"Fishing governance in MPAs: potentialities for Blue Economy 2" (FishMPABlue2 project)

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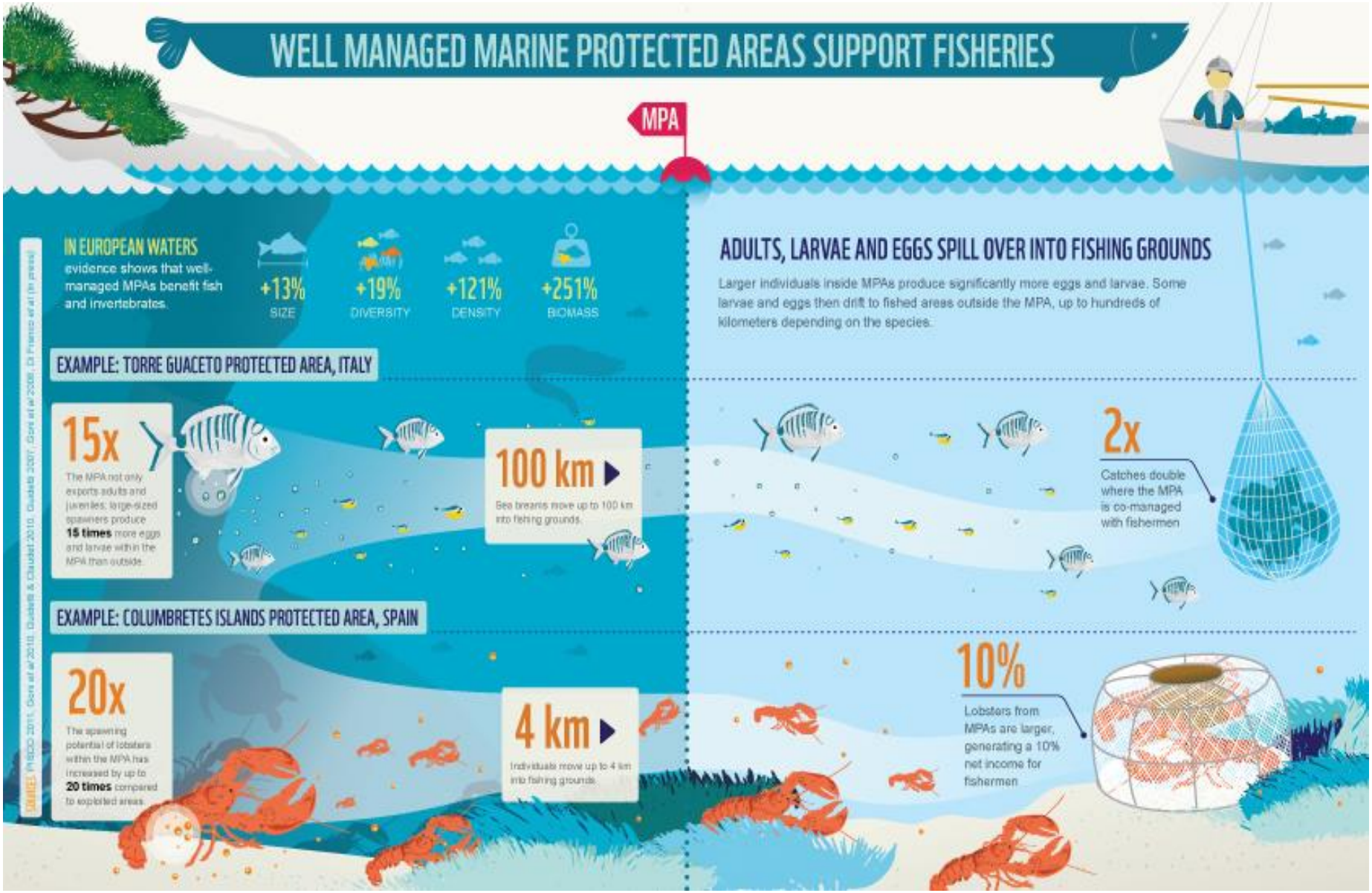
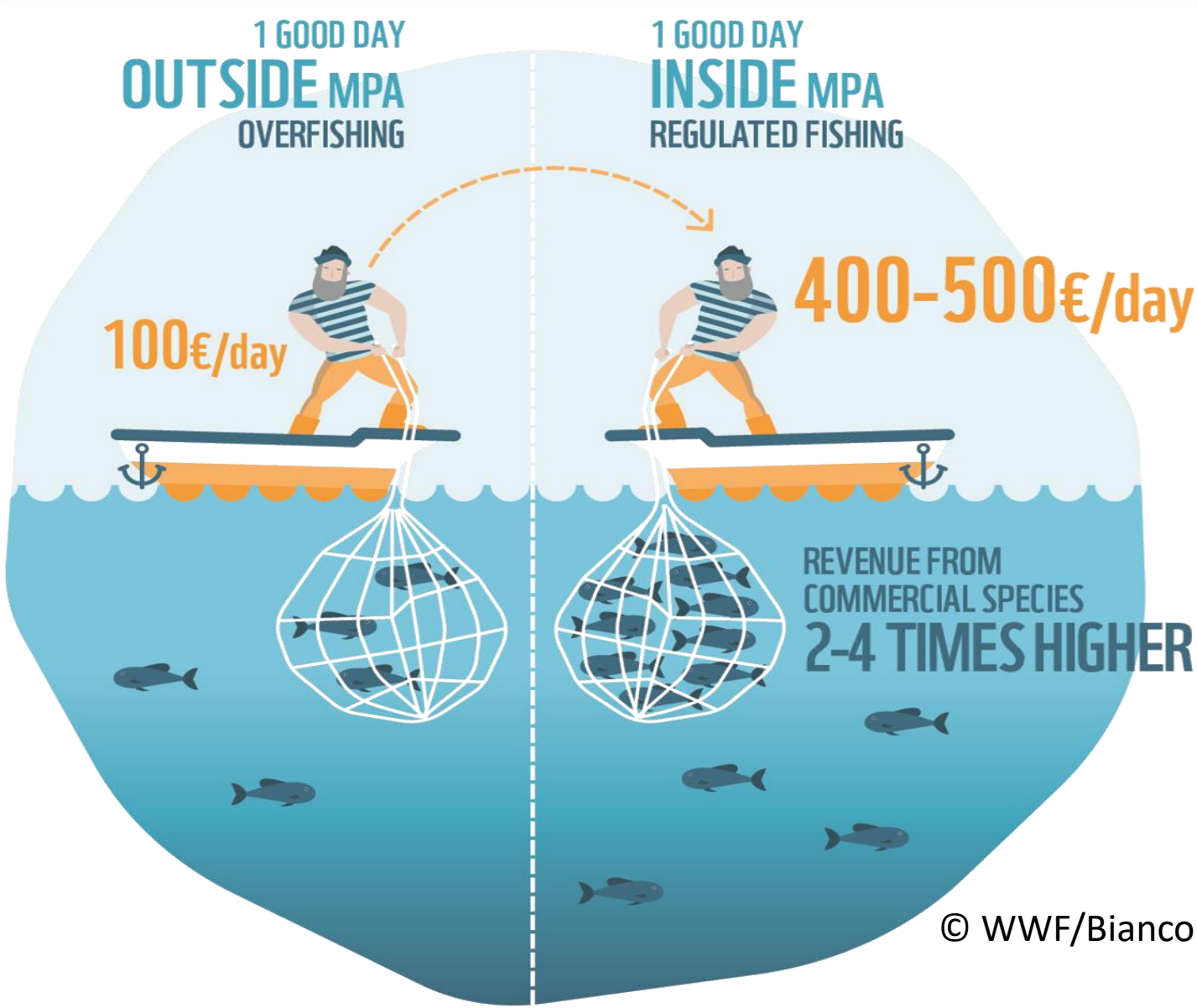
Assumption


WELL MANAGED MARINE PROTECTED AREAS SUPPORT FISHERIES
MPA
IN EUROPEAN WATERS
evidence shows that well-managed MPAs benefit fish and invertebrates.
+13% SIZE
+19% DIVERSITY
+121% DENSITY
+251% BIOMASS
EXAMPLE: TORRE GUACETO PROTECTED AREA, ITALY
15x
The MPA not only exports adults and juveniles; large-sized spawners produce 15 times more eggs and larvae within the MPA than outside.
100 km
Sea breams move up to 100 km into fishing grounds.
EXAMPLE: COLUMBRETES ISLANDS PROTECTED AREA, SPAIN
20x
The spawning potential of lobsters within the MPA has increased by up to 20 times compared to exploited areas.
4 km
Individuals move up to 4 km into fishing grounds.
ADULTS, LARVAE AND EGGS SPILL OVER INTO FISHING GROUNDS
Larger individuals inside MPAs produce significantly more eggs and larvae. Some larvae and eggs then drift to fished areas outside the MPA, up to hundreds of kilometers depending on the species.
2x
Catches double where the MPA is co-managed with fishermen
10%
Lobsters from MPAs are larger, generating a 10% net income for fishermen

Assumption (2)



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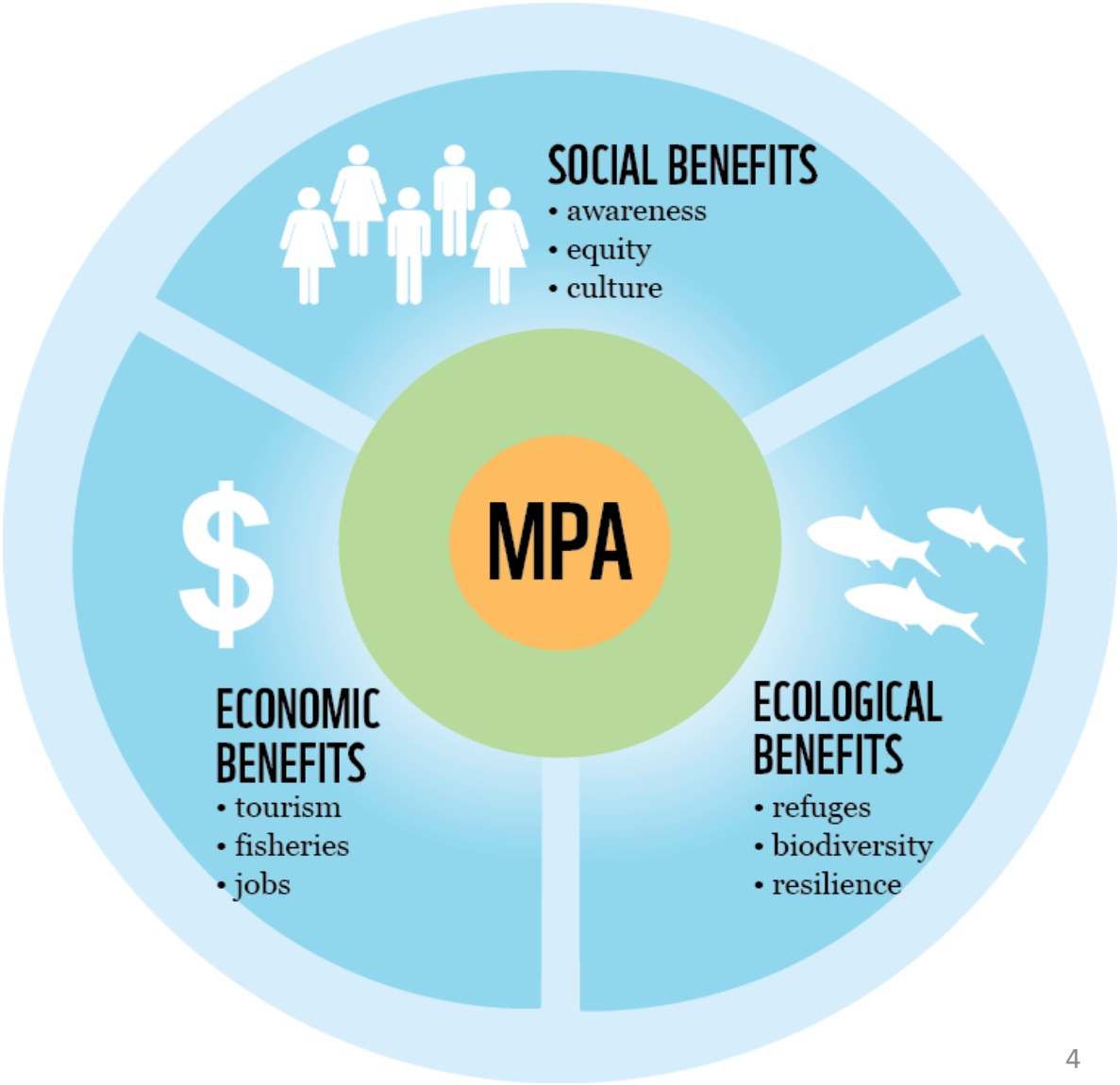
Assumption (3)

MPA benefits Small Scale Fishery (SSF) in its 3 components.

SSF is defined as "fishing carried out by fishing **vessel** of an overall **length of less than 12m** and **not using towed fishing gear**"



Partnership

Federparchi
FEDERAZIONE ITALIANA PARCHI E RISERVE NATURALI
EUROPARC SEZIONE ITALIANA

MedPAN

CoNISMa
Consorzio Nazionale Interuniversitario per le Scienze del Mare

WWF

Adria

Université Nice Sophia Antipolis

ECOMERS
Écosystèmes Côtiers Marins et Réponses aux Stress

WWF

Medpo

IUCN

APAM
GALPA ESTEREL COTE D'AZUR

Interreg Mediterranean
EUROPEAN UNION
Project co-financed by the European Regional Development Fund
FishMPABlue 2

Advisory Panel (Associates)

NAME OF THE ORGANISATION	COUNTRY	TYPOLOGY
GFCM-FAO	Italy	International Organization
Croatian Ministry of Environment and Energy	Croatia	National policy maker
MedWet	France	International Organization
French Biodiversity Agency	France	National Agency
RAC/SPA-UNEP	Tunisia	International Organization
Institute of the Republic of Slovenia for Nature conservation	Slovenia	National Agency
Spanish Ministry of Agriculture, Food and Environment	Spain	National policy maker
Greek Ministry of Rural Development & Food	France	National policy maker
Italian Ministry of Agriculture and fishery	Italy	National policy maker
CRPM	Belgium	International Organization

11 pilot MPAs from 6 countries

Overall Goal

To increase the capacities of Mediterranean MPAs to sustainably govern small scale fisheries

Specific Objectives

A. To **test** the "**Governance toolkit for small scale fishery**" in different typologies of MPAs, in order to have an upgraded version of it
B. To **disseminate** the **tested toolkit** among the maximum feasible number of Med MPAs
C. To enhance **integration** of principles and recommendations **in national and international policies** to ease informal/formal engagement of stakeholders in SSF management within MPAs

FishMPABlue1 results

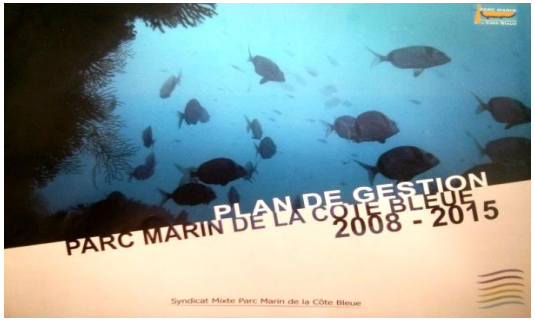
Five KEY-FEATURES potentially determining successful management of SSF in MPAs

1. Enforcement

2. Fishermen in the management board

3. Fisherman engagement

4. Activities promoting sustainable fishing



5. Management plan

Management tools tested in FishMPABlue2

MPA	MPA enforcement	Fishers engagement in decision making	Increase knowledge	Sustainable fishing	Raising awareness	Economic support
Egadi	**Involvement of 31 fishing vessels in patrolling**	10 meetings, 65% fishers participation	**Training on protected species**		Public event on sea biodiversity	
Torre Guaceto	Reducing fishing entries; 5 fishers	5 meetings, 100% fishers, **supporting MPA enlargement**	Training on protected species			
Portofino	9 fishers ; **NTZ on voluntary basis**	4 meetings, very few fishers				
Zakynthos	30% increase patrolling hours	3 meetings, 40% fishers	**IAS monitoring by fishers**	Ice machine		**local IAS consumption**
Es Freus	**Video-cameras**	3 meetings, 40% fishers				
Cabo de Palos	Hired one fishing vessel for patrolling	1 meeting, 40% fishers			**"raising awareness" trips**	
Cap Roux	*Garde jurè* (**MPA ranger**)	3 meetings, 90% fishers				
Cote Bleue	patrolling Increase in winter and night	2 meetings, 70% fishers				Valorization of local fish
Bonifacio		4 meetings, 80% fishers		**Traps for new species**		
Strunjan	Video-cameras; 9 fishers	Several meetings on the dock			Promotional videos	
Telascica	Territorial rights of use for fishers (**TURFs**)	2 meetings, 80% fishers, **SSF mgt Plan**	Training on pr. species	**Larger mesh size nets**		**"pesca-tourism"**

Feasibility of tested tools

Attribute	Tool	Cost	Time needed	local stakeholders involvement	MPAs that implemented the tool
Enforcement	increase of surveillance by MPA staff and infrastructure	€€	🕒🕒🕒	🚢🚢	6 (Cabo de Palos, Cote Bleue, Es Freus, Strunjan, Telascica and Zakynthos)
	increase of surveillance through the involvement of the local fishers	€€	🕒🕒🕒	🚢🚢🚢	8 (Cabo de Palos, Cap Roux, Cote Bleue, Egadi, Portofino, Strunjan, Telascica, Zakynthos)
	increase of surveillance through the cooperation with relevant authorities	€€	🕒🕒🕒	🚢🚢🚢	3 (Cap Roux, Cote Bleue, Torre Guaceto).
Fishers involvement in decision making	Creating collaborative platforms to engage fishers in decision-making	€	🕒🕒	🚢🚢	11 (Bonifacio, Cabo de Palos, Cap Roux, Cote Bleue, Egadi, Es Freus, Strunjan, Telascica, Torre Guaceto and Zakynthos)

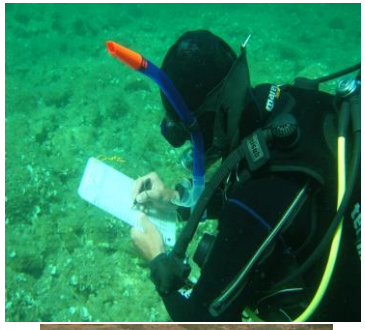
Upgraded «SSF Governance Toolkit»

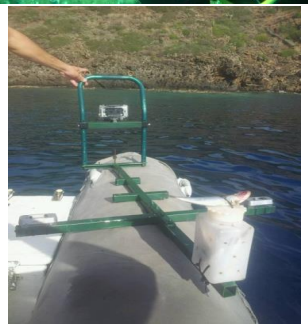
Theme 1	• Fishers involvement in decision-making
Theme 2	• MPA enforcement
Theme 3	• Knowledge & Ownership
Theme 4	• Environmental Sustainability of SSF
Theme 5	• Profitability of SSF

Multidimensional assessment

Assessment of SSF status in each MPA
before and after the implementation of the governance tools

Ecological Assessment





Economic assessment

Social assessment

Quick recap of the approach

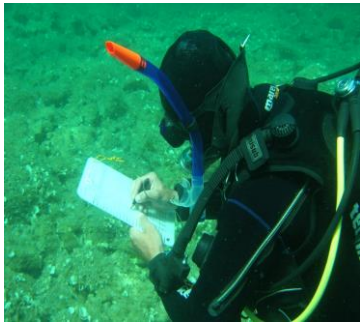
Ecological assessment

Assess the 'reserve effect' on fish assemblages

Comparison of Diversity, Abundance and Biomass between MPA (no-take and buffer) and unprotected locations

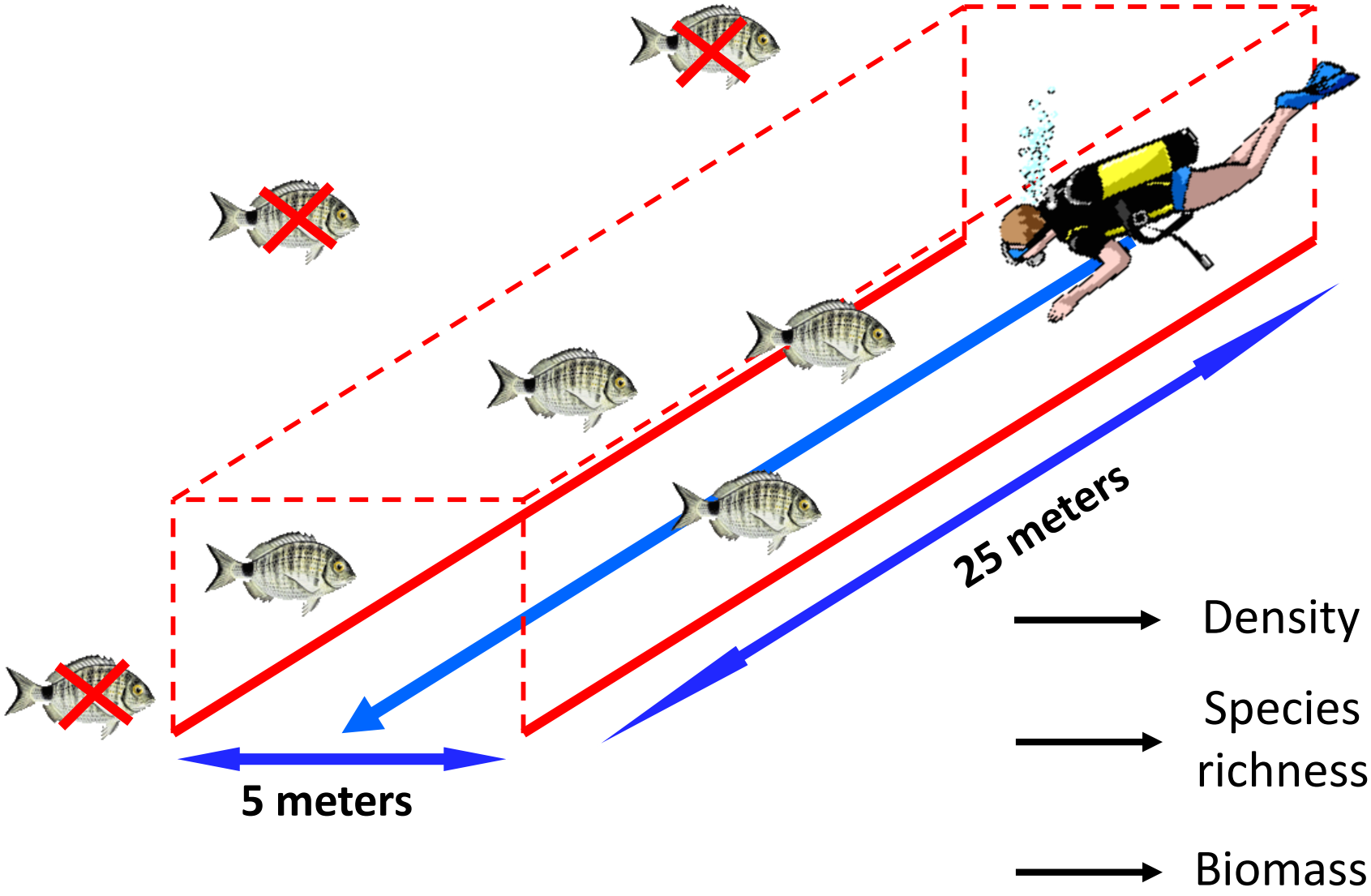
2 TECHNIQUES: high complementarity

UNDERWATER VISUAL CENSUS

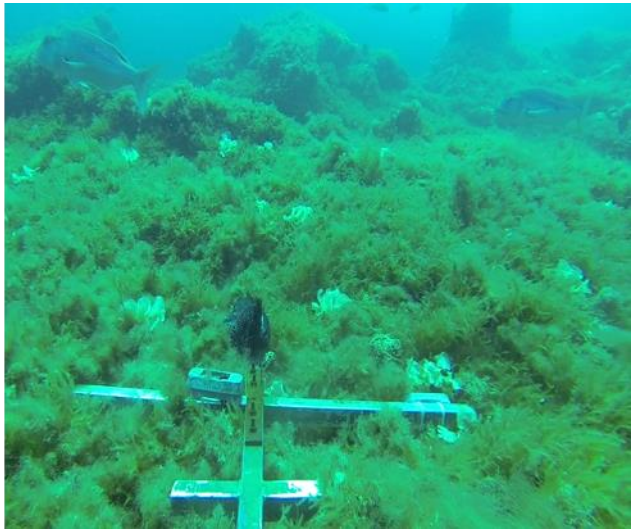


BAITED UNDERWATER VIDEO

Underwater visual census (UVC)



Baited underwater videos (BUVs)



→ Density

→ Species richness

Environmental DNA (eDNA) Metabarcoding

SAMPLING → FILTERING → DNA EXTRACTION AND AMPLIFICATION

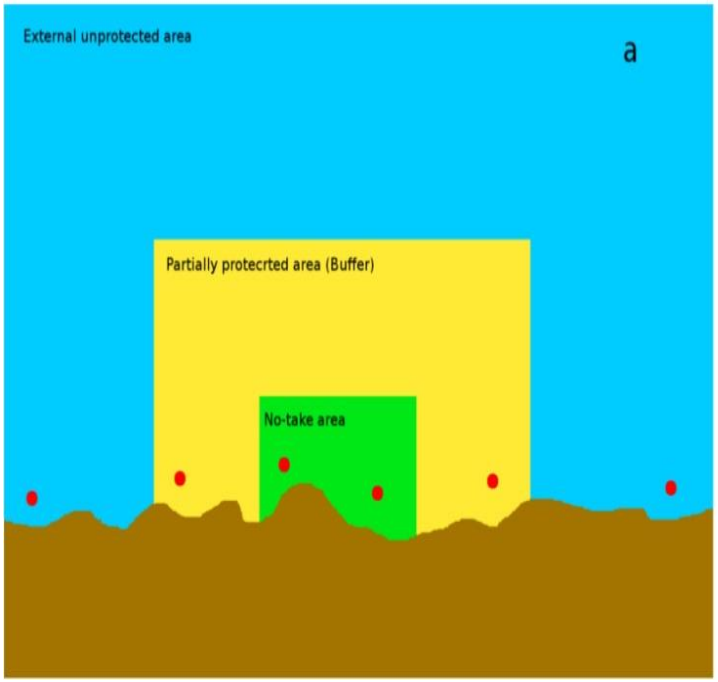
SEQUENCING → BIOINFORMATICS → TAXONOMIC ASSIGNMENT

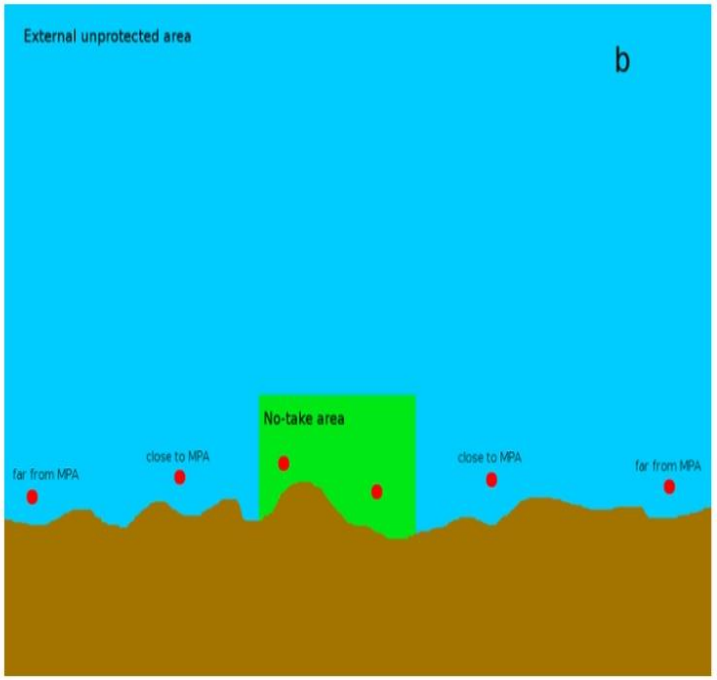
Species richness

Quick recap of the approach

SAMPLING DESIGN

UVC and BUV
3 levels of protection
2 sites per level

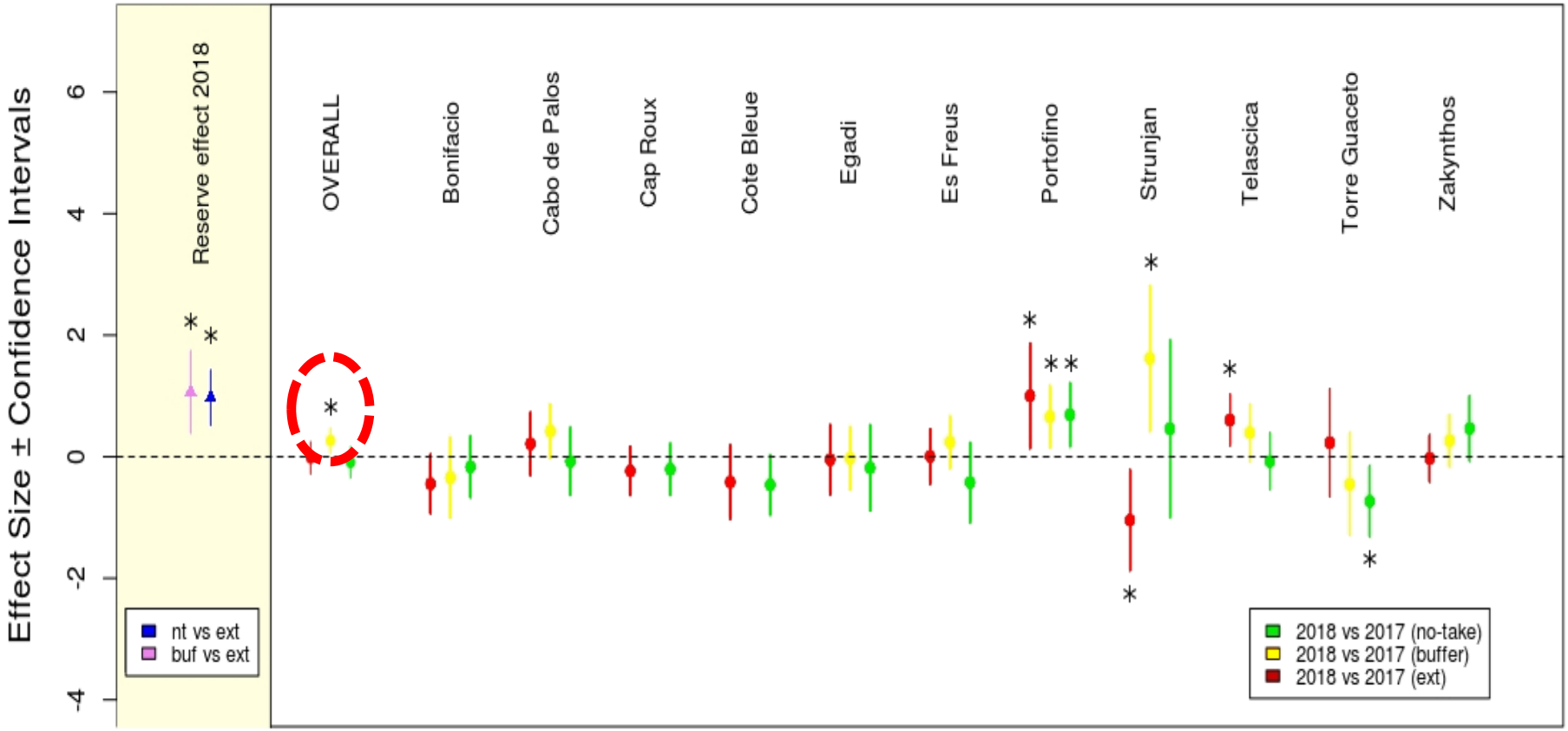




~1800 replicates

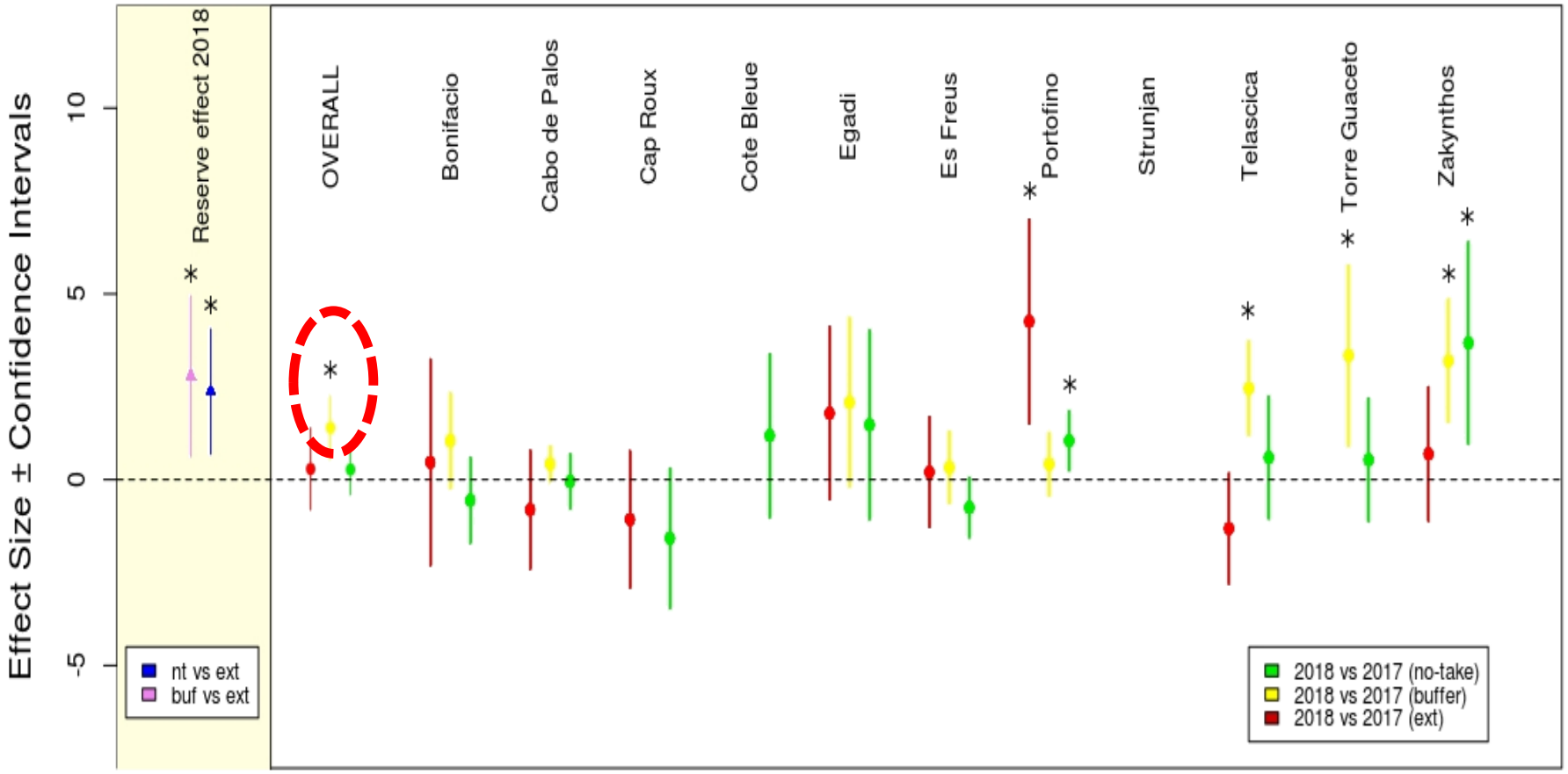
Results of toolkit implementation

Ecological effects - fish biomass – all species



Results of toolkit implementation

Ecological effects - fish biomass high level predators



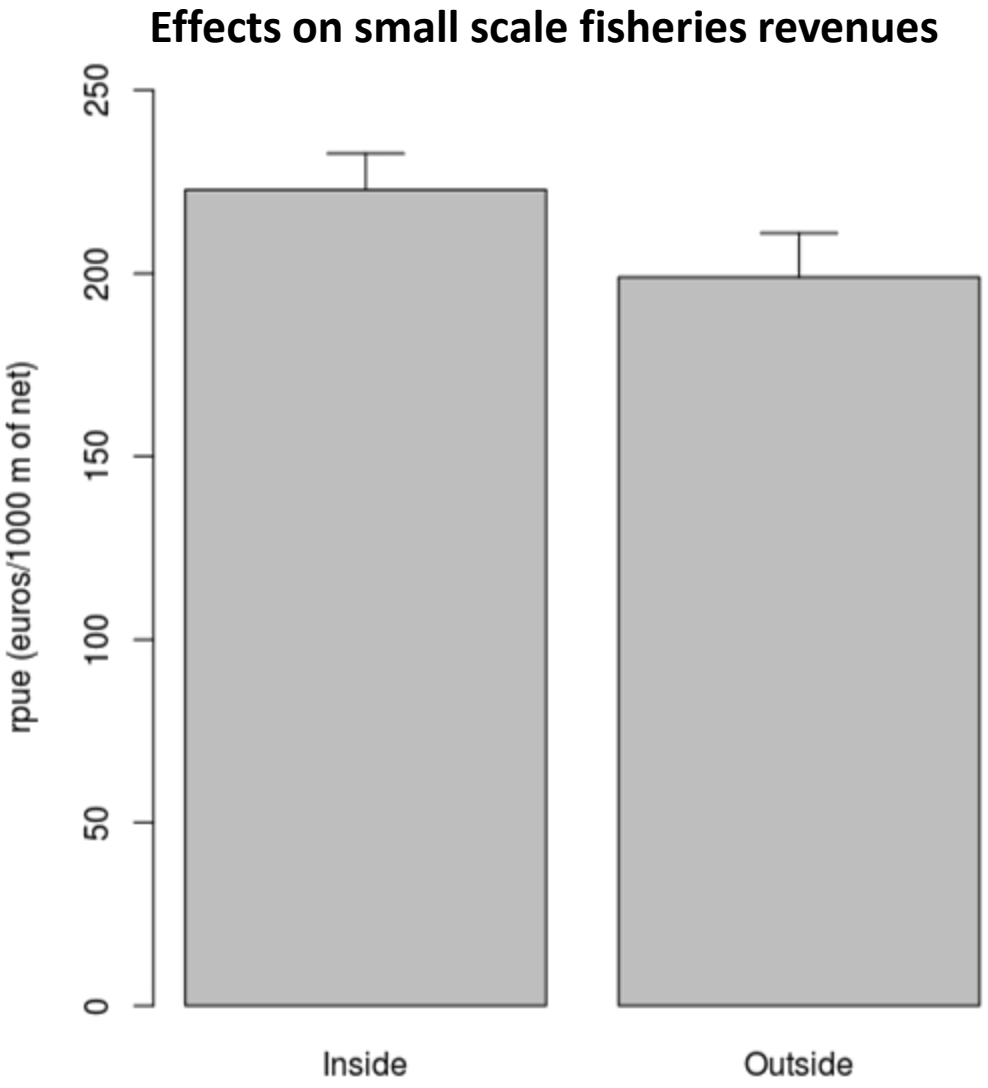
Quick recap of methods used - economic

Quick recap of methods used - economic

Unique ID:	Sampling Date:	Landing location:
Fishing site (position + MPA/outside):	Port of departure:	Distance travelled to fish (compiled a posteriori):
Type of net:	Net length:	Mesh size:
Duration of fishing operation (in hours):	Fishing Depth (min-max)	Vessel features (length and engine power):
Other notes:		
Species (latin name)/category (e.g. soup)	Biomass (in grams)	Notes

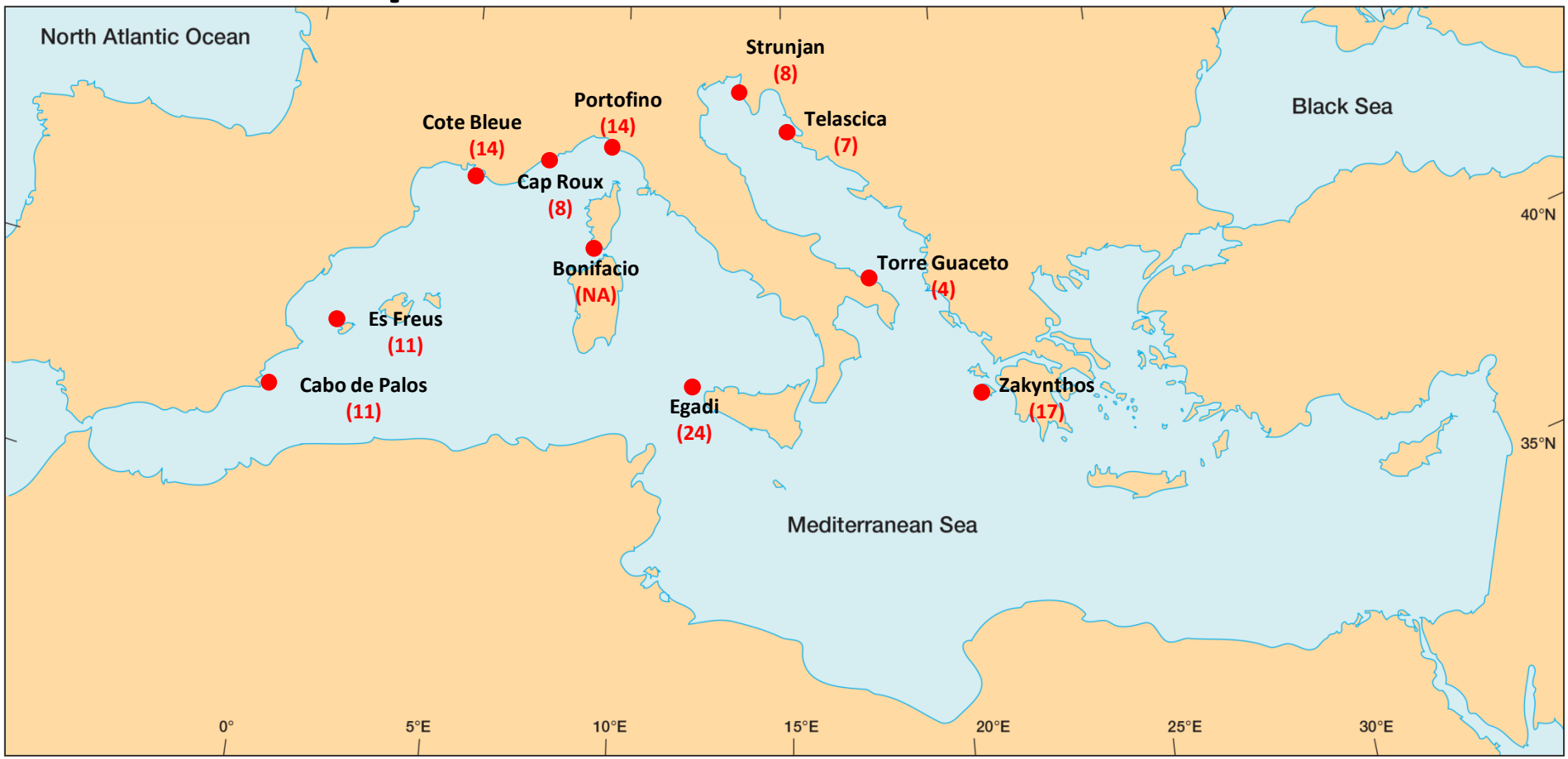
Cost estimation

Results of toolkit implementation



Number of questionnaires administered

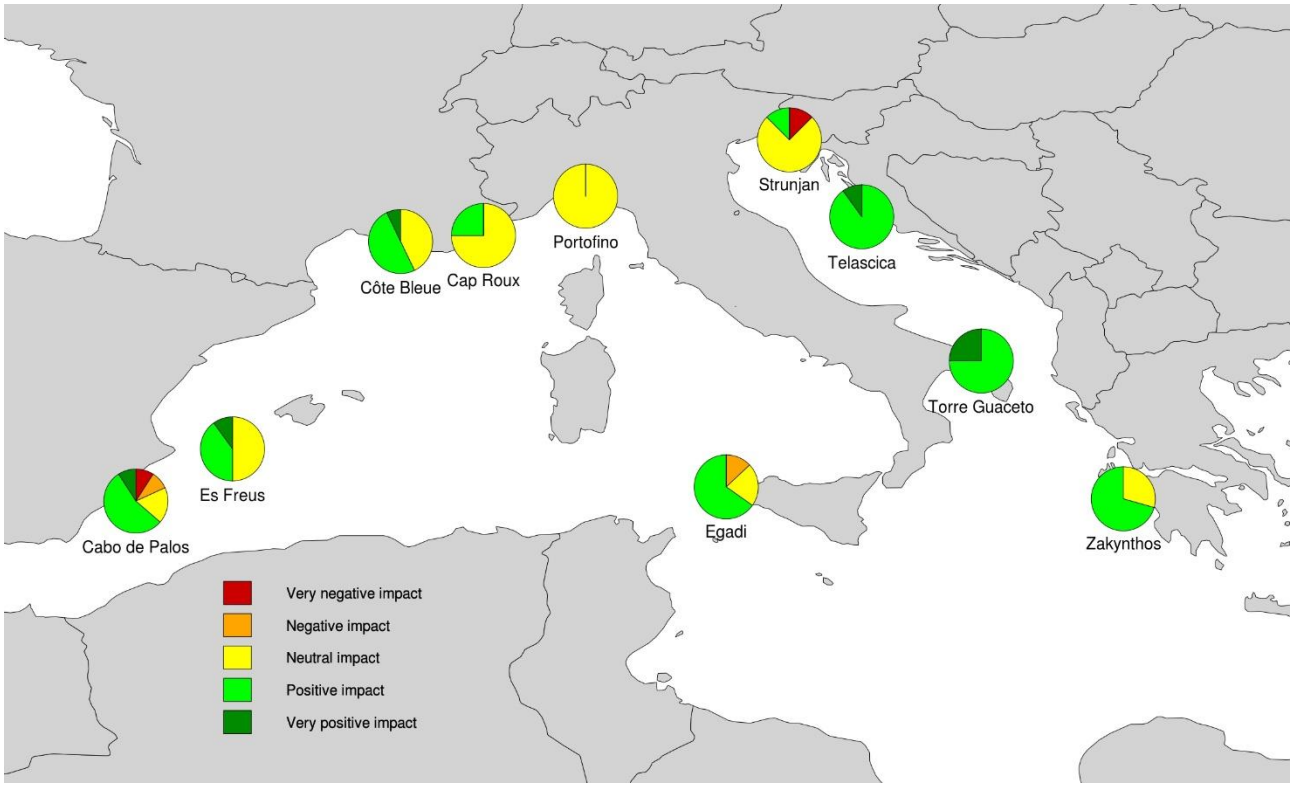
121 questionnaires administered



≥30% of each community sampled

Results of toolkit implementation

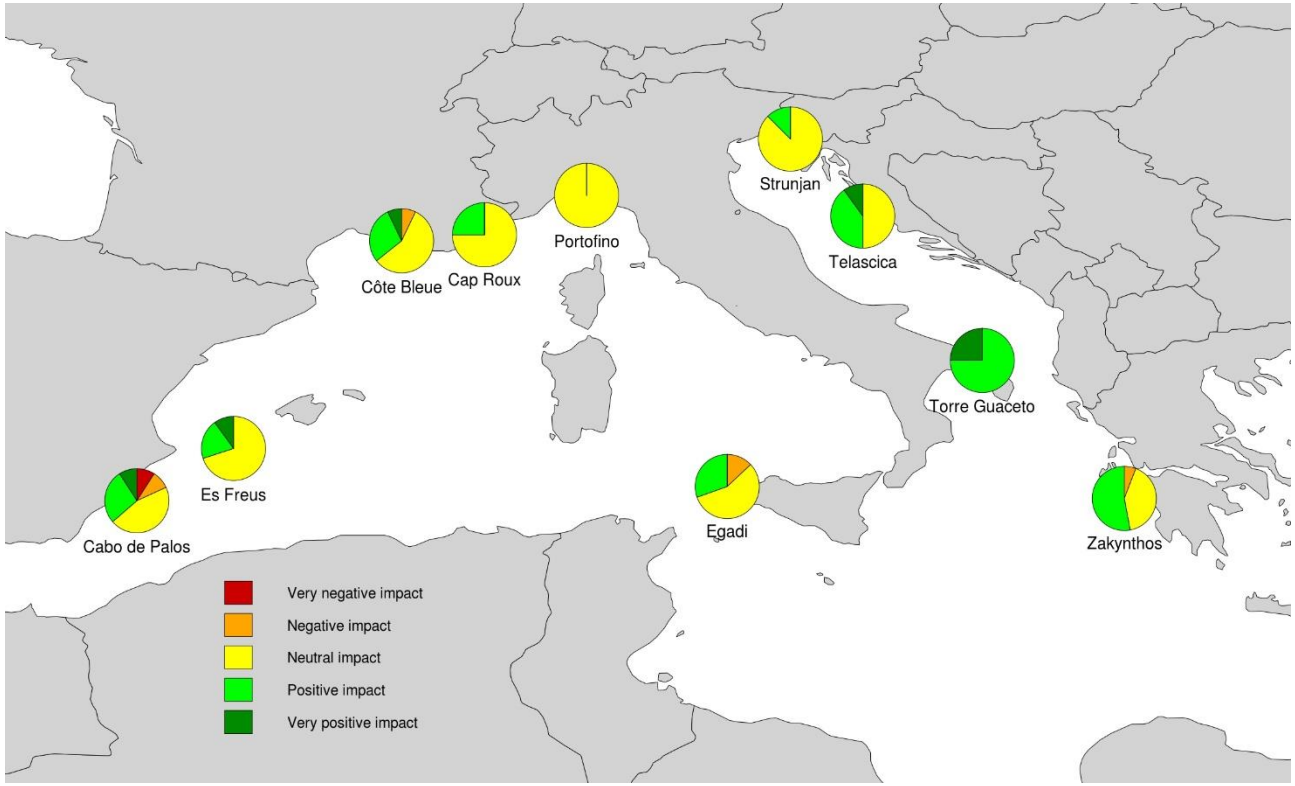
Fishers perceptions about the effects of toolkit measures on the amount of fish that they can catch



~57% fishers stated that the toolkit can produce positive or very positive benefits on their catches while about 40% perceived neutral impact

Results of toolkit implementation

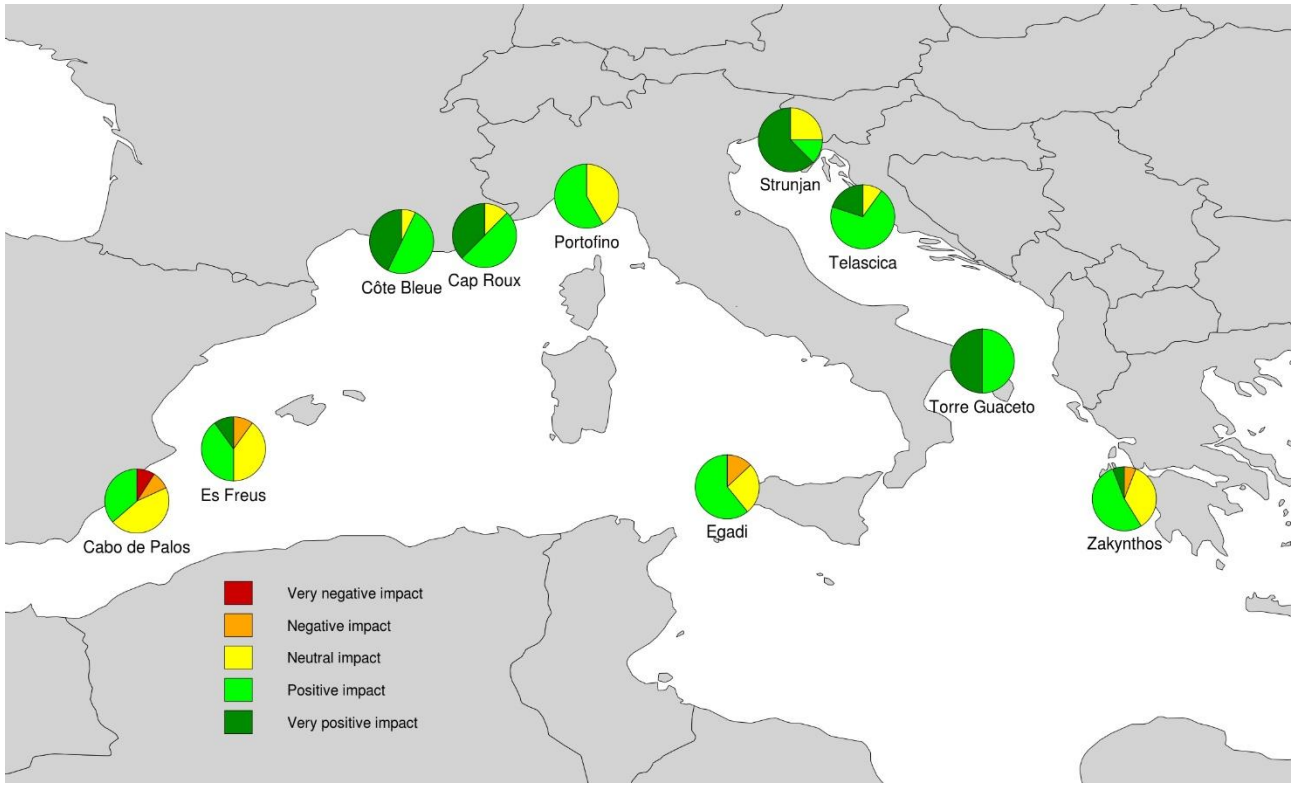
Fishers perceptions about the effects of toolkit measures on fishers incomes



35% of fishers perceived a positive or very positive impact, while 40% think that no impacts (either positive or negative) are going to be produced

Results of toolkit implementation

Fishers perceptions about the effects of toolkit measures on their relationship with MPA managers



~67% thinks that the new set of measures is enhancing (or will enhance) their relationship with the management boards of their MPA. 26% neutral

Specific Objectives

A. To **test** the "**Governance toolkit for small scale fishery**" in different typologies of MPAs, in order to have an upgraded version of it (WP3)

B. To **disseminate** the **tested toolkit** among the maximum feasible number of Med MPAs (WP4)

C. To enhance **integration** of principles and recommendations **in national and international policies** to ease informal/formal engagement of stakeholders in small scale fishery management within MPAs (WP5)

Tips for a participative approach in engaging fishers in decision making

A. Look at them as "**citizens of the sea**"
B. Identify reciprocal potential benefits (**win-win game**)
C. «Fix the rules», esp. the actual «power» of each step of the participative process (**accountability**)
D. "Sensibilize" fishers towards other economic activities (**multi-activities SME**)
E. Implement some «flagship» actions (**evidence-based**)
F. Set up a monitoring system (**effectiveness**)

Contacts

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