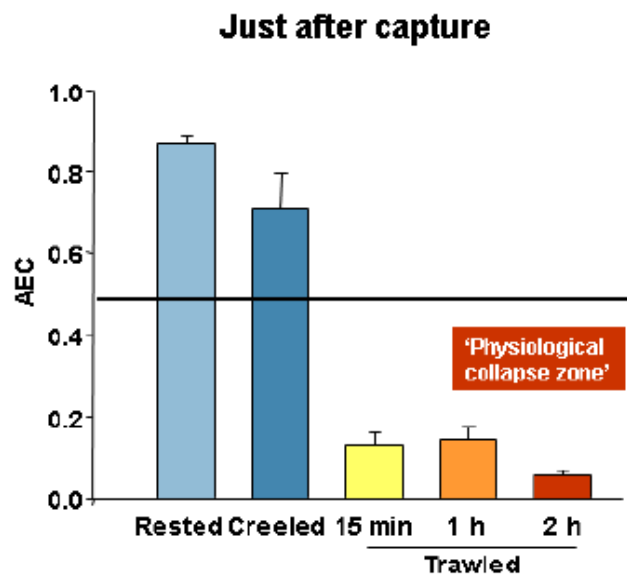
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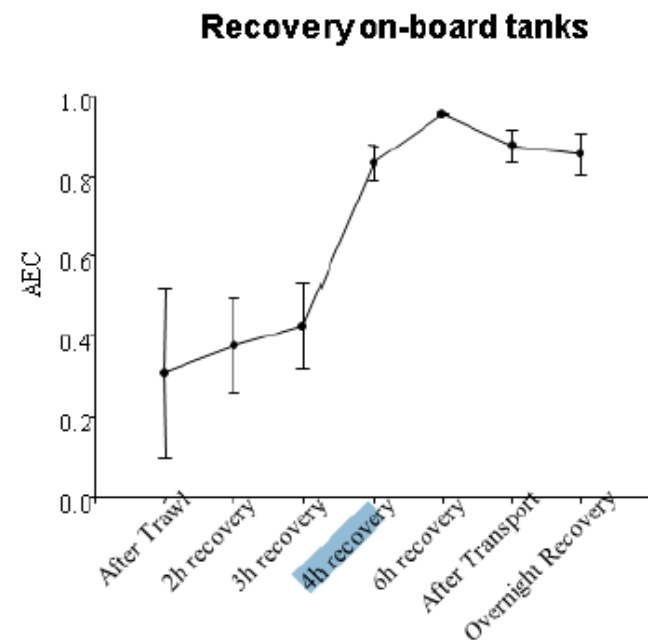
Land under-sized prawns :-

Rules recognise that if a species has 'high' survivability (yet to be defined) then it can continue to be discarded – but need to demonstrate this and understand how it varies with fishing conditions, seasons etc. and take account of post-discard mortality.

$$\text{AEC} = (\text{ATP} + (1/2 \text{ADP})) / (\text{ATP} + \text{ADP} + \text{AMP})$$



Albalat et al. 2009. Mar Biol Res 5 (5):441-450



Albalat et al. 2010. JEMBE 395 (1-2):206-214



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What to do with landed 'discards' :-

- How will this affect operation of remote processing plants?
- Will they need to invest in new processing equipment?
- But there could be a market for locally produced fishmeal for aquaculture or alternate uses such as high-value lipids – however if create a new market then incentives to avoid unwanted catches (which is policy aim of discard ban) are reduced.



Condie HM, Grant A, Catchpole TL (2013) Does banning discards in an otter trawler fishery create incentives for more selective fishing? Fish Res 148:137-146



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Areas where research can contribute

- Post-catch survivability
 - Gear modifications
- Modelling implications of choke species
- Wider ecosystem effects – e.g. on MSFD indicators
- Fishers behaviour in response to discards ban
 - Socio-economics impacts
 - Policy studies on implementation

Discard plans will evolve over time but
better to get it right at first

Main un-answered question is whether discard ban will deliver or just lead to more problems – only time will tell



Maria - you told me
you sorted out
discarding.

Sorry Karmenu - your
problem now. I am off
for dinner with Hugh.





The full workshop report is available on the MASTS website

http://www.masts.ac.uk/media/119234/masts_nephrops_workshop_report_final.pdf

Or at

doi: 10.13140/2.1.2661.2802

Also a good summary of issues at

<http://www.scotland.gov.uk/Topics/marine/Sea-Fisheries/discards>





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Exemptions are applied through the Discard Plans agreed by the Regional Groups.

De minimis - the de minimis exemption allows a limited volume of catch to be permissibly discarded. De minimis exemptions can only apply in cases where further increases in selectivity are difficult to achieve or where handling fish may cause disproportionate cost. Regional Groups will be discussing potential de minimis exemptions at meetings in February 2015. Industry representatives have been asked to submit views on potential exemptions to Marine Scotland by February 2015. In Scotland, a possible de minimis exemption is currently being considered for saithe.

High Survivability – scientific evidence indicates that certain species in defined fisheries have a high chance of survival when returned to sea after being caught. A high survivability exemption is available for species caught in fisheries for which scientific evidence demonstrates high survival rates. The exemption works to correct a situation in which an obligation to retain and land catches that would have previously survived the discarding process would, in practice, result in greater fishing mortality and a reduction in stock biomass. In Scotland, a potential high survivability exemption is currently being considered for Nephrops caught in pots, creels and traps.

Interspecies Flexibility – this may allow a Member State to convert quota of a target species into quota of another for which catches are in excess of quota or no quota is held. Quota can only be converted into a species that is within safe biological limits. Regional Groups are currently considering the potential use of IF and are working to establish some common principles on the use of IF.



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Vessel stability and safety concerns, reduced trip lengths etc :-

- Will depend very much on the amounts of additional material which need to be brought to port – may be it is less of a problem than it appears? (Condi et al. 2013 suggests in North Sea fisheries hold capacity would rarely be exceeded)
- Still requires some research and modelling for different groups of vessels, different fishing grounds and different end-use routes.

Home > Professional Development > Safety > Fishing Vessel Stability Simulator

FISHING VESSEL STABILITY SIMULATOR

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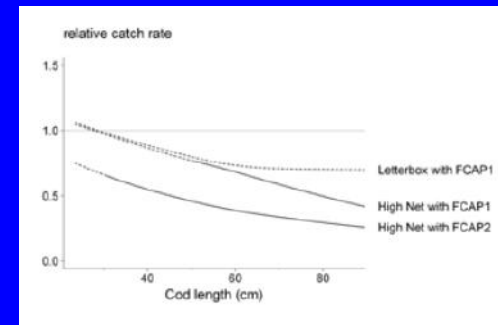
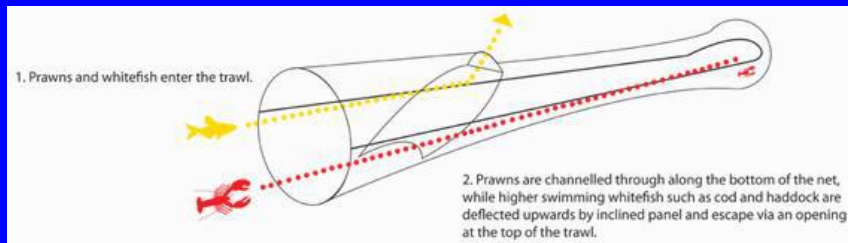
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Fidelis trawl with FCAP reduced catches of cod, haddock and whiting but not enough data to test effect on prawn catches

Change in cod by-catch

| Haul No | Live weight (kg) | | % difference in live weight | Number of fish | | % difference in numbers |
|----------------|------------------|--------------|-----------------------------|----------------|--------------|-------------------------|
| | Control | Test (FCAP2) | Test/Control | Control | Test (FCAP2) | Test/Control |
| 9 | 240 | 123 | -49 | 113 | 75 | -34 |
| 10 | 437 | 112 | -74 | 198 | 73 | -63 |
| 13 | 554 | 209 | -62 | 266 | 106 | -60 |
| 14 | 232 | 93 | -60 | 180 | 53 | -71 |
| 16 | 435 | 172 | -60 | 191 | 115 | -40 |
| 17 | 463 | 184 | -60 | 222 | 104 | -53 |
| 19 | 137 | 46 | -67 | 107 | 35 | -67 |
| Hauls combined | 2498 | 939 | -62 | 1277 | 561 | -56 |

Results from trial fishing on Fladden Ground, North Sea (Kynoch et al. 2011).

NOTE FCAP reduces gadoid catch but cannot eliminate it!