Antonello Sala a.sala@ismar.cnr.it

Pilot project catch and discard composition including solutions for limitation and possible elimination of unwanted by-catches in trawl net fisheries in the Mediterranean (DISCATCH)

Welcome and Opening Speech

Adoption of the Meeting Agenda

Appointing a rapporteur(s)

Voluntary rapporteurs: Jure Brcic (UNIST), Massimo Virgili (CNR), Erika Monnati and Rosa Caggiano (MEDAC/RACMED)

Adoption of the Meeting Agenda

Hour	Description	
09:30-09:45	Welcome and Opening Speech	RC (MEDAC)
09:45-10:00	Presentation of the Consortium	AS (CNR)
10:00-10:30	Overview of the DISCATCH project	AS (CNR)
10:30-11:00	WP 1. Review and analysis of scientific papers and technical reports on discards quantities, composition, practices and mitigation tools in the Mediterranean	VV (HCMR)
11:00-11:15	Coffee break	
11:15-11:45	WP 2. Data Collection Framework analysis	AS (CNR)
11:45-12:15	WP 3. Predicting commercial yields, discards rates and selectivity by towed gears from fishing gear characteristics: PRESEMO	AS (CNR)
12:15-13:00	Debriefing	RC (MEDAC) AS (CNR)
13:00-14:00	Lunch	
14:00-15:00	Questionnaire on discard: group work	*All participants*
15:00-16:00	Questionnaire analysis and comments: open discussion	AS (CNR)
16:00-16:15	Coffee break	
16:15-17:00	Meeting debrief	*All participants*

Presentation of the DISCATCH Consortium: Institutes and key main investigators

Partner 1 (CNR): Consiglio Nazionale delle Ricerche

Antonello Sala. Leader of WP0 and WP3

Alessandro Lucchetti. Leader of WP5

Massimo Virgili: Participant in WP1, WP3, WP4, WP5 and WP6

Fabio Fiorentino. Participant in all the WPs

Sergio Vitale. Leader of Task 3.1

Partner 2 (HCMR), Hellenic Centre for Marine Research

Vassiliki (Celia) Vassilopoulou. Leader of WP1

Athanassios Machias. Leader of Task 3.7

Konstantinos Tsagarakis. Leader of Task 1.2, Task 4.2

Presentation of the DISCATCH Consortium: Institutes and key main investigators

INSTITUTO ESPAÑOL DE OCEANOGRAFÍA

Partner 3 (IEO), Instituto Español de Oceanografía

Jose Mª Bellido. Leader of WP2

Enric Massuti. Leader of Task 3.6

Ana Carbonell. Leader of Task 2.1

Partner 4 (UNIST), University of Split, Dept. of Marine Studies

Svjetlana Krstulović Šifner. Participant in WP1 and WP3

Jure Brčić. Participant in WP1 and WP3

Presentation of the DISCATCH Consortium: Institutes and key main investigators

Partner 5 (COISPA), COISPA Tecnologia & Ricerca

Giuseppe Lembo. Leader of WP 4

Isabella Bitetto. Leader of Task 2.2 and 2.3

Pierluigi Carbonara. Participant in WP4

Maria Teresa Facchini. Participant in WP4

Maria Teresa Spedicato. Leader of Task 4.1

Partner 6 (RACMED), Ass. Cons. Consult. Reg. Medit.

Rosa Caggiano. Leader of WP6

Erika Monnati. Participant in WP6

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Overview of the DISCATCH project

Structure of the DISCATCH project

WP1. Review and analysis of scientific papers and technical reports on discards quantities, composition, practices and mitigation tools in the Mediterranean

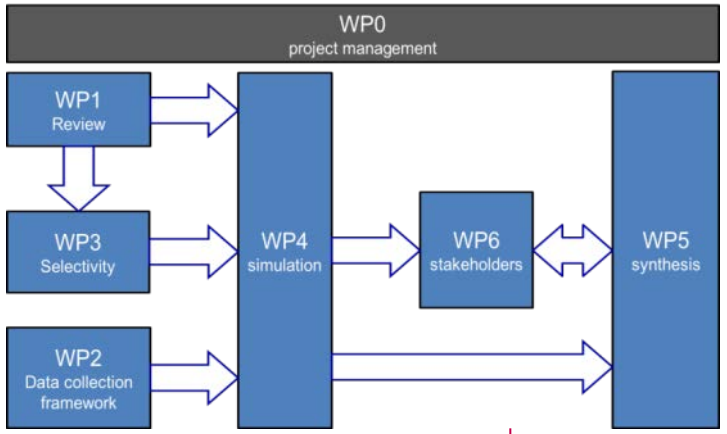
WP2. Data Collection Framework analysis *(improve DCF data analysis, Bayesian spatial modelling of discards and catches)*

WP3. Predicting commercial yields, discards rates and selectivity by towed gears from fishing gear characteristics

WP4. Quantifying and modelling catch and discard composition in trawl net fisheries

WP5. Framework and synthesis *(collect, homogenize, integrate and analyse the information obtained in the other WPs)*

WP6. Establishment of stakeholders' platform and project information management *(communication to the wider public).*



The Project Advisory Committee (AC)

- high level international experts and stakeholders;
- Chaired by Marie-Joëlle Rochet (IFREMER, France);
- Hans Polet (ILVO, Belgium);
- an expert nominated by the RAC:

  Dr. Susana Sainz-Trapaga (Fisheries Advocacy Officer, WWF Mediterranean Programme Office, Barcelona (www.panda.org/mediterranean)
- not directly involved in project tasks;
- review the project progress and advice the consortium on the project direction.

The Multi stakeholders' platform

- appropriate representation and taking into account the main key players (mainly fishermen) in the fishery sector (Mediterranean demersal and pelagic trawl fisheries);
- approximately 14 participants, and validated during the first project meeting;
- open to other participants, along the project, in consideration of other relevant platforms involving.

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Pilot project catch and discard composition including solutions for limitation and possible elimination of unwanted by-catches in trawl net fisheries in the Mediterranean (DISCATCH)

Predicting commercial yields, discards rates and selectivity by towed gears from fishing gear characteristics (WP3)

Specific objectives of WP3

WP3 Leader: Antonello Sala, Partner 1 (CNR).

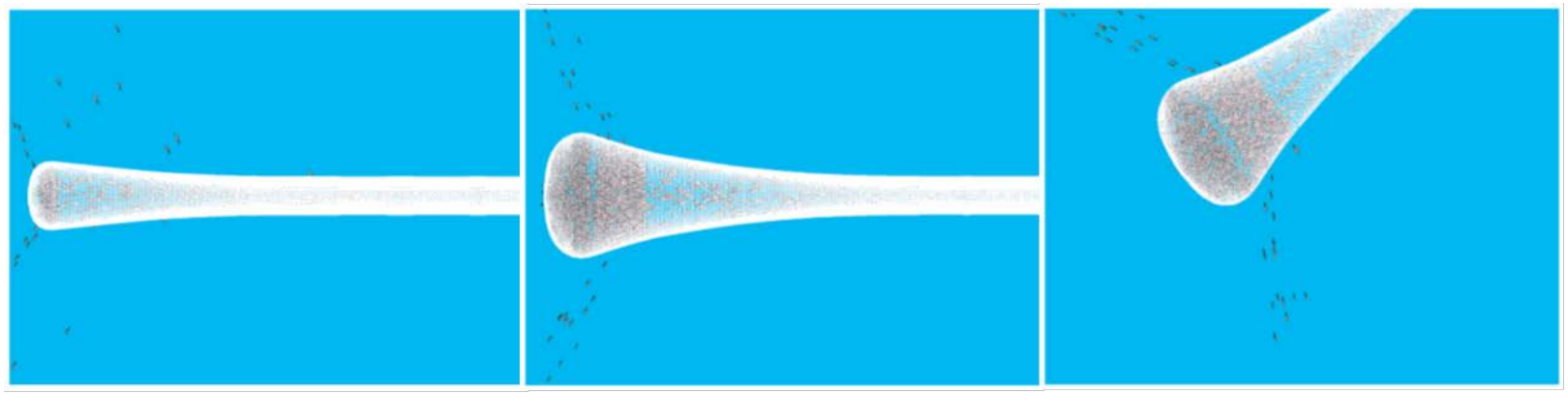
Participants: Partner 1 (CNR), Partner 2 (HCMR), Partner 3 (IEO), Partner 4 (UNIST), Partner 5 (COISPA).

To predict the expected size selectivity of a range of species for many different codend constructions (e.g. mesh sizes, mesh type, twine thickness);

To validate the model results using selectivity data from both the pelagic- and demersal fisheries.

FISHSELECT: simulation of the size selective properties for nettings with arbitrary mesh shape and size for different fish species;

PRESEMO: simulation of the catch and escapement processes in codends during trawling while accounting both for fish behaviour and the dynamic coupling between netting geometry and escapement potential of the netting.



Proposed fisheries and species being investigated

Demersal trawl fisheries		
Country	Sub-region / fisheries	Species
Italy	Continental shelf and the upper slope in the Strait of Sicily (GSA16)	ARS, DPS, HKE
Italy	South Adriatic (GSA18)	DPS, HKE, HOM, MUT, NEP
Spain	Continental shelf and the upper slope off Iberian Peninsula (GSA1, GSA6)	ARA, HKE, MUT
Spain	Balearic Islands (GSA5)	ARA, HKE, MUR
Greece	Aegean Sea (GSA22)	DPS, HKE, HOM, MUT,
Pelagic trawl fisheries		
Italy	North-Central Adriatic (GSA17)	ANE, PIL
Italy	Central-Southern Tyrrhenian Sea (GSA10)	ANE

ANE: anchovy (*Engraulis encrasicolus*); ARA: red shrimp (*Aristeus antennatus*); ARS: giant red shrimp (*Aristaeomorpha foliacea*); DPS: deep-water rose shrimp (*Parapenaeus longirostris*); HKE: hake (*Merluccius merluccius*); HOM: horse mackerels (*Trachurus spp*); MUR: striped red mullet (*Mullus surmuletus*); MUT: red mullet (*Mullus barbatus*); NEP: Norway lobster (*Nephrops norvegicus*); PIL: sardine (*Sardina pilchardus*).

Use of PRESEMO simulation for trawl design guides

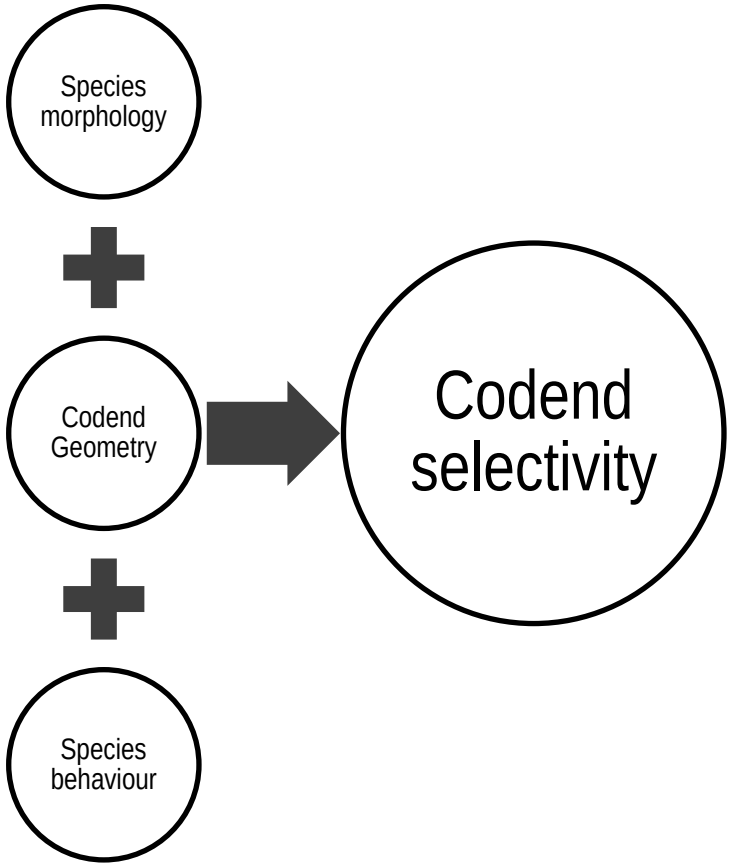
- OTB: quantification of the size selective properties of meshes of different shape and size for the species being investigated.

- OTM, PTM: mitigation of the sticking problems, judgement of the risk for stickers (fish which due to the impossibility of going completely through, become enmeshed while trying to pass through the netting) in different parts of a trawl.

Types of information needed in the selectivity simulation

To predict size selectivity of codends three types of information are needed:

1. Cross sectional morphology of the species being investigated;
2. Codend geometry during fishing including catch effect;
3. A calibrated behaviour model of the species in the codend.

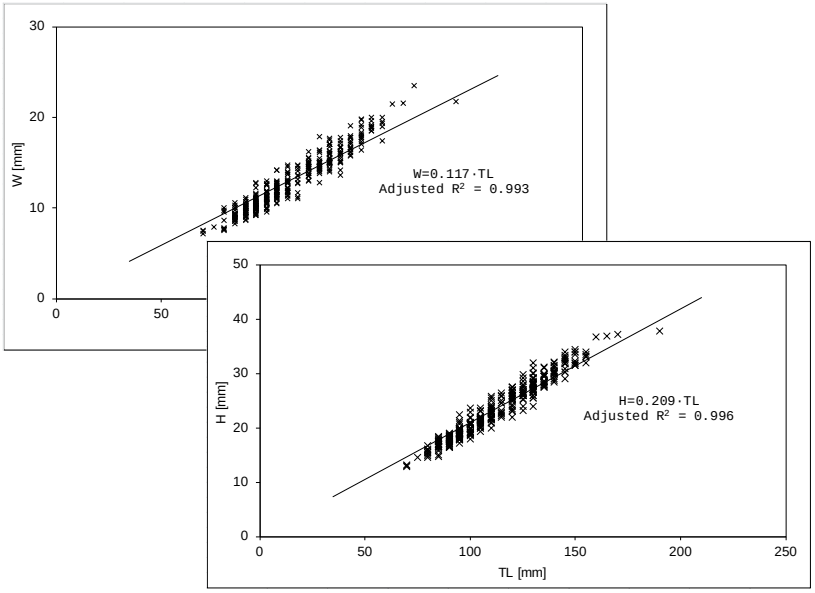


Cross sectional morphology data of the species being investigated (task 3.1)

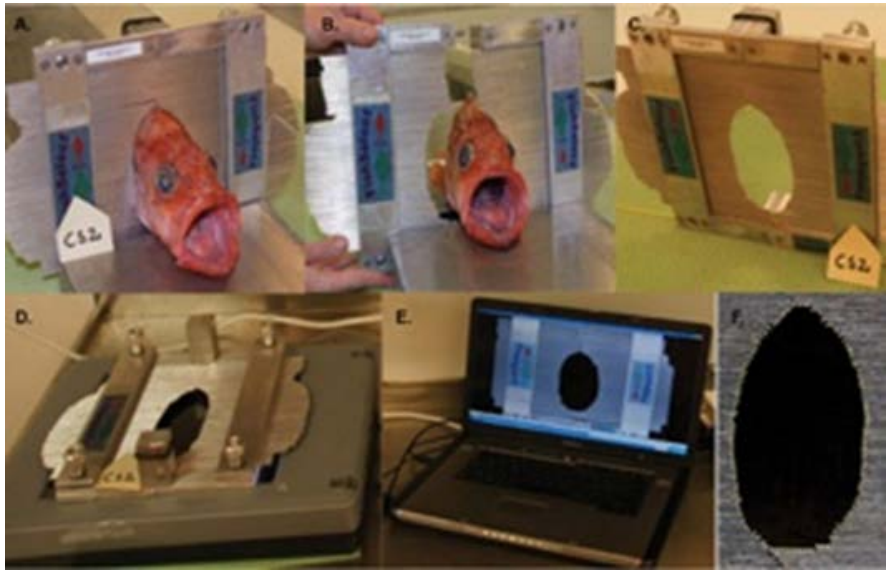
Task responsible: Sergio Vitale (CNR). Participants: CNR, HCMR, IEO, UNIST, COISPA.

Cross sectional size and shape for different length of the species being investigated.

Use of FISHSELECT tools and software if such data are not already available for the species of interest.



Courtesy of Sala et al. (Aquat. Living Resour. 19, 317–327, 2006).

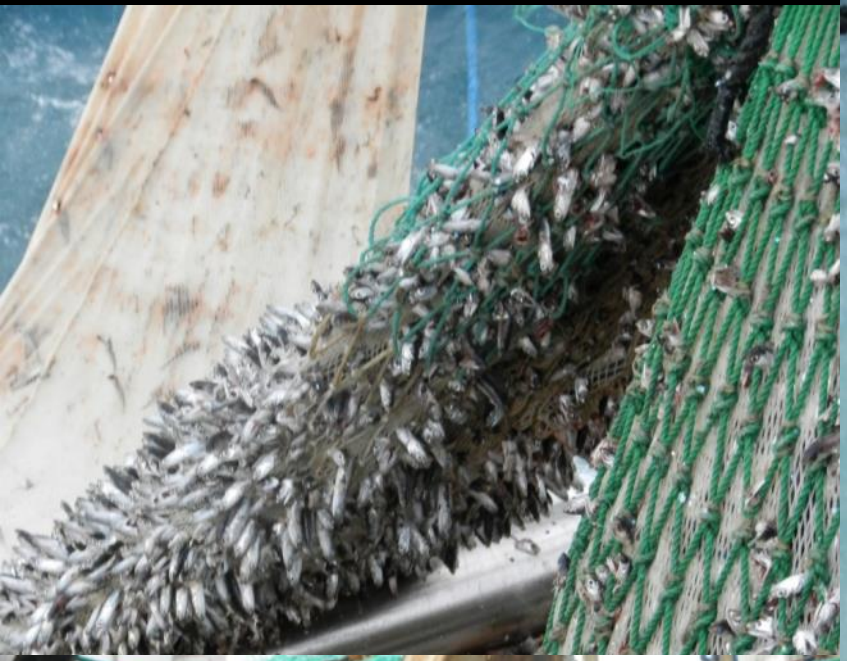


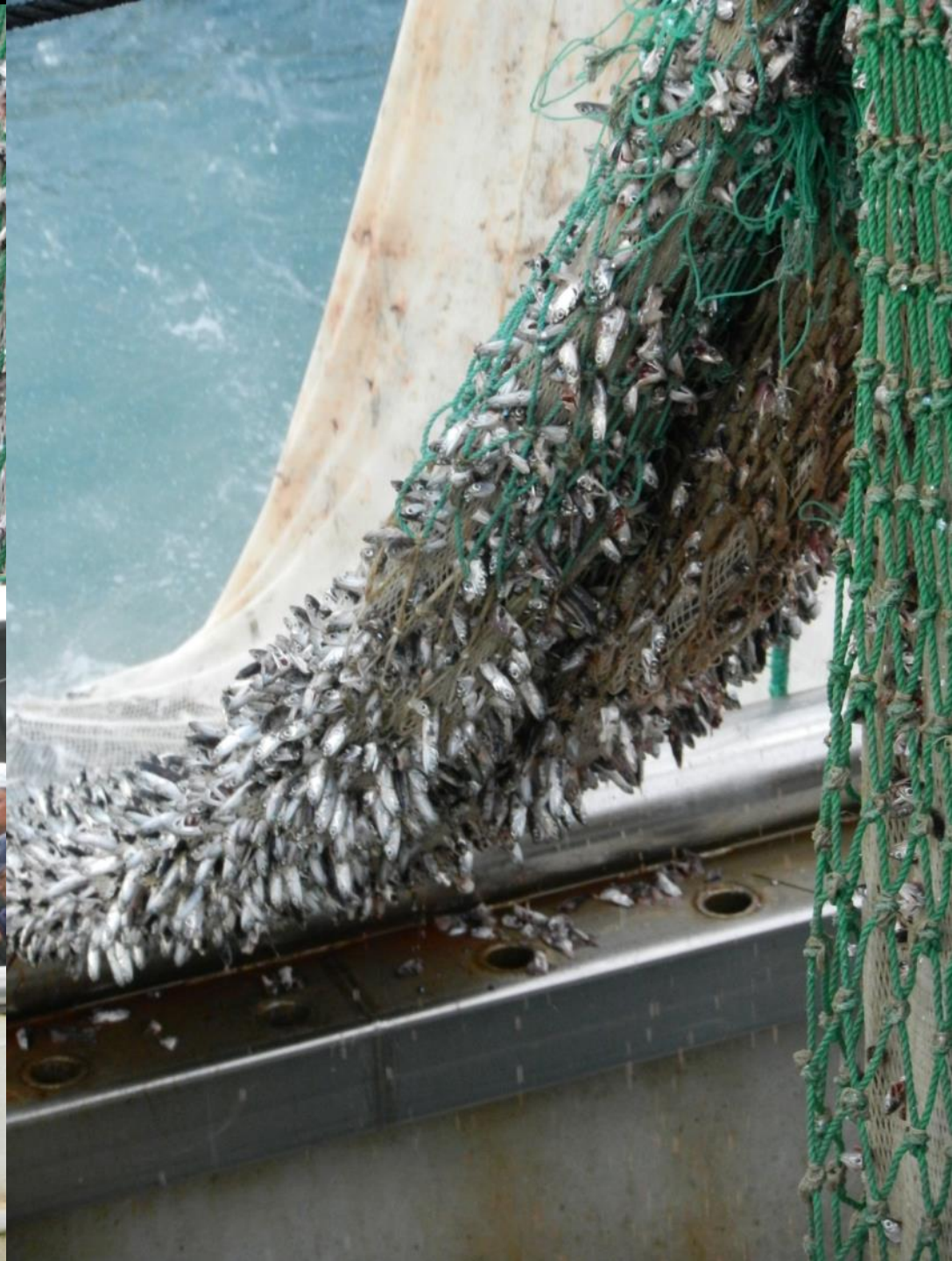
Main investigated technical codend parameters and their ranges of variation

Investigated parameters	Demersal fisheries	Pelagic fisheries
Mesh configuration	Diamond- Square-mesh (DM, SM)	Diamond mesh
Mesh size (Mesh opening)	40 - 50 mm	15 - 30 mm
Twine thickness (RTex)	1.5 - 4 mm (PA:1500-7000); (PE: 1600-10500)	1 - 1.5 mm
Nr. mesh around codend	DM: 100-450; SM: 100-350[a]	500 - 800
Mesh opening stiffness, *EI*[b] [MPA]	*(PA: 30 - 69); (PE: 155 - 444)*	*(PA: 25 - 30)*
Catch size	50 - 200 kg	100 - 5000 kg

(a): for square-mesh, use mesh bar for the calculation of the codend circumference.

(b): inferred from Sala et al. (2007).





Morphology data for species being investigated

Cross sectional morphology of the species being investigated

Pilot study

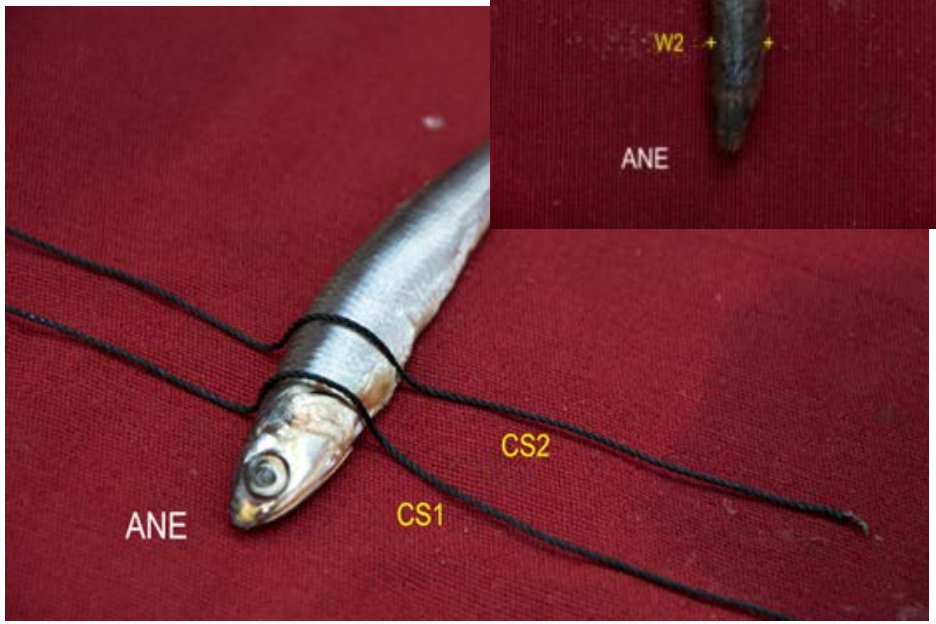
Measurement and estimation of fish shape

Fall-through experiments

Morphology data for species being investigated

Cross sectional morphology of the species being investigated

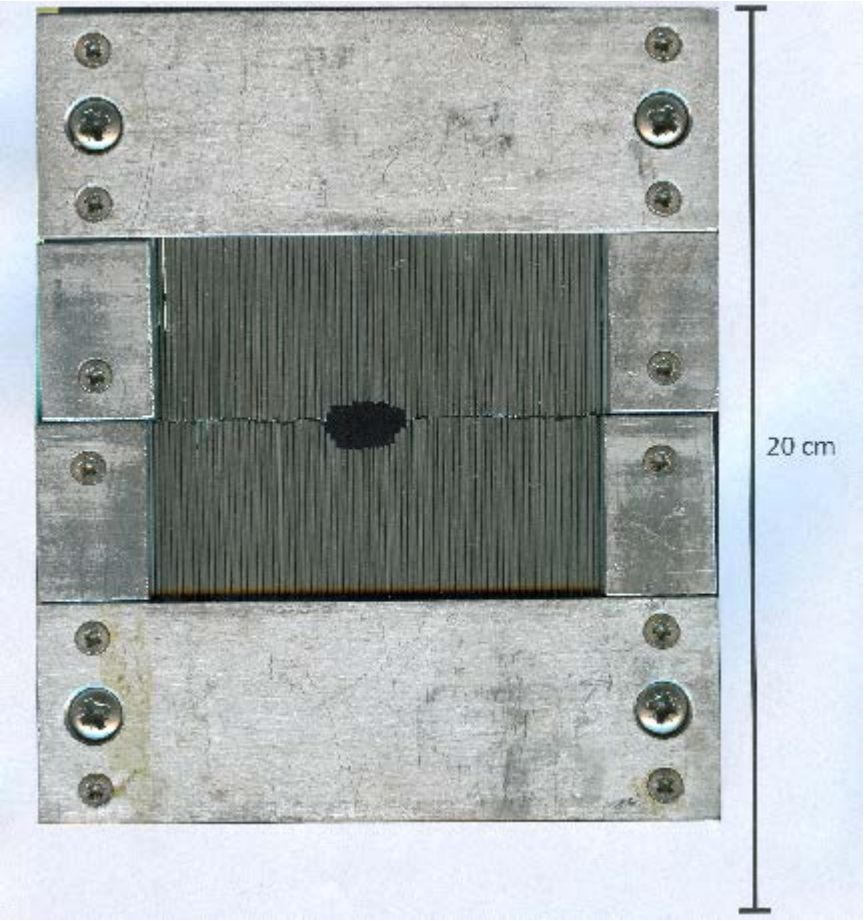
Measurement and estimation of fish shape

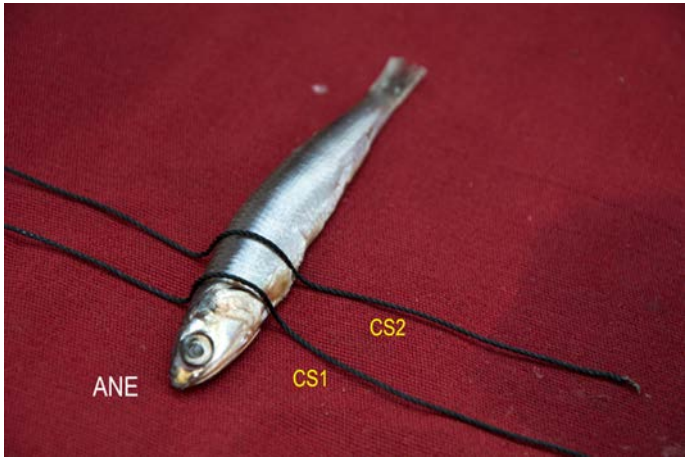


Morphology data for species being investigated

Cross sectional morphology of the species being investigated

Measurement and estimation of fish shape





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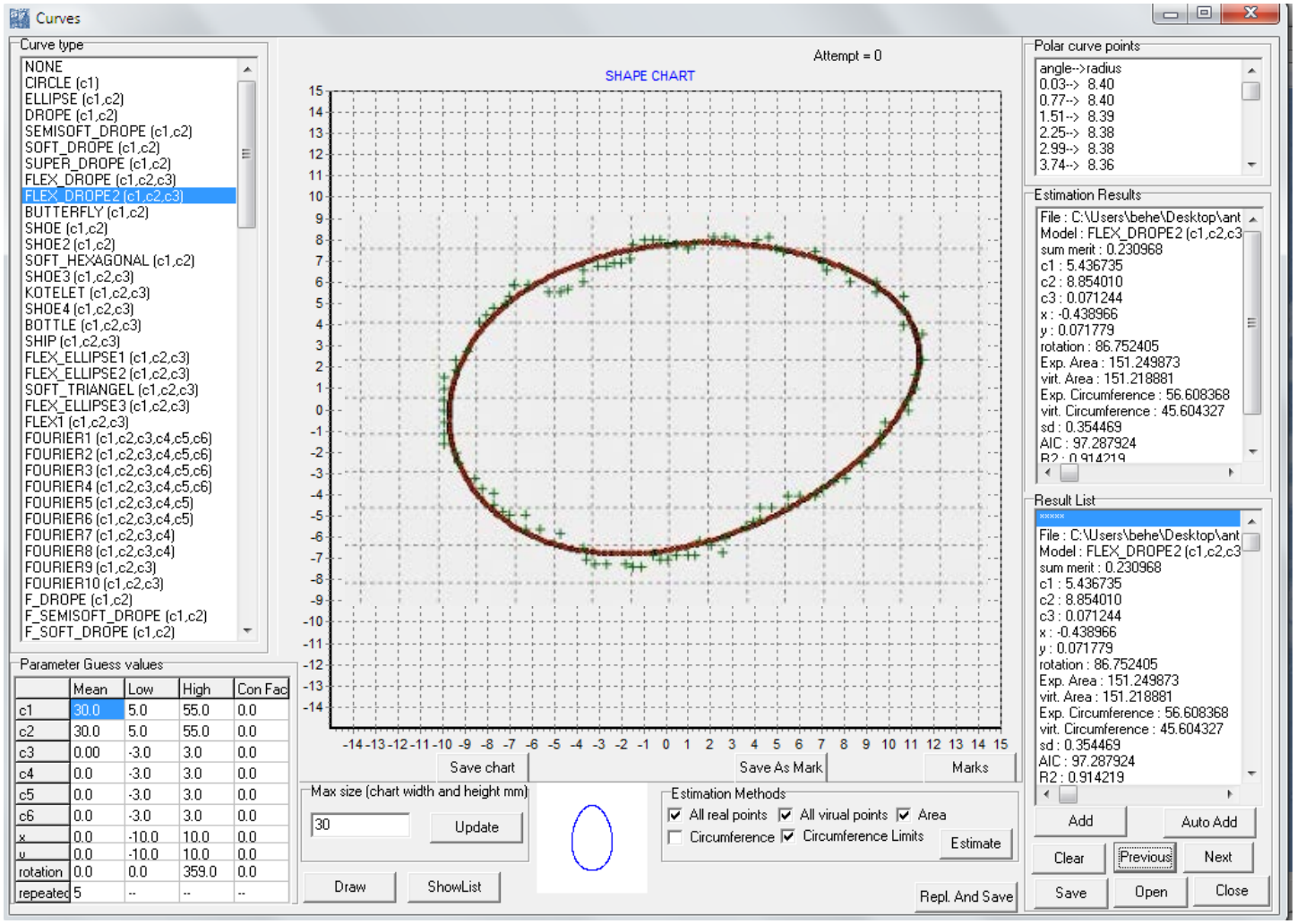

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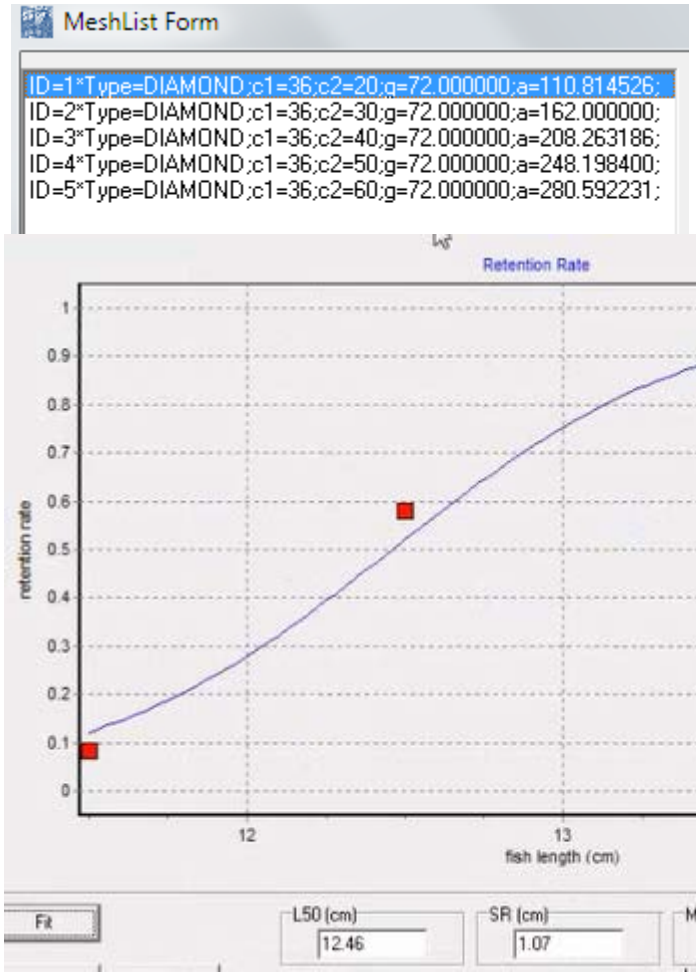
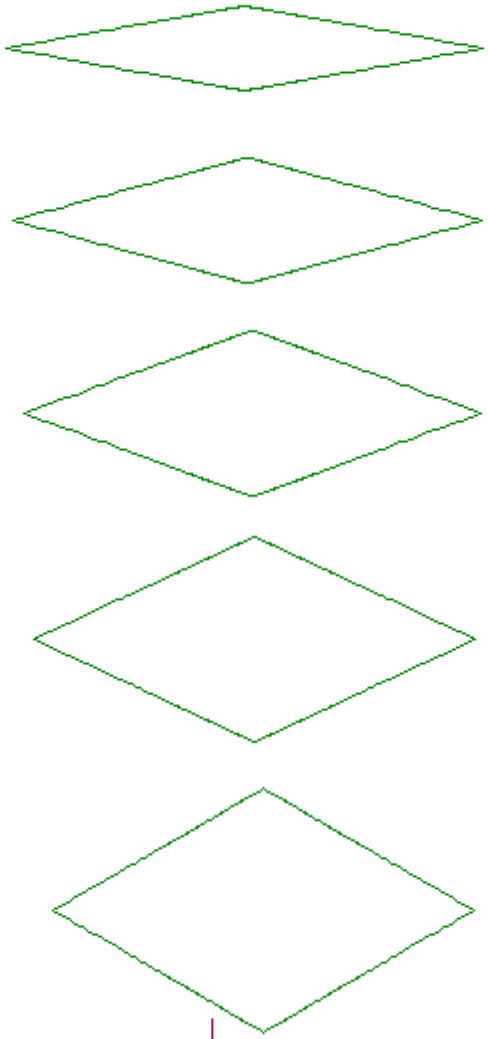
Cross sectional morphology of the species being investigated

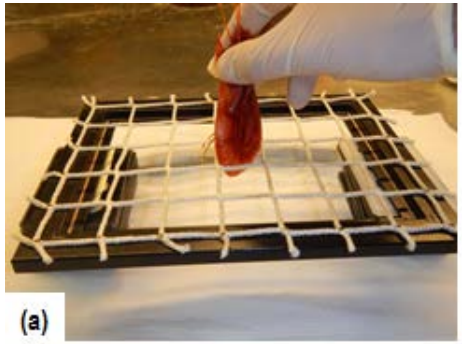


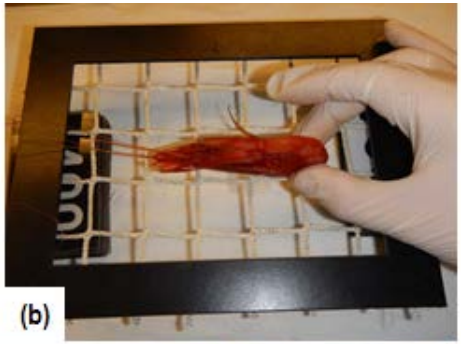


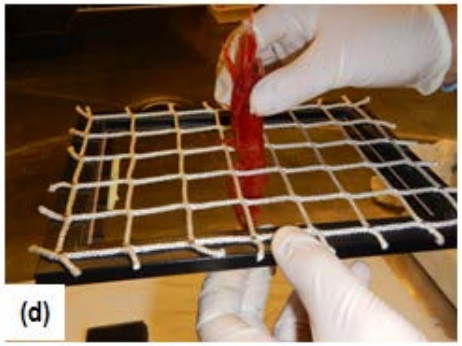
Morphology data for species being investigated

Cross sectional morphology of the species being investigated

Pilot study







Short pilot actions at sea to complement the existing information on selectivity

Task responsible: Enric Massuti (IEO). Participants: IEO.

Area

Balearic Islands

Actions

1. test of mid-water doors in bottom trawl gears (reducing fishing impact, fuel consumption and gear selectivity, by increasing the catchability of nekto-benthic species)
2. square-mesh panels of thinner, lighter and wider knotless Dyneema Ultra Cross square-mesh.

Experimental selectivity trials in the Greek bottom trawl fishery (task 3.7)

Task responsible: Athanassios Machias (HCMR). Participants: HCMR.

Area

Aegean Sea

Actions

Comparison of 40 mm square- with the 50 mm diamond-mesh

Task responsible: Alessandro Lucchetti (CNR). Participants: CNR.

Area

Northern Adriatic Sea

Actions

1. Mitigation of sticking problems by aiding gear design;
2. evaluation of the potential offered by appropriate design optimisations to reduce the risk for stickers (fish which due to the impossibility of going completely through, become enmeshed while trying to pass through the netting) in different parts of a trawl.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