

# DiscardLess – Strategies for the gradual elimination of discards in European fisheries

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on behalf of the DiscardLess Consortium





[www.discardless.eu](http://www.discardless.eu)



## The EU Landing Obligation (Choke)

- A choke species is one with a low quota that can cause a vessel to stop fishing even if they still have quota for other species
- Schrope, M. (2010). "What's the catch?" Nature 465: 540–542.



New England fishermen have mixed feelings about a programme designed to allow overfished species to recover. **Mark Schrope** reports on how catch shares have scientists fishing for answers.

insensitive to the social and economic costs associated with major management shifts, but they say the long-term benefits will be worth it. Still, some fishermen, legislators and scientists question whether the policy will work to

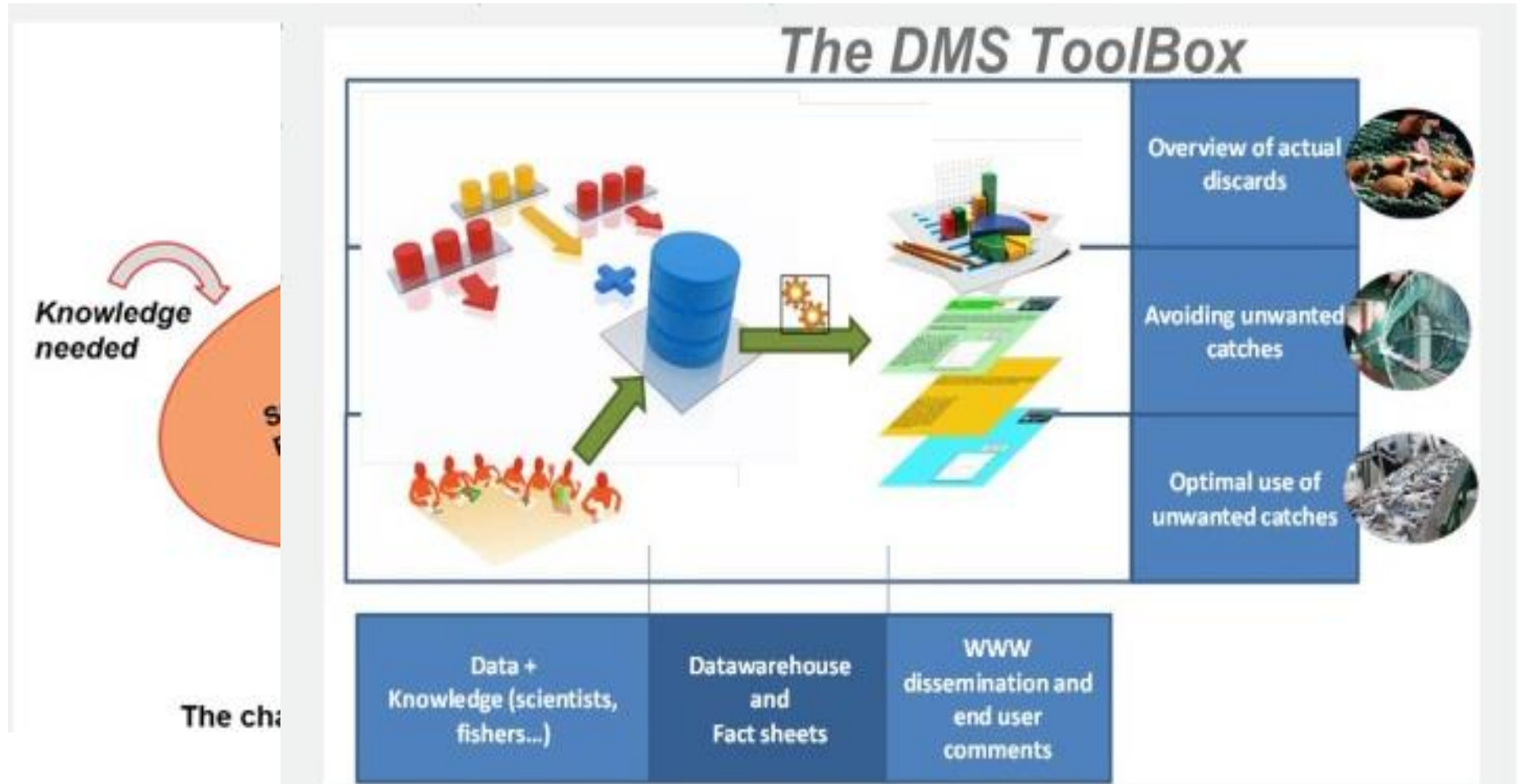
J. L. ROTTMAN/CORBIS



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# The concept





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## The project parts

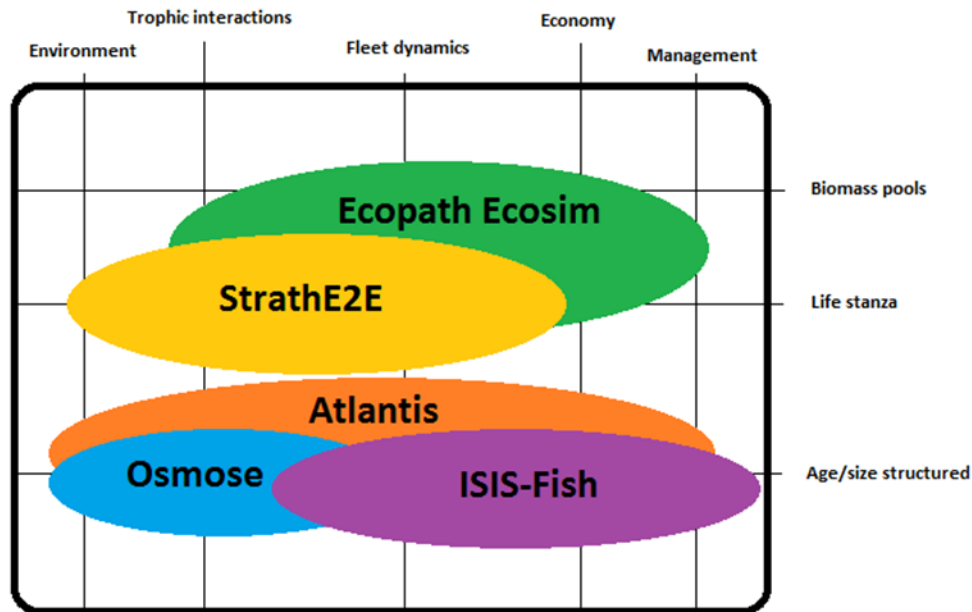
- **Framing and implementing discards policy**
- **Ecosystem scale assessment**
- **Fishery scale assessment**
- **Adaptation of gear technology**
- **Adaptation of fishing strategies**
- **From deck to first sale**
- **Products to the value chain**



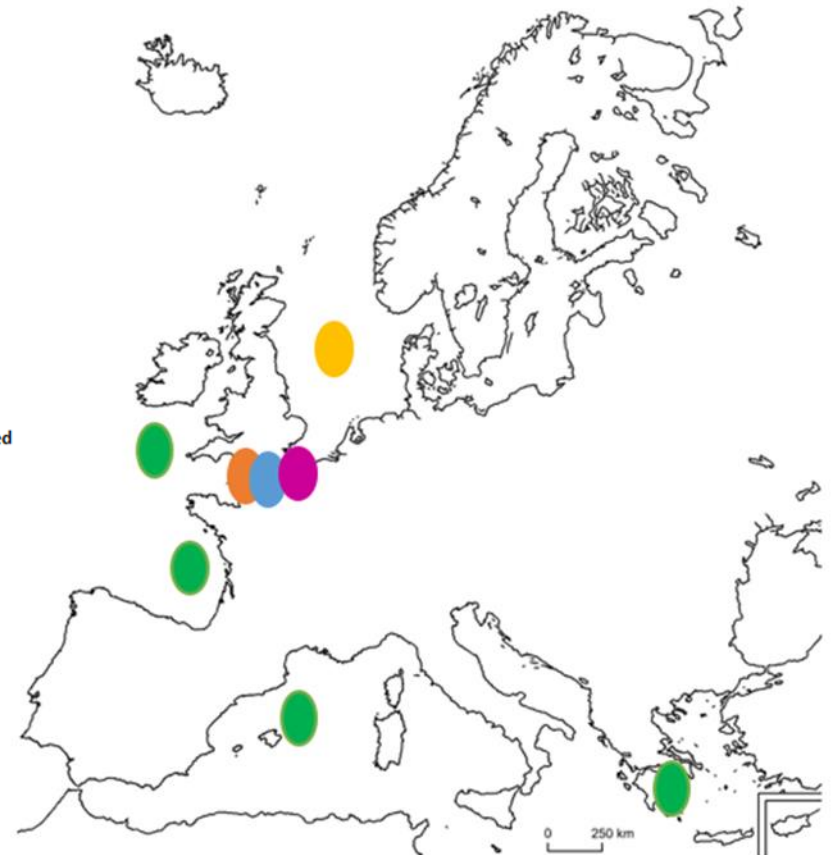
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# Ecosystem scale assessment



Biomass pools  
Life stanza  
Age/size structured



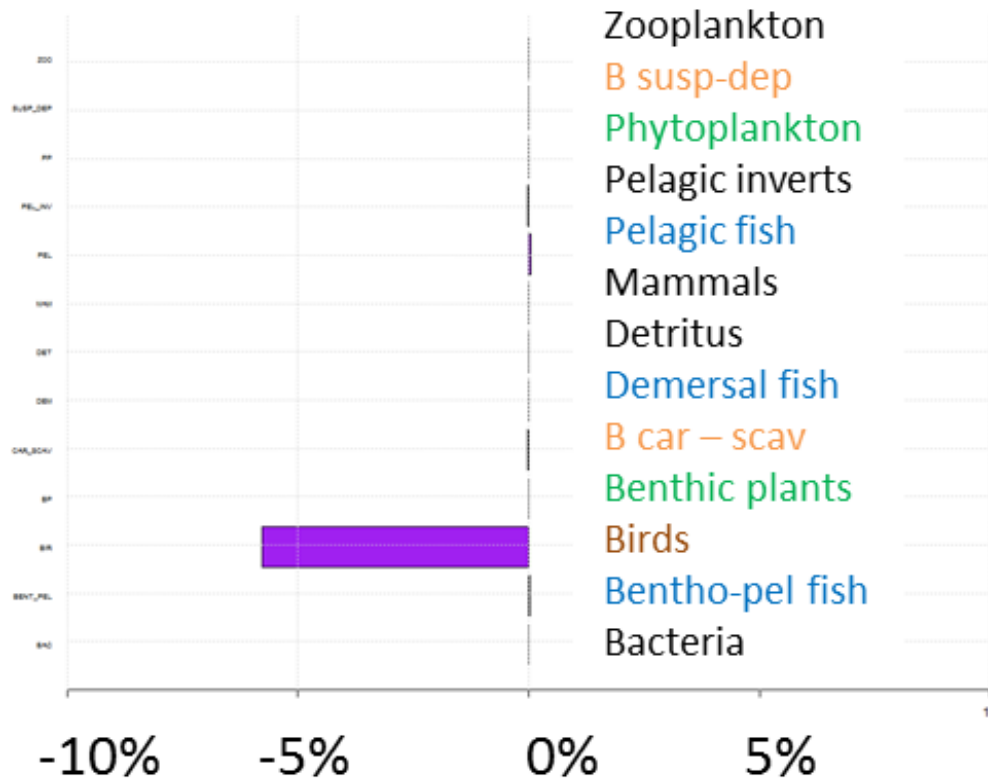


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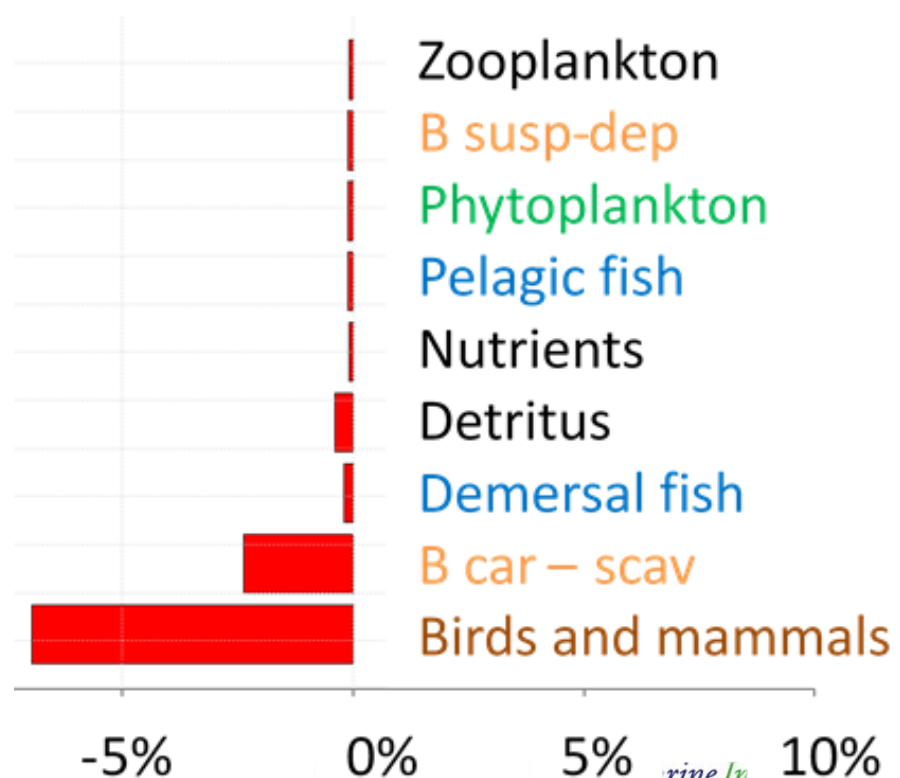


# Modelled changes with no discards

## Bay of Biscay



## North Sea

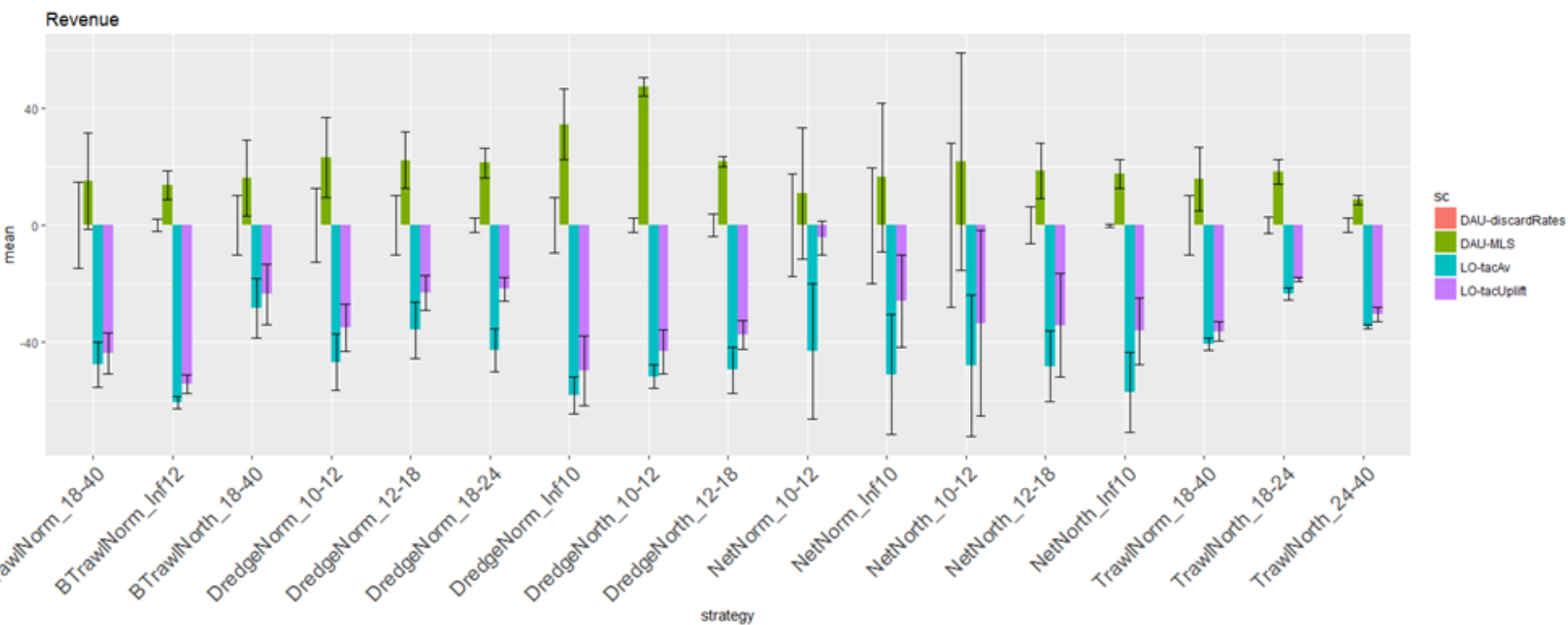




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## Fishery scale assessment



# Adaptation of gear technology - factsheets

**using a flexible grid** ← **device**

**to reduce capture of haddock, whiting and haddock in a nephrops trawl** ← **objective**

**Trial details**

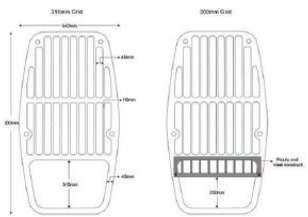
**Device details**

**Contact**

**TARGET SPECIES**  
Nephrops and mixed round and flatfish

**AREA, VESSEL**  
25 catch comparison hauls took place in the North Sea on board the FV Amity II PD 177 (21m, 400kW) during November 2012.

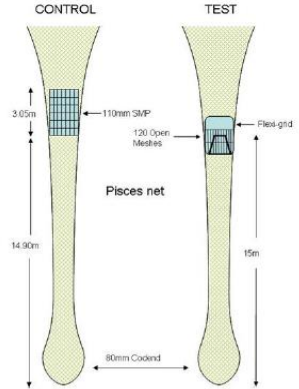
**GEAR MODIFICATION**  
A flexible grid with 45mm bar spacing and with bottom gaps of (i) 315mm and (ii) 200mm was fitted into the extension of a nephrops trawl



**Average % reduction**

grid	315 mm	200 mm
Cod	66	95
Haddock	55	78
Whiting	73	81
Monkfish	76	84
Saithe	87	98
plaice	78	74
Lemon sole	23	24
Nephrops	-3	-1

← **Catch comparison**



**RESULTS**

- there were no losses of haddock or whiting
- fewer smaller cod (< 78 cm) were caught, but above 78 cm, there was no difference
- monkfish catches were 16% less, but these were all small (< 55cm)
- megrim catches were reduced by 43%

← **Summary**

**FURTHER INFORMATION**  
Jim Drewery ([j.drewery@marlab.ac.uk](mailto:j.drewery@marlab.ac.uk))

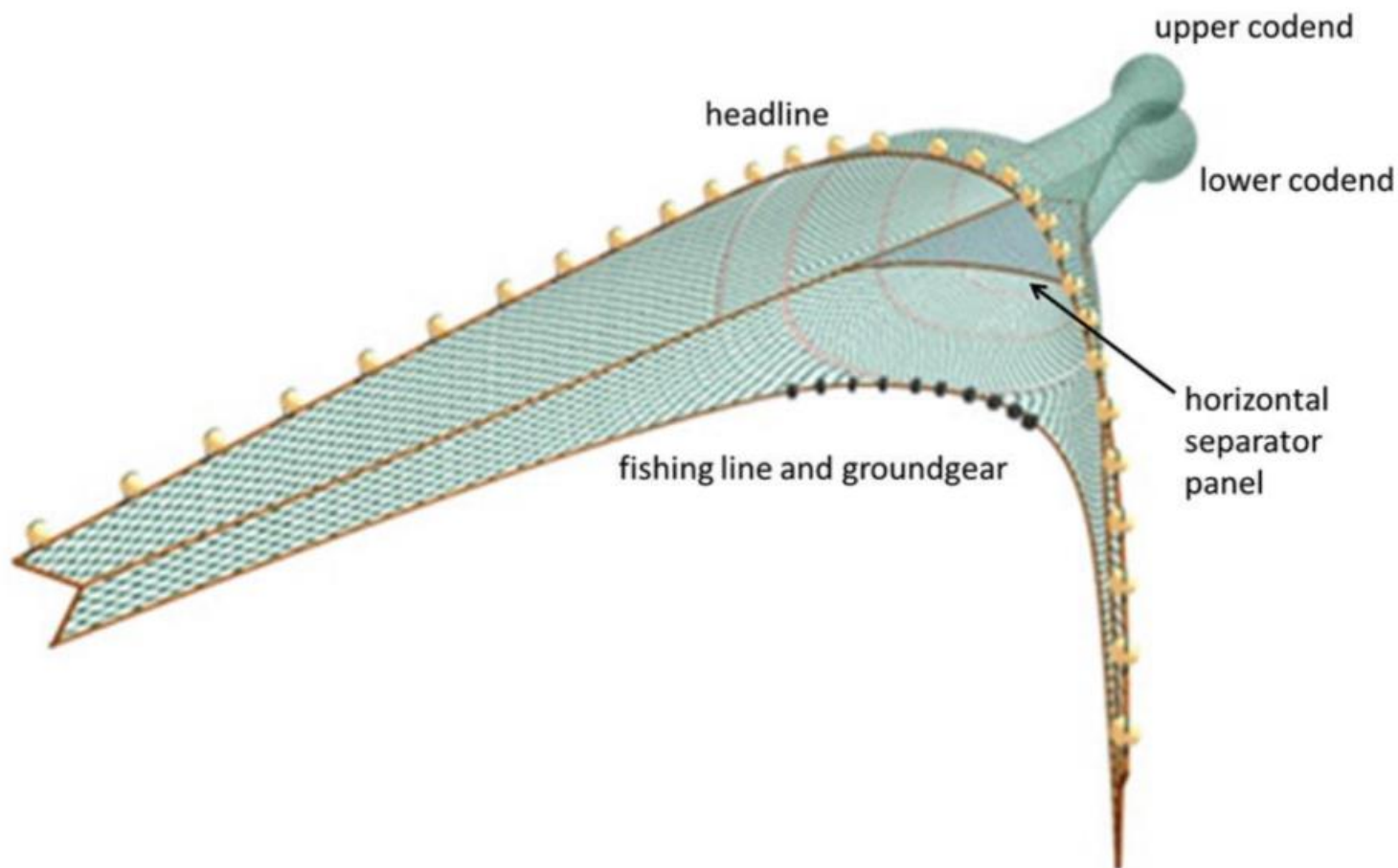




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## Adaptation of gear technology – separator trawls

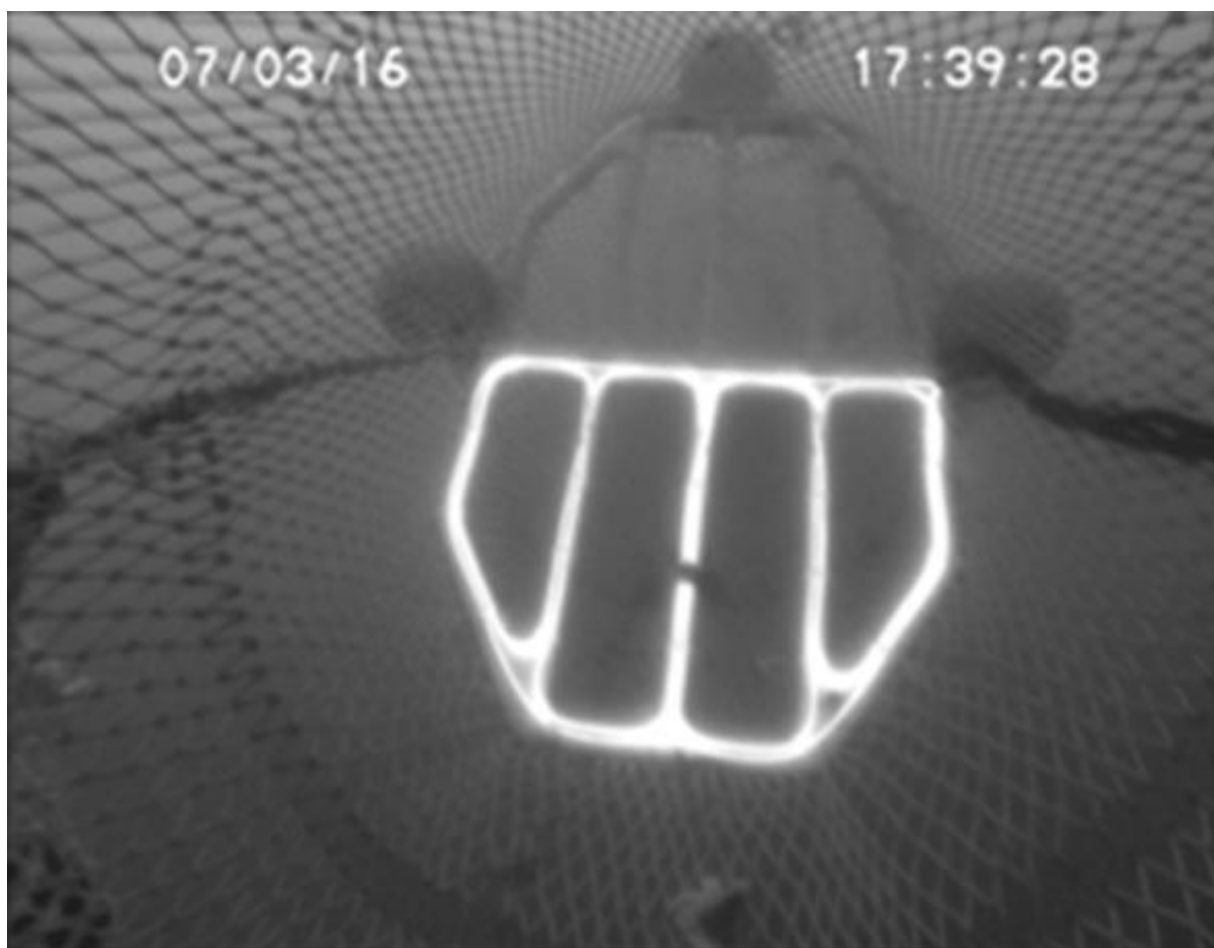




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## Adaptation of gear technology – lit grids

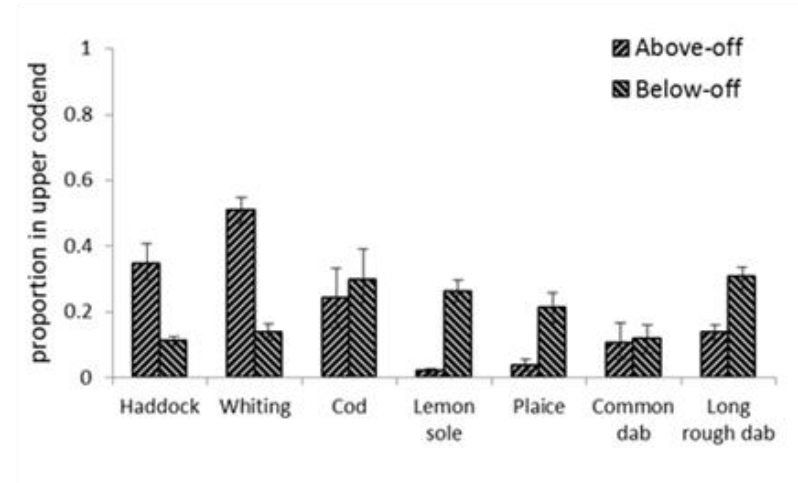
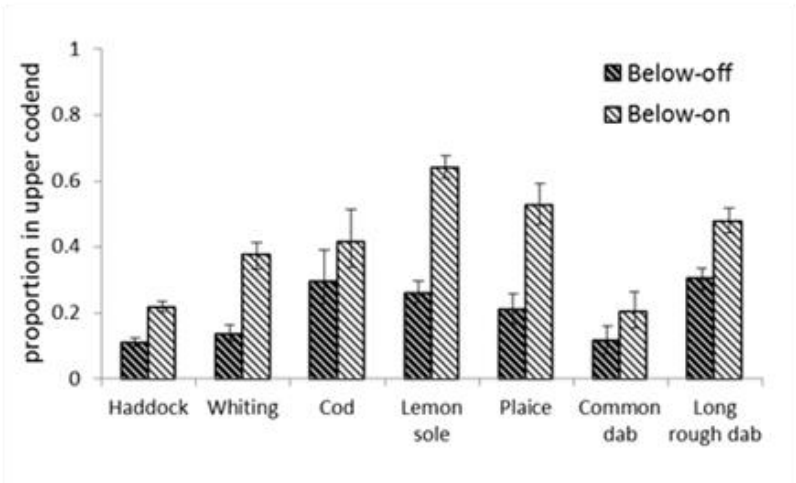
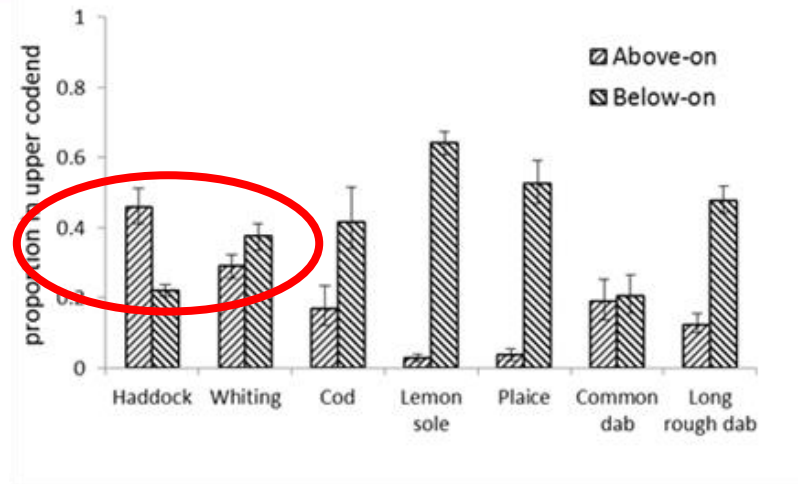
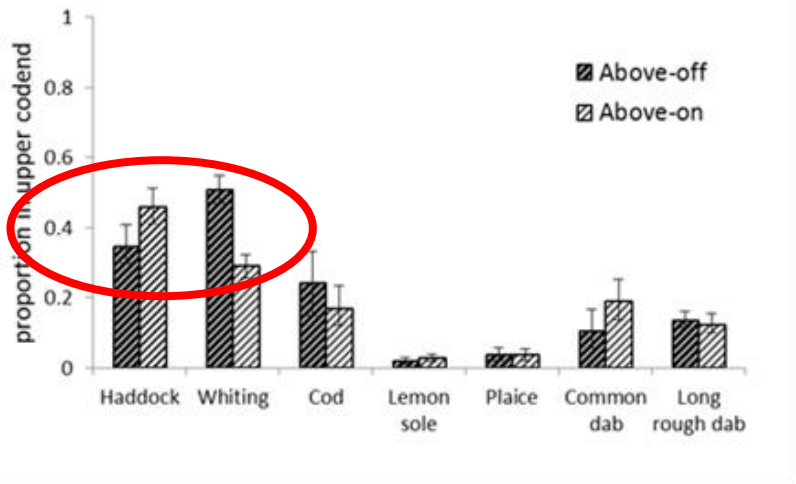




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# Adaptation of gear technology – lit grids





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## Adaptation of fishing strategies

- **The Fishermens story**
- **The Scientists story**
- **The Managers Story**



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## The fishermen's story – tactics used

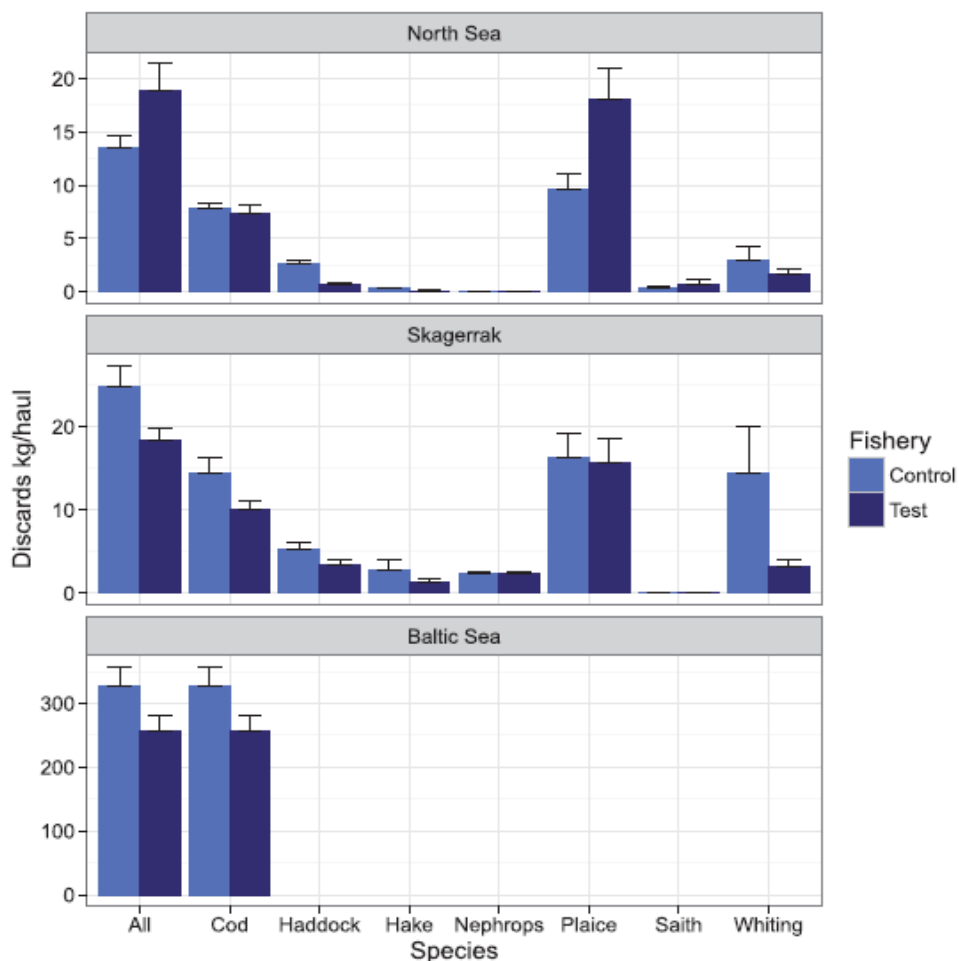
- **Change of fishing ground**
- **Avoidance of spawning/nursery areas**
- **Information sharing**
- **“Moving on” after high catches of choke or <MCRS fish.**
- **Change of target species.**
- **Fishers developing quota approaches.**
- **Changing the depth**
- **Shorter hauls.**
- **Use of sonar to target hauls.**



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## The fishermen's story – “Challenge Trials”





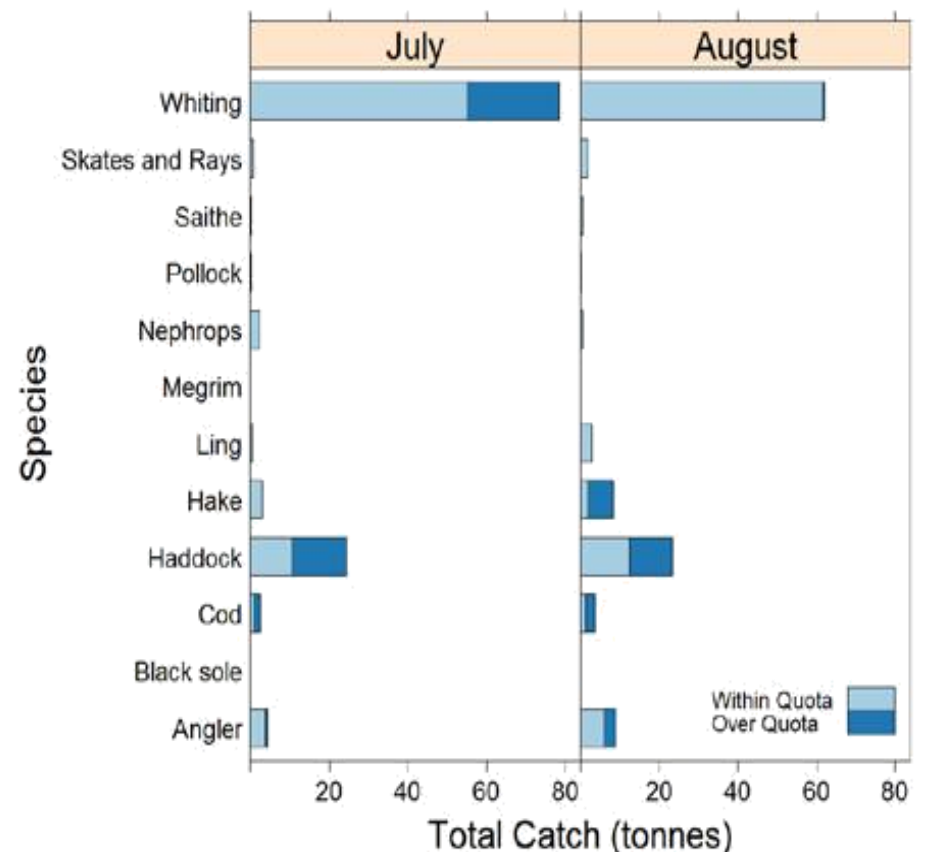
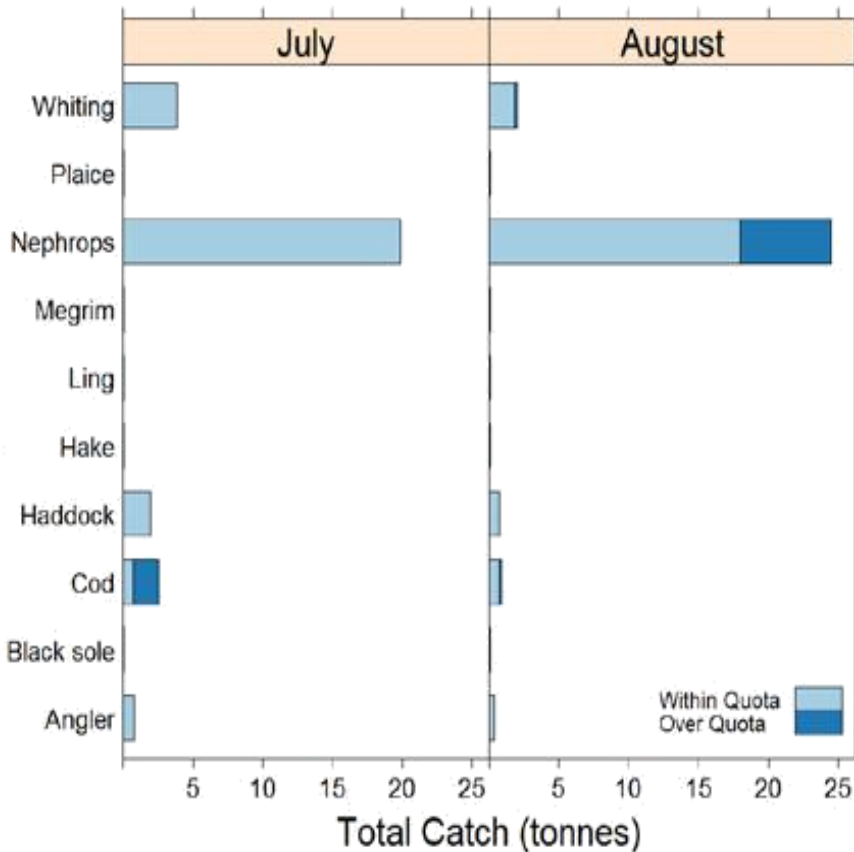
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# The fishermen's story – "Challenge Trials"

Vessel 1

Vessel 2

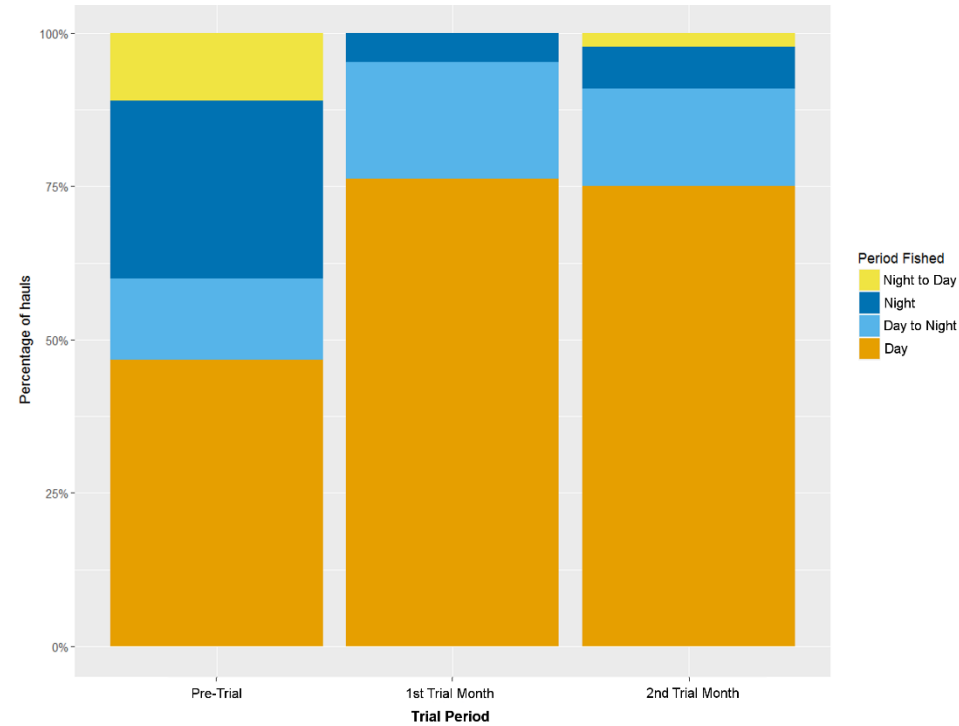
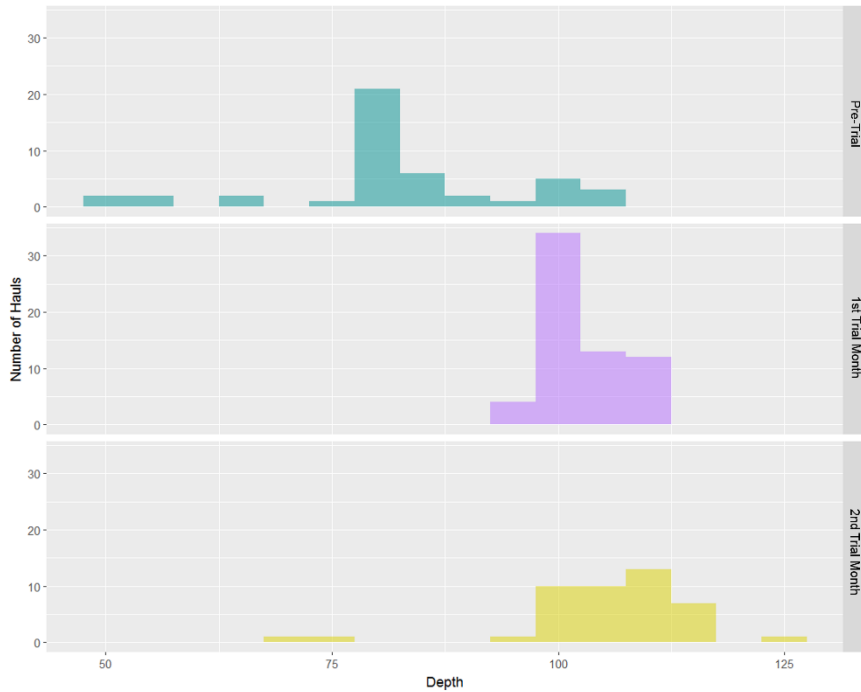




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# The fishermen's story – “Challenge Trials”



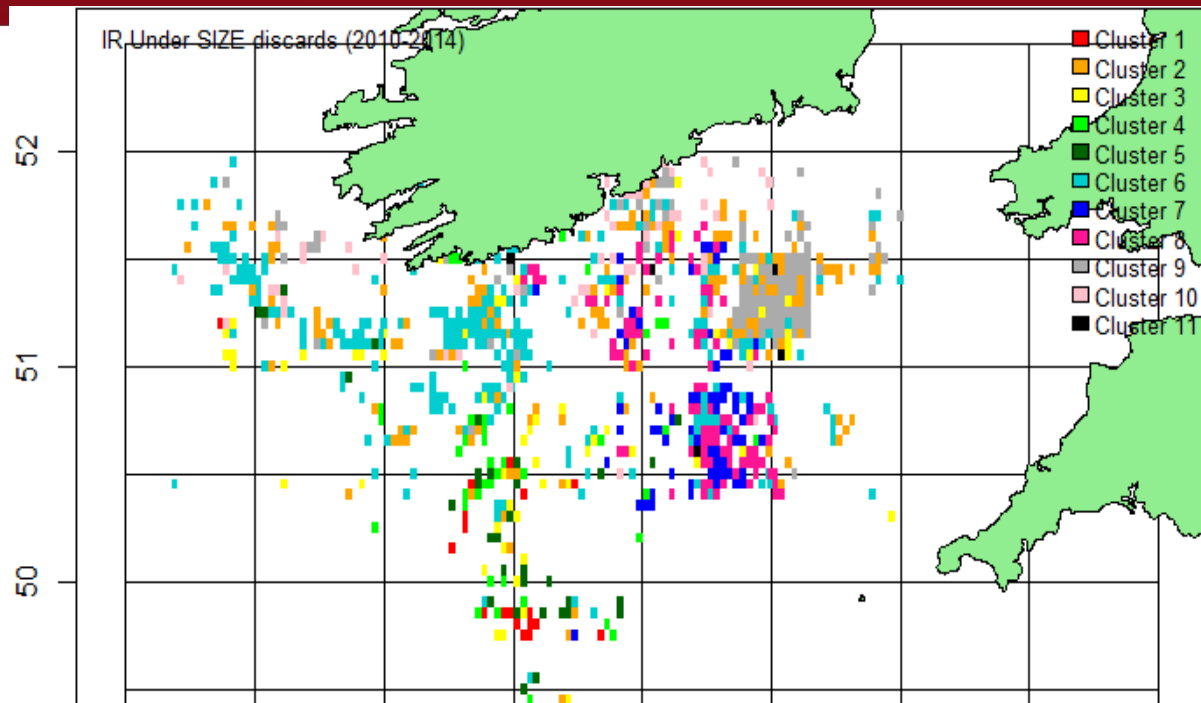




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# The scientist's story – Mapping discards



	1	2	3	4	5	6	7	8	9	10	11
Gadus.morhua	0,015	0,071	0,563	0,005	0,149	0,028	0,023	0,075	0,042	0,010	0,018
Lepidorhombus.whiffiagonis	0,726	0,007	0,039	0,007	0,199	0,002	0,006	0,001	0,004	0,005	0,003
Melanogrammus.aeglefinus	0,005	0,182	0,050	0,006	0,071	0,261	0,044	0,145	0,103	0,026	0,106
Merlangius.merlangus	0,009	0,097	0,045	0,024	0,014	0,016	0,010	0,018	0,559	0,043	0,165
Merluccius.merluccius	0,084	0,041	0,020	0,519	0,173	0,006	0,043	0,015	0,041	0,034	0,025
Molva.molva	0,000	0,012	0,009	0,004	0,000	0,004	0,613	0,253	0,005	0,003	0,097
Pleuronectes.platessa	0,003	0,073	0,029	0,015	0,027	0,012	0,015	0,049	0,021	0,577	0,179
Solea.solea	0,000	0,001	0,000	0,000	0,000	0,000	0,000	0,000	0,012	0,006	0,981



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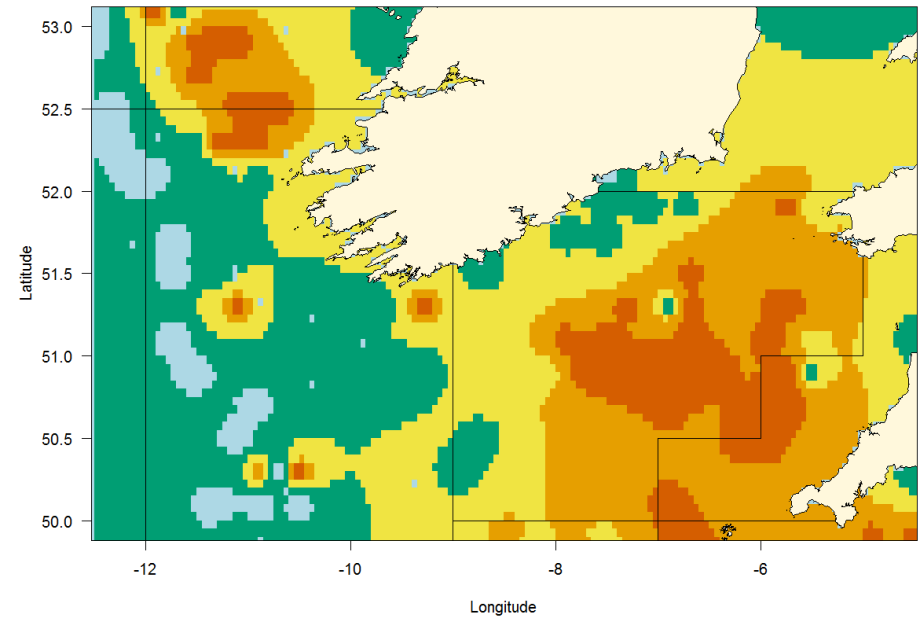
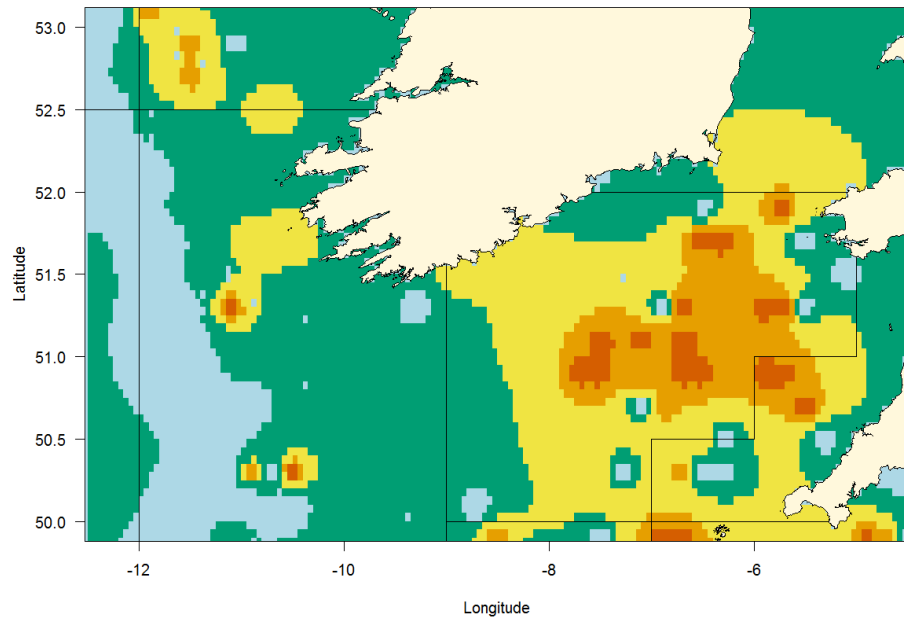


## The scientist's story – Mapping catches

### Haddock CPUE from observers

<MCRS

>MCRS



Legend

MIN      MAX



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# The scientist's story – Where to go app!



### CPUE Map Comparison

Season  
Quarter 1

Target Species  
Target Species #1  
Haddock

Target Species Size #1  
Above MCRS

Min CPUE to target #1  
0 3 4 5 6

Non-Target Species  
Non-Target Species #1  
Haddock

Non-Target Species Size #1  
Below MCRS

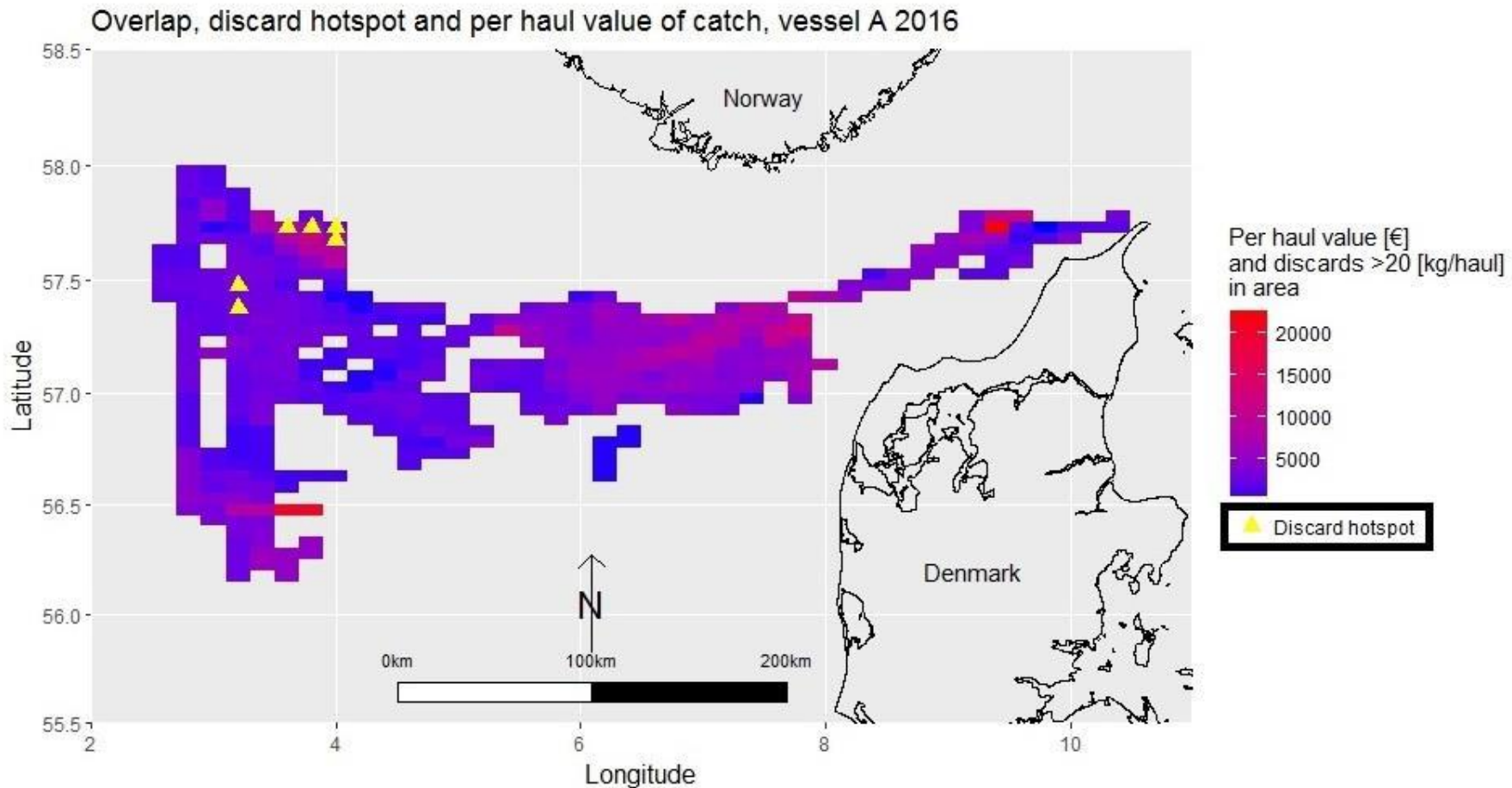
Min CPUE to avoid #1  
0 1 2 3 4 5



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# The scientist's story – Fishing for value





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**Thank You**

