

Discard reduction experiments on the Basque trawler fleet



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2 main fisheries:

- **Single trawl (BAKA)**



- **Pair bottom trawl (Naberan trawl)**



- 7 vessels, (37-42 m)
- Fishing mainly in ICES VIIIabd
- Targeting demersal species (Monkfish, megrim, hake, squids, red mullet,...)
- Discarded species: Horse mackerel, mackerel and blue whiting

The trawl

- Footrope length 80-90-100 m
- Floatline height 1.8-2.4 m
- Wingspread 22-26 m
- Towing speed 4 knots
- Codend mesh size 70 mm
- Mandatory 100 mm Square Mesh Panel



The pair trawl Fishery

- 4 vessels, 2 fishing units (37- 39 m)
- Fishing only in ICES VIIIabd
- Targeting Hake (> 80% of the catches & > 90% of the landings)
- Discarded species: Horse mackerel, mackerel and blue whiting

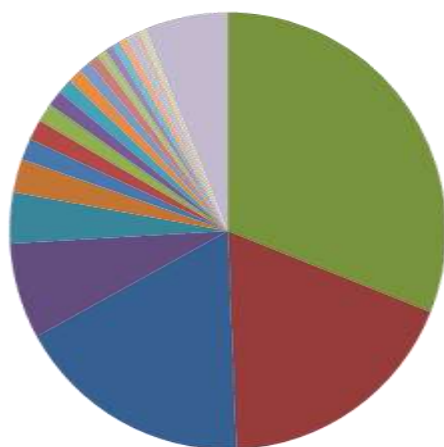
The trawl

- Footrope length 200 m
- Floatline heith 30 m
- Wingspread 100 m
- Towing speed 2 knots
- Codend mesh size 100 mm

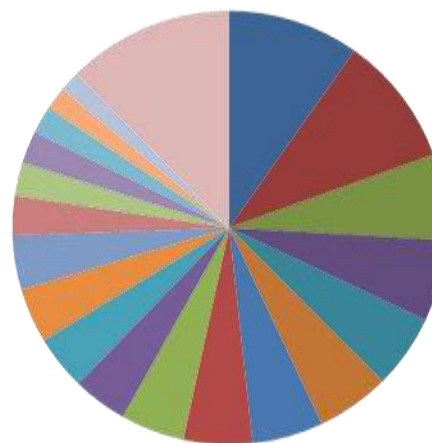


- **Discards:** - Horse mackerel, dogfish, mackerel and blue whiting > 70% of total discarded weight.
- 78 species; 57 of them included in “**other species**”
- **Landings:** - 67 species. Very mixed-species fishery. Main target species: Hake, Monkfish and Megrim.

DISCARDS 2010-2012



LANDINGS 2010-2012



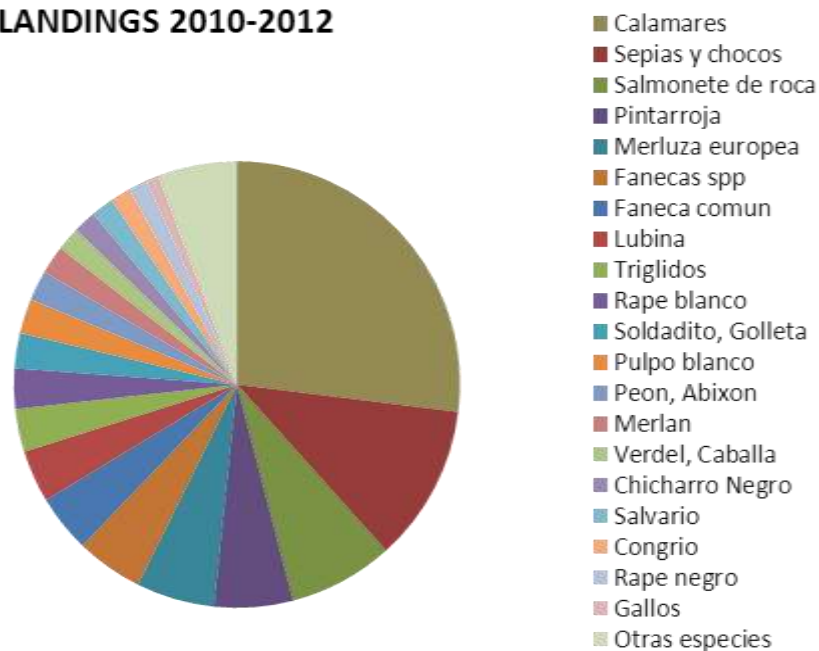
BAKA Fishery: *metier* Mixed Cephalopod & Demersal

- **Discards:** - Horse mackerel and Mackerel >60% of total discarded weight.
- 89 species discarded (including invertebrates)
- **Landings:** - European squid, common cuttlefish and striped red mullet \approx 50% of landings
- 70 species (including invertebrates)

DISCARDS 2010-2012



LANDINGS 2010-2012



Fleet situation regarding discards

According to new EU policy and the fleet exploitation pattern referring to discards. Discard ban could be a threat for the fishing activity.



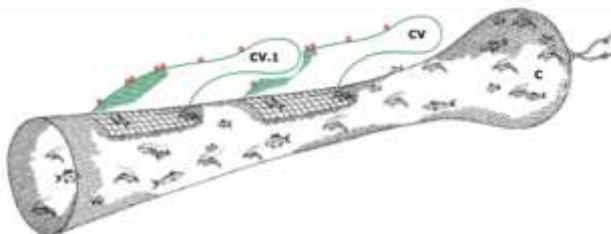
Solutions were needed

In 2008 OPPAO Fishermen Organization required from AZTI to start a project dealing with discard reduction, focused on commercial species. All experiments were carried out in commercial fishing conditions.

Methodologies used



2009-2011: fish behaviour & trawl selectivity



2011: alternative discard reduction devices



2012: Square Mesh Panel (SMP) effect on escapement

Cruise 2012

Escapement rate through SMP window (100 mm)

	Hake		Red mullet		Pout		Anchovy		Blue whiting		Horse mackerel	
	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%
Codend	6.238	96	268	100	498	100	799	38	57.272	65	906	81
SMP (Window)	278	4	1	0	0	0	1.308	62	30.621	35	209	19

Conclusions

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- Multispecies fisheries, some of them with so many species.
- Species I escapement, nevertheless (fish species) have been
- Pelagic species through SMP (Set on the top
- Turbidity i our.
- Technical studied and identified the metier characterization of

Questioning the effectiveness of technical measures implemented by the Basque bottom otter trawl fleet: Implications under the EU landing obligation



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Original Article

Efficacy of selective devices in reducing discards in the *Nephrops* trawl fishery in the Bay of Biscay

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- **Since 2015 working on pair trawls.**
- **Selectivity assesment and discard reduction.**
- **Starting with SMP and juvenile Hake escapement.**
- **Asses on the effect of light on SMP for hake and other species (pelagic species).**
- **We expect to improve the discard reduction efectiveness of the SMP (using light or other technics)**
- **Some experiments on discard survival will be carried out for the species with high survival potential.**

A large fishing net is being pulled in from the sea at sunset. The net is dark and occupies the left and center of the frame. The sun is a bright orange circle on the horizon, casting a warm glow over the water and the sky. The sky transitions from orange near the horizon to a pale blue at the top. The water is dark with some ripples. The text "Thank you for your attention" is overlaid in a bold, blue, sans-serif font with a slight shadow effect.

**Thank you
for your attention**