

Main characteristics of bottom trawl fleet:

-ca. 280 (< 24 m) and 120 (> 24 m)
(400 – 1300 HP)

-Distant trawler can be roughly classified in the two operational units:

1. Deep water rose shrimp fisheries
(Operational deep range: 100 – 400 m, targeting: *Parapenaeus longirostris*, *Nephorps norvegicus*, *Merluccius merluccius*).

2. Red Shrimp fisheries
(Operational deep range: 400 – 800 m, targeting: *Aristaeomorpha foliacea* and *Aristeus antennatus*)



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Case Study 1.5 Bottom trawl crustacean fisheries in Sicily

Target species: *Parapenaeus longirostris*

By-catch species: *Trachurus* spp; *M. merluccius*;



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RIA •634495



Some considerations on the crustacean trawler fishery in the Strait of Sicily



- Deep water crustaceans fisheries is the most important for catch and values;
- Deep water rose shrimp, *Parapenaeus longirostris* (DPS) was more than 40% of the total landing of bottom trawling in the Strait of Sicily in 2015, being the yield about 6150 t with a value of about 39 million of euros;
- The main commercial by catch is the European Hake, *Merluccius merluccius* (HKE), (a mean Yield of 1440 t in 2012-2014 – about 8 million of euros in 2014);
- According to recent assessment the stock is in overfishing with intermediate level of relative biomass. A reduction of the Fishing mortality (F_c) between 20 and 30% should be pursued;
- According to the different fishing grounds discard ranged between 25 and 40% of the total catch (Milisenda et al., 2017).

The overall goal of our case-study is to decrease the current unwanted catches of juveniles and by-catch species



i) involving fishers through a multi-actor participatory approach.

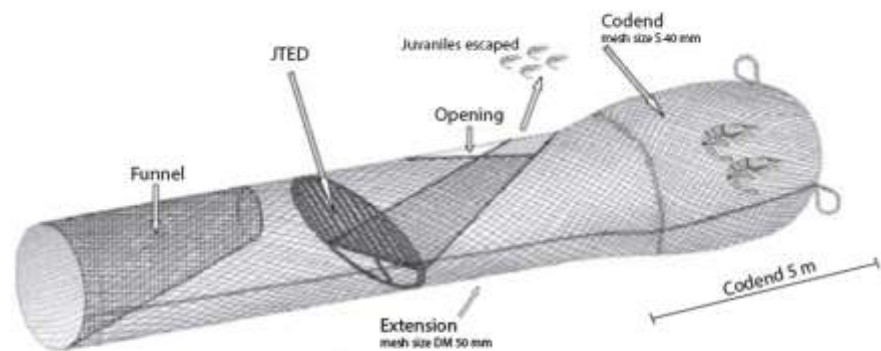
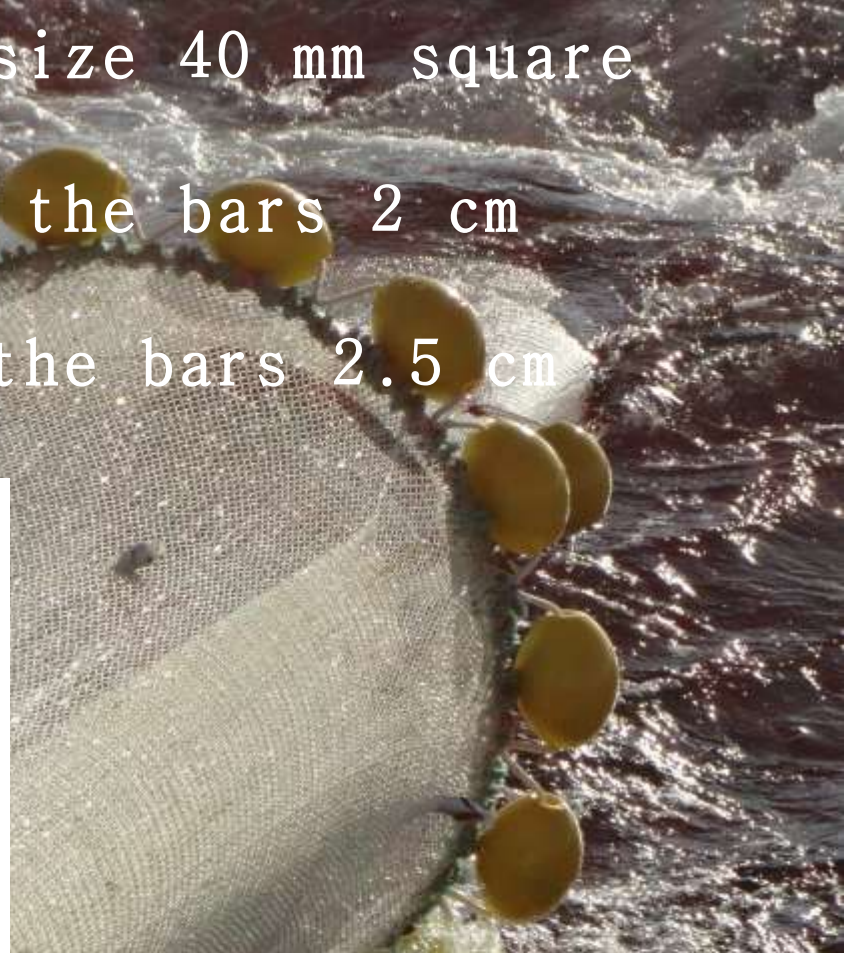
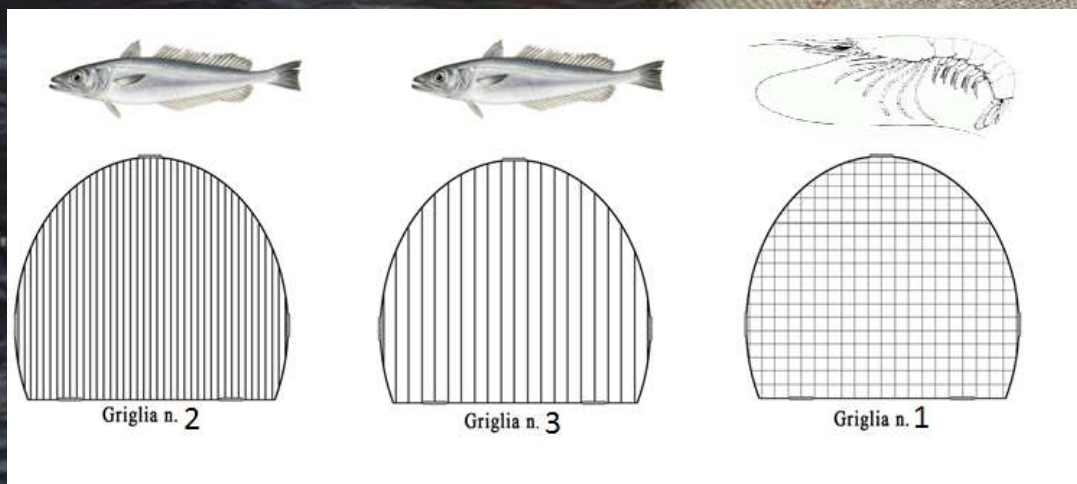
ii) testing modified standard commercial bottom trawl nets by using sorting grid separators and separator panels in crustacean fisheries;

iii) analyzing time-series of trawl survey data, georeferenced commercial landings, VMS/AIS data;

Grid 1: Steel & Net, mesh size 40 mm square

Grid 2: Steel, space among the bars 2 cm

Grid 3: Steel, space among the bars 2.5 cm



Testing modified standard commercial bottom trawl nets by using sorting grid separators and separator panels in crustacean fisheries

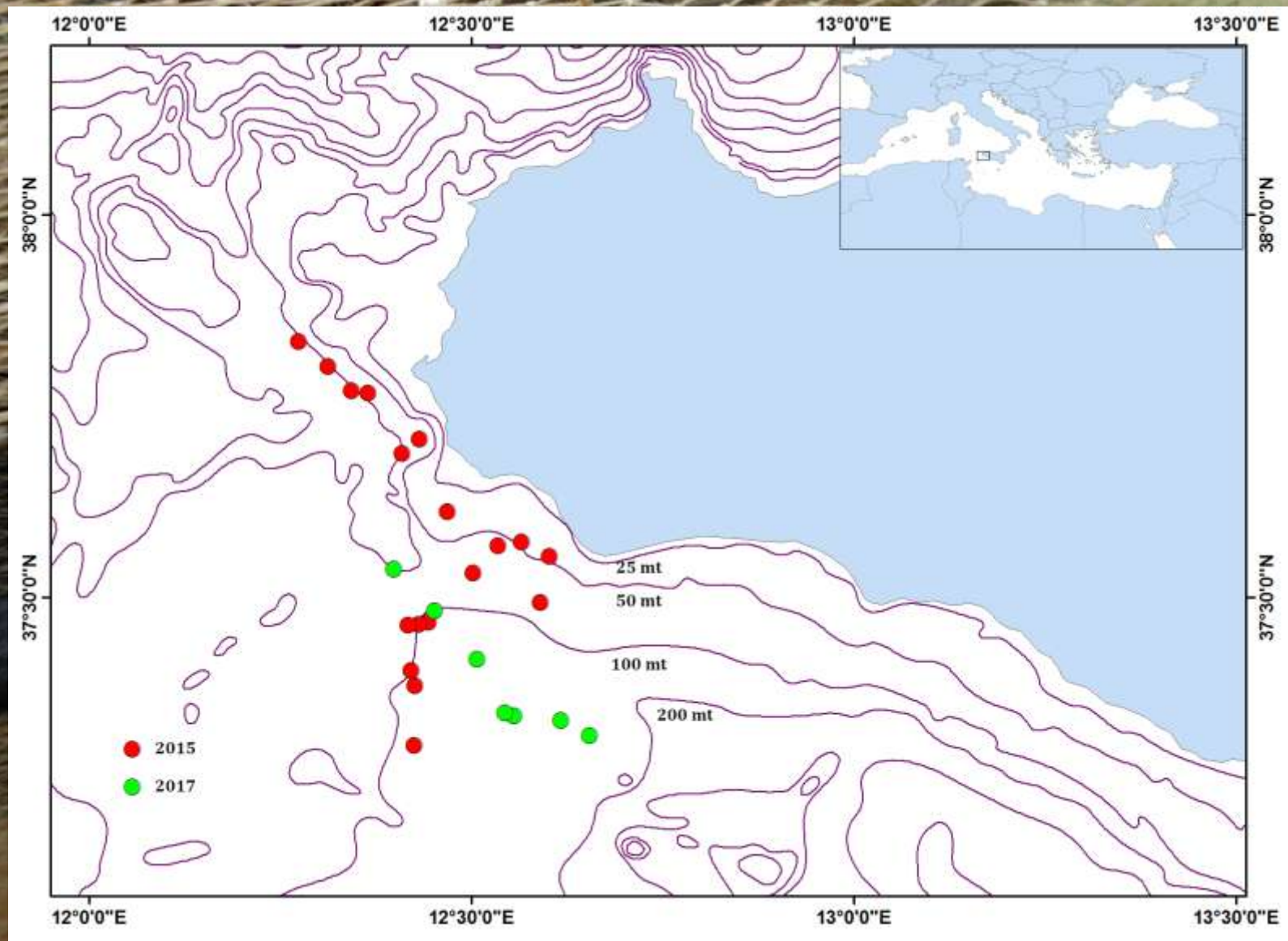


DAY	DATE	GRID	HAUL 1	HAUL
1		Grid-net S40 - (A)	1.A.1	1.A.2
			:	:
2		no grid - (B)	2.B.1	2.B.2
			:	:
....		Grid-Steel bar - (C)C.1	...C.2
			:	:
....		Grid-net S40 - (A)	...A.1	...A.2
			:	:
....		no grid - (B)	..B.1	...B.2
			:	:
....		Grid-Steel bar - (C)C.1	...C.2
			:	:
Initial Lat. haul				
Initial Long. haul				
Final Lat. haul				
Final Long. haul				

- Grids: 2, 3 (for hake)
- Grid 1 (deep-water rose shrimp)
- Survey at sea: 8 days - November 2015 - Total number of hauls 48
- Survey at sea: 7 days -September 2017 - Total number of hauls 47



Sampling areas

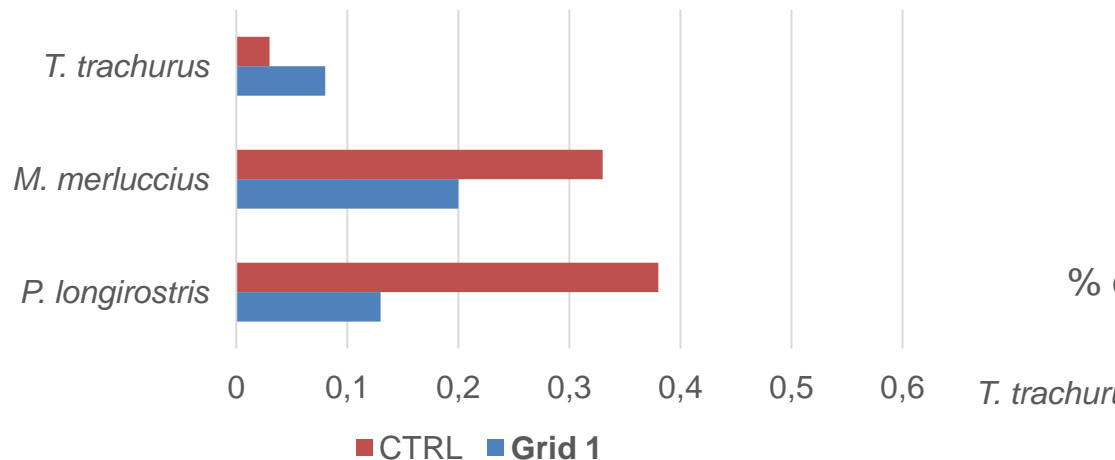


Testing modified standard commercial bottom trawl nets by using sorting grid separators and separator panels in crustacean fisheries

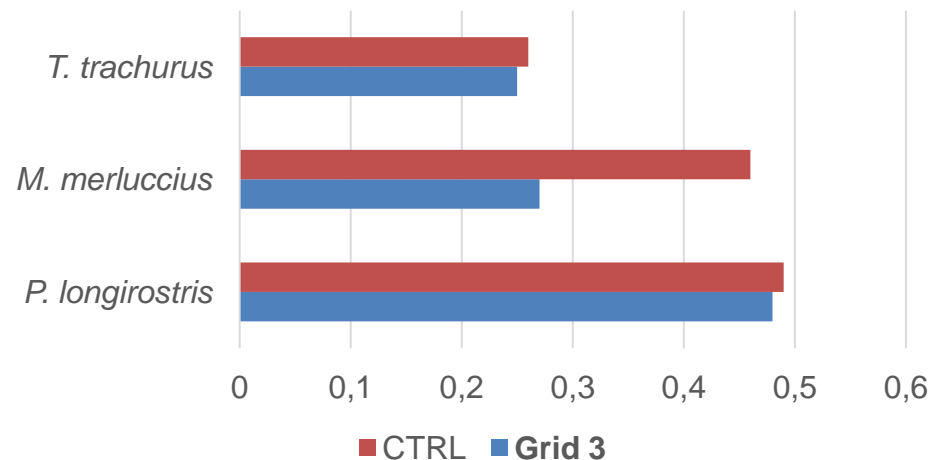


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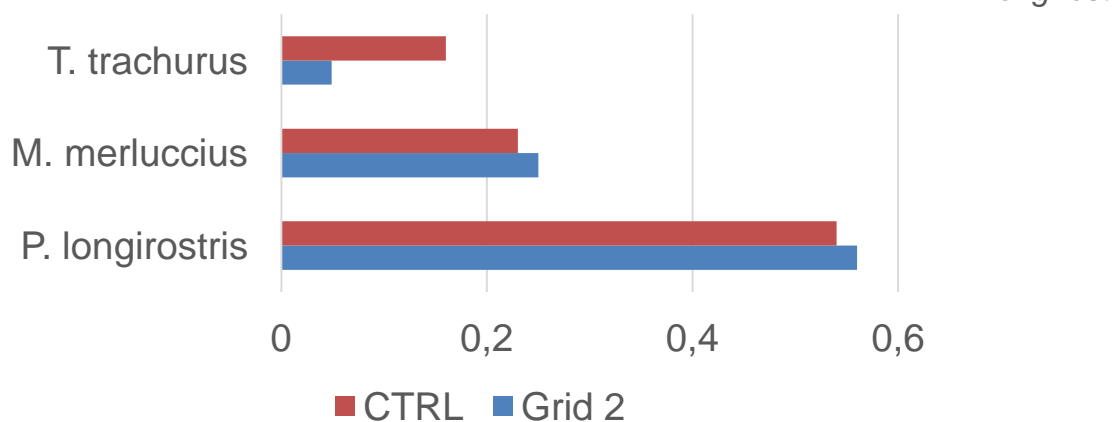
% of specimen < MCRS in the cod-end



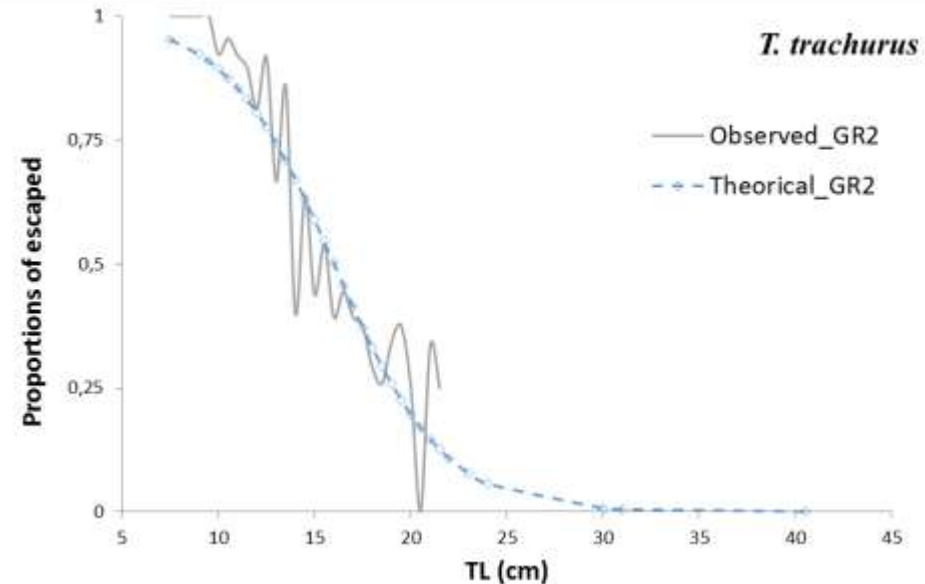
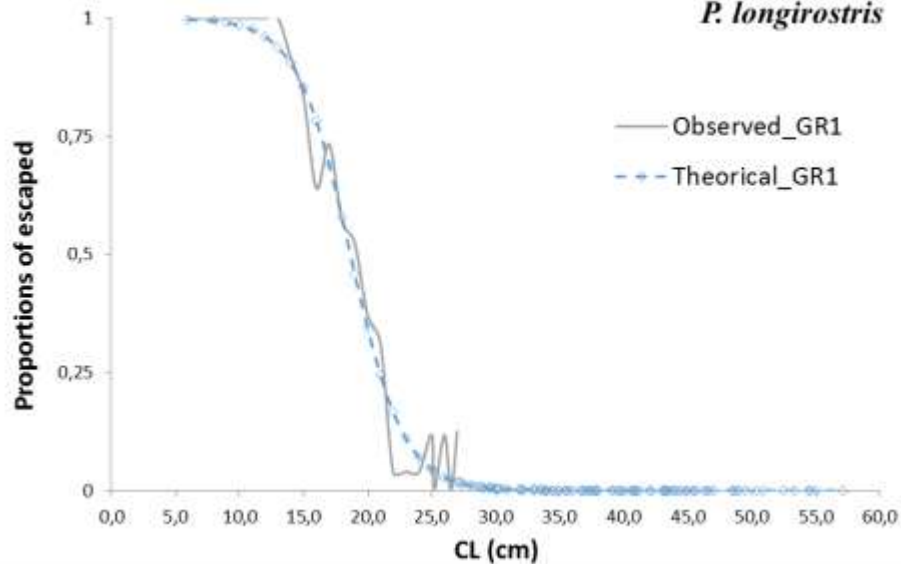
% of specimens < MCRS in the cod-end



% of specimen < MCRS in the cod-end



Ogive of escaped



	GR1	GR2	GR3	MLS
MINOUW - CS 1.5	L50%	L50%	L50%	
<i>P. longirostris</i>	18.7			20
<i>M. meluccius</i>	151.6	168.0	196.3	200
<i>T. trachurus</i>	156.8	160.2	164.2	150
<i>M. barbatus</i>		137.8		110

Comments



- The preliminary results of the case-study highlighted that the grid 1 resulted the best device for the reduction in the catch of DPS and HKE juveniles.
- The data collected during the last survey (September 2017) will be useful to improve and better understand grids performance at different depths, fishing grounds and seasons.
- The experiment demonstrated the sorting ability of the device and its potentiality in the reduction of unwanted catches in deep water shrimp fisheries.

The MINOUW Consortium



Beneficiaries:



Linked parties:



<http://www.minouw.icm.csic.es>

Thank you ;)

