

THE FISHMPABLUE APPROACH

A Governance Toolkit for managing
Small-Scale Fisheries in Mediterranean
Marine Protected Areas



What is FishMPABlue2?

FishMPABlue2 Project

FishMPABlue2:

Is the follow on to FishMPABlue. It has been running for 3 years (2016-2019).

Partners:

8 partners - Federparchi, MedPAN, CoNISMa, WWF Adria, ECOMERS University of Nice, WWF-Med, APAM & IUCN

7 Associates – GFCM/FAO, Croatian and Spanish Ministry of Environment, Slovenia Institute for Conservation, MedWet, French MPAs Agency, RACSPA



FishMPABlue2 Project

The Objectives:

The overarching goal was to identify the enabling conditions for an effective management of SSF in Mediterranean MPAs

To apply and test a governance toolkit in Mediterranean MPAs to assess the effectiveness of these governance tools to help strengthen the management capacities of MPAs

Testing the toolkit in different MPAs to generate lessons learnt and refine these tools:

- allowing the toolkit to be shared with other MPAs in the Mediterranean and beyond
- and for the recommendations yielded to be adopted into national and international fisheries and MPA policy

What is the FishMPABlue2 governance toolkit?

The toolkit



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**Download your copy of the toolkit
here: <https://bit.ly/Fish2Toolkit>**

The FishMPABlue Approach

During the first phase of FishMPABlue a list of measures and interventions were identified that could improve SSF management in MPAs

In FishMPABlue2 the first step was for each participating MPA to establish a **Local Governance Group** creating a stable cooperation platform including MPA management and local professional fishers (or their representatives)

These Local Governance Groups were responsible for working together to identify the particular needs of their MPA and SSF sector and select which tools from the toolkit to implement and test in order to address the local issues

The FishMPABlue2 team worked in parallel to the Local Governance Cluster to test these measures in the 11 MPAs – assessing their socio-ecological effectiveness

The key thing to note is that in some cases this was the first time fishers were formally engaged in taking management decisions to improve their situations’- representing a positive step towards **co-management**

After testing the toolkit has been refined and updated

The FishMPABlue Approach



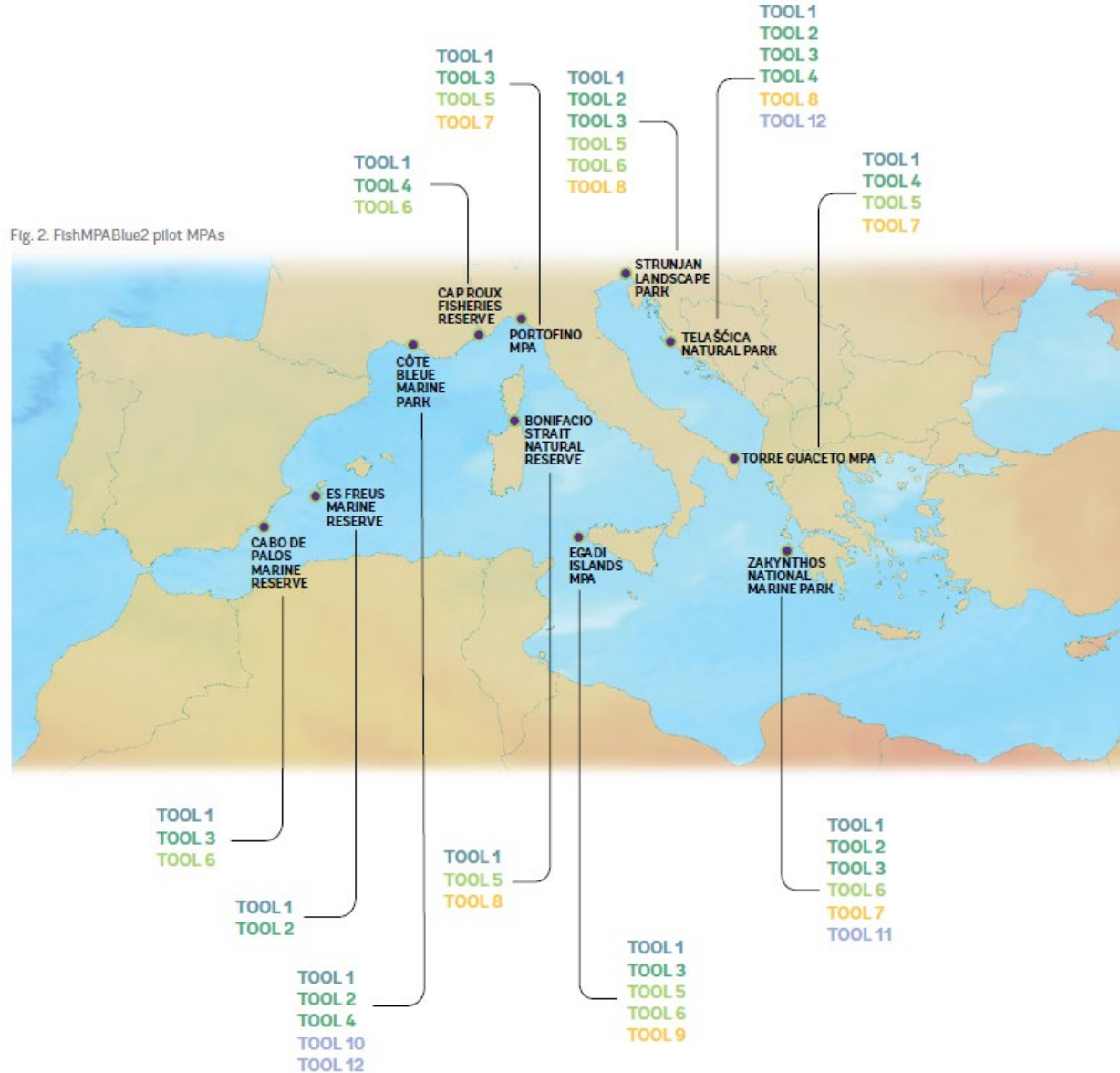
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- a INVOLVEMENT IN DECISION MAKING;**
- b ENFORCEMENT STRENGTHENING;**
- c KNOWLEDGE AND OWNERSHIP;**
- d IMPROVE SSF ENVIRONMENTAL SUSTAINABILITY;**
- e IMPROVEMENT OF SSF PROFITABILITY.**

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THEME	TOOL	MPAs THAT IMPLEMENTED THE TOOL
a INVOLVEMENT IN DECISION MAKING	TOOL 1: Create collaborative platforms to engage fishers in decision making	11 Bonifacio Strait Natural Reserve, Cabo de Palos Marine Reserve, Cap Roux Fisheries Reserve, Côte Bleue Marine Park, Egadi Islands MPA, Portofino MPA, Es Freus Marine Reserve, Strunjan Landscape Park, Telašćica Nature Reserve, Torre Guaceto MPA and Zakynthos National Marine Park
b ENFORCEMENT STRENGTHENING	TOOL 2: Increase surveillance by MPA staff and improved infrastructure TOOL 3: Increase surveillance through fishers' direct involvement TOOL 4: Increase surveillance through the cooperation with relevant authorities	5 Côte Bleue Marine Park, Es Freus Marine Reserve, Strunjan Landscape Park, Telašćica Nature Reserve, Zakynthos National Marine Park 6 Cabo de Palos Marine Reserve, Egadi Islands MPA, Portofino MPA, Strunjan Landscape Park, Telašćica Nature Reserve, Zakynthos National Marine Park 4 Cap Roux Fisheries Reserve, Côte Bleue Marine Park, Telašćica Nature Reserve, Torre Guaceto MPA
c KNOWLEDGE & OWNERSHIP	TOOL 5: Engage fishers in monitoring activities TOOL 6: Raise the awareness of fishers, MPA managers and the local community	5 Bonifacio Strait Natural Reserve, Egadi Islands MPA, Portofino MPA, Strunjan Landscape Park, Torre Guaceto MPA 5 Egadi Islands MPA, Zakynthos National Marine Park, Cabo de Palos Marine Reserve, Strunjan Landscape Park, Cap Roux Fisheries Reserve
d IMPROVE SSF ENVIRONMENTAL SUSTAINABILITY	TOOL 7: Reduce fishing effort TOOL 8: Modify/substitute fishing gear TOOL 9: Set-up SSF Code of conduct	3 Portofino MPA, Torre Guaceto MPA, Zakynthos National Marine Park 3 Bonifacio Strait Natural Reserve, Strunjan Landscape Park, Telašćica Nature Reserve 1 Egadi Islands MPA
e IMPROVEMENT OF SSF PROFITABILITY	TOOL 10: Add value to local fisheries products TOOL 11: Promote new commercial species TOOL 12: Support Pescatourism	1 Côte Bleue Marine Park 1 Zakynthos National Marine Park 1 Telašćica Nature Reserve

The toolkit



The toolkit



Enforcement strengthening

Users' support and consequent compliance with the rules and regulations of the MPA has a strong influence on the overall effectiveness of an MPA in achieving its goals and objectives. Non-compliance can take many forms and essentially refers to any breaching of MPA regulations, for example: illegal fishing (by both professional and recreational fishers), entering no-go-areas, exceeding dive quotas, anchoring in restricted areas, or breaking navigation speed restrictions. It is well known, however, that illegal fishing operations (also known as poaching) are of greatest concern and are very common within MPAs. The motives for non-compliance can be numerous and complex; results from FishMPABlue1 indicated that non-compliance is closely linked to major limitations in MPA enforcement capacity, related to scarcity/lack of resources. This can generate a perception that there is a low probability of detection, which when associated with the perception of higher catches in MPAs, can potentially result in a widespread non-compliant behaviour.

Enforcement can improve users' compliance with MPA regulations, with this being the primary requirement for MPAs to be able to deliver ecological and therefore socio-economic benefits. Effective enforcement of MPA regulations through surveillance and patrolling is key in order to legitimise the management process in the eyes of rule-abiding users.

In order to combat illegal fishing and increase compliance, MPA managers can pursue 2 (not mutually exclusive) approaches:

1- increase enforcement (through surveillance and patrolling) thus implying a probability of detecting illegal activities.

2- engage stakeholders to foster stewardship and norms of personal responsibility, illustrating first-hand the negative impacts of illegal activities for rule-abiding users (with this point being especially relevant in the case of MPA users making income from their activities e.g. Small Scale Fishers).

A number of different strategies can be adopted to increase enforcement and enhance users' compliance with regulations. The most appropriate strategy for each MPA can depend on its features (e.g. size, remoteness, usage pressure etc.) and the social context of the area. However, regardless of the specificity of each MPA, the need to increase enforcement was evident in most of the pilot MPAs engaged in FishMPABlue2. In fact 10 out of 11 identified a gap in enforcement as a major issue for the MPA. The measures tested by FishMPABlue2 pilot MPAs are ascribable to 3 tools detailed below.



INCREASE SURVEILLANCE BY MPA STAFF AND IMPROVED INFRASTRUCTURE

TESTED IN:

Côte Bleue Marine Park, Es Freus Marine Reserve, Strunjan Landscape Park, Telašćica Nature Park and Zakynthos National Marine Park

COST:

Medium

TIME NEEDED:

High

STAKEHOLDER INVOLVEMENT:

High

PERCEIVED EFFECTIVENESS:

High impact

TEST AND OUTCOMES:

MPA management bodies are responsible for ensuring enforcement and compliance with regulations. This can be done by patrolling the MPA area (e.g. using boats or surveillance from the coast) and/or by installing infrastructure (e.g. remote surveillance systems) aimed at monitoring users' compliance with specific MPA regulations.

In FishMPABlue2, 5 LGCs decided to reform enforcement, increasing surveillance and patrolling operations by MPA personnel (i.e. rangers and/or managers) and enhancing MPA surveillance infrastructure. The strategies adopted varied tools yet the overall

objective was to make up for shortfalls and increase the time and effort made for surveillance:

Time spent for surveillance: 2 MPAs (Zakynthos National Marine Park & Côte Bleue Marine Park) increased the number of hours spent at sea by MPA rangers and enhanced patrolling at night, as this is the time that managers and Small-Scale Fishers perceived higher levels of illegal fishing, especially related to poaching in no-take zones.

Capacity Building: a training programme for rangers was developed and trialed in Telašćica Natural Park, operated by national fisheries inspectors to enhance the rangers capacity to enforce fisheries regulations within MPA boundaries. Before the training, rangers only had the authority to issue warnings to transgressors and ask them to leave the territory or to call fisheries inspectors or the marine police to report illegal activities. Following the training MPA rangers were more aware of the laws and regulations and were granted the authority to issue sanctions.

Infrastructure: steps were taken to improve the surveillance infrastructure in 2 MPAs (Es Freus Marine Reserve & Strunjan Landscape Park) through surveillance camera systems. When developing the infrastructure, it became evident that the individual characteristics of each place allow for different levels of coverage, for example one system will cover the entire MPA, even at night, while in the other, it will just cover the no-take zone. Of importance to note with this tool was the strong level of support for its development, both within the fishing community and at administrative level.

Monitoring of infractions: a database to monitor and record illegal activities was set up and tested (Telašćica Natural Park & Strunjan Landscape Park). This can allow MPAs to systematically keep track of non-compliant behaviours, note periods of peak illegal activities and adopt surveillance strategies accordingly, providing a valuable tool to guide future enforcement strategies and ensure compliance with regulations.



Underwater visual census by a researcher of the FishMPABlue 2 team

The toolkit

A VIDEO SURVEILLANCE SYSTEM, ES FREUS, MARINE RESERVE, SPAIN

CASE STUDY

Es Freus Marine Reserve located in the Balearic Islands, Spain was created in 1999. The MPA is located between the islands of Formentera and Ibiza and is under the management of the Regional Balearic government. The LGC opted to install a surveillance camera system that would provide real-time 24-hour surveillance. The fishers were particularly supportive of the initiative as they increasingly suffer from the unfair competition associated with illegal fishing. Thanks to the extremely high level of interest shown by the local fishers and the regional administration, there was a strong drive to find a feasible solution that would ensure

that the cameras could identify potential poaching activities in the reserve, especially during the night and summer (the months of greatest tourist pressure). The first step was to contract a company familiar with these technologies, and how they should be installed to avoid potential vandalism. The no-take zone of the MPA is located on a small uninhabited island (S'Espardell) and is not supplied by any electric power. In order to support the system a self-sustaining system (including solar panels) was required. This system demanded higher equipment and installation costs than available. Alternative solutions were explored, including locating

the camera on the main islands. As this would result in limited coverage and therefore defeat the purpose of the cameras, a decision was taken to search for a strategy to continue the installation as planned. Thanks to the participatory process set up by the project, the regional administration agreed to cover half the costs of the equipment necessary for the infrastructure on the island of S'Espardell. They have also expressed an interest in installing similar camera systems in other MPAs in the Balearic region. In parallel, the steps to obtain the legal authorisation to install such devices are in progress.

The director of Bonifacio Scrah Natural Reserve in a exchange visit in order to know more about the surveillance system installed in Es Freus Marine Reserve, Balearic Islands, Spain.
© M. Mabari / MedPAN



LEARNING TO LOVE THE UN-LOVEABLE, PROMOTING CONSUMER AWARENESS OF A TASTY YET, INVASIVE SPECIES IN ZAKYNTHOS NATIONAL MARINE PARK, GREECE

CASE STUDY

Zakynthos National Marine Park in Greece, created in 1999, has a rich and vibrant ecosystem as an important breeding ground for loggerhead turtles and an important site for Mediterranean monk seals. The aim of the MPA is to preserve the natural heritage and conserve the ecological balance of the marine and coastal area of Laganas bay and the Strofadia islets. However, like many other Mediterranean MPAs, Zakynthos National Marine Park has in recent years received more and more unwanted visitors in the form of invasive species – in particular, two species of rabbitfish (*Siganus luridus* and *Siganus rivulatus*). These invasive species are extremely problematic as they are outcompeting local and endemic species and overgrazing algae, thus altering the natural balance of the ecosystem. All the stakeholders in the Park are greatly concerned about this ever increasing threat and decided that engagement with the FishMPABlue2 project could provide an opportunity to address the issue. The LGC agreed on a strategy to promote

the consumption of these invasive species. The initiative involved directly engaging fishers to target these species in an attempt to reduce their numbers. To guarantee that the fishers' efforts were not wasted the LGC planned and implemented an outreach campaign that promoted consumption of these fish that are unknown to the local market. To this end, promotional material was circulated to the local community and to the food market. After introducing the rabbitfish to consumers, the MPA provided several recipes for cooking them. The campaign also involved several chefs who are well-known on the island of Zakynthos. The MPA organised several local events generating a lot of interest from the general public. The overall verdict at these events was that these new species are desirable. Finding cunning ways to encourage the

consumer to start buying these invasive species, for example throwing a few of these fish in with other fish being bought for free along with a recipe suggestion, making it known that the fishers themselves eat these fish, informing the customers that these species are highly appreciated and prized in other areas (e.g. Cyprus, Crete) and starting the price for these fish low can help to promote their sale. With time they can become more profitable, creating a win-win situation for both the fishers and the ecosystem. Finally other alternative ideas regarding the exploitation of the fished rabbitfish have been discussed, such as using them as fish feed in aquaculture. real positive results for the marine ecosystem can be achieved.

Marine National Park of Zakynthos, Greece.
© Claudia Amico / WWF Mediterranean / FishMPABlue



The toolkit



TIPS FOR ENGAGING FISHERS IN DECISION MAKING

equitable participation and empowerment of the different stakeholders.

Invest time to identify & characterise stakeholders and ensure they are good representatives. Attention must be given to the selection of representatives from all sectors, to ensure that they are representative of the whole sector, that they understand the responsibility of representing the views of the whole sector (not just their own interests), and that they report back any key messages, decisions and information to those they are representing.

Capacity building. Each stakeholder group involved must be provided with some capacity building to increase their training and experience with participatory processes that will ensure more

Build a foundation. A foundation built from transparent and accountable trustful relationships can create an excellent starting point for a long term working relationship between MPA management bodies and stakeholders.

Be reliable, consistent and neutral. Neutral facilitators should be used; if the MPA facilitates meetings they need to receive some facilitation training.

Encourage equal participation. Ensure that both men and women (who fish &/or are involved in satellite activities of the sector/functioning of the family fishing business) are represented and that groups that are often marginalised are given equal opportunities to participate.

Identify a common ground. Develop with the stakeholders a common and shared vision for the ideal state of the MPA, which manages stakeholders' expectations for what can realistically be achieved, but sets contextually suitable goals.



TIPS TO IMPROVE SUSTAINABILITY OF SSF IN MPAS

Ensure agreements are reached and strategies are in place to manage gear that are no longer to be used. Before arranging the process of modification/

















































substitution of fishing gear it should be clear among all participants that the implementation of this measure must not increase fishing effort. Therefore, old nets with smaller mesh size need to be handed over to the MPA authority that can discard them properly.

Ensure fishers receive adequate training and support to undergo experimental fishing. Fishers who want to participate in an experimental fishing campaign need to go through extensive training. As was seen in Bonifacio Strait Natural Reserve, because of a lack of experience with the new fishing techniques, many fishers obtained very low returns, damaged or lost the equipment.

Be inclusive. It is fundamental to design the code of conduct together with the fishers. Preferably, after signing the code, a certain period of time (at least 6 months) should be set to allow the MPA to check if any signing fisher is respecting the code.

What lessons have we learned?

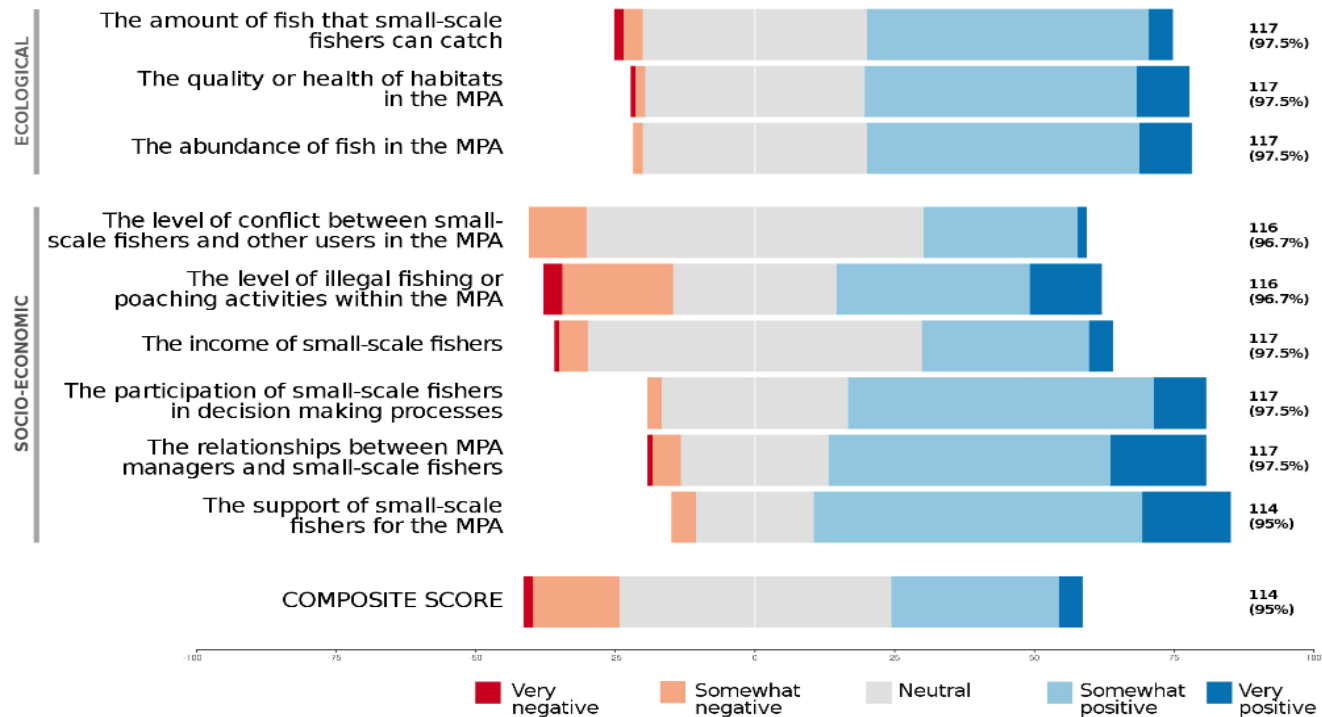
Feasibility & Effectiveness of tools

	THEME	TOOL	COST	TIME NEEDED	LOCAL STAKEHOLDERS INVOLVEMENT	PERCEIVED EFFECTIVENESS	MPAS THAT IMPLEMENTED THE TOOL
a	INVOLVEMENT IN DECISION MAKING	Create collaborative platforms to engage fishers in decision making	 LOW COST	 MEDIUM TIME	 MEDIUM STAKEHOLDERS INVOLVEMENT	 HIGH IMPACT	11 RNBB, Cabo, Cap Roux, PMCB, Egadi, Portofino, Es Freus, Strunjan, Telašćica, Torre Guaceto and Zakynthos
		Increase surveillance by MPA staff and improved infrastructure	 MEDIUM COST	 LONG TIME	 MEDIUM STAKEHOLDERS INVOLVEMENT	 HIGH IMPACT	5 PMCB, Es Freus, Strunjan, Telašćica and Zakynthos
b	ENFORCEMENT STRENGTHENING	Increase surveillance through fishers' direct involvement	 MEDIUM COST	 LONG TIME	 HIGH STAKEHOLDERS INVOLVEMENT	 HIGH IMPACT	6 Cabo, Egadi, Portofino, Strunjan, Telašćica, Zakynthos
		Increase surveillance through the cooperation with relevant authorities	 MEDIUM COST	 LONG TIME	 MEDIUM STAKEHOLDERS INVOLVEMENT	 HIGH IMPACT	4 Cap Roux, PMCB, Telašćica, Torre Guaceto
		Engage fishers in monitoring activities	 MEDIUM COST	 MEDIUM TIME	 HIGH STAKEHOLDERS INVOLVEMENT	 MEDIUM IMPACT	5 RNBB, Egadi, Portofino, Strunjan, Torre Guaceto
c	KNOWLEDGE & OWNERSHIP	Raise the awareness of fishers, MPA managers and the local community	 MEDIUM COST	 MEDIUM TIME	 MEDIUM STAKEHOLDERS INVOLVEMENT	 MEDIUM IMPACT	5 Egadi, Zakynthos, Cabo, Strunjan, Cap Roux
		Reduce fishing effort	 MEDIUM COST	 LONG TIME	 HIGH STAKEHOLDERS INVOLVEMENT	 MEDIUM IMPACT	3 Portofino, Torre Guaceto, Zakynthos
		Modify/substitute fishing gear	 MEDIUM COST	 LONG TIME	 HIGH STAKEHOLDERS INVOLVEMENT	 MEDIUM IMPACT	3 RNBB, Strunjan, Telašćica
d	IMPROVE SSF ENVIRONMENTAL SUSTAINABILITY	Set-up SSF Code of conduct	 MEDIUM COST	 LONG TIME	 HIGH STAKEHOLDERS INVOLVEMENT	 MEDIUM IMPACT	1 Egadi
		Add value to local fisheries products	 LOW COST	 MEDIUM TIME	 HIGH STAKEHOLDERS INVOLVEMENT	 MEDIUM IMPACT	1 PMCB
		Promote new commercial species	 LOW COST	 SHORT TIME	 LOW STAKEHOLDERS INVOLVEMENT	 MEDIUM IMPACT	1 Zakynthos
e	IMPROVE SSF PROFITABILITY	Support Pescaturism	 MEDIUM COST	 LONG TIME	 HIGH STAKEHOLDERS INVOLVEMENT	 MEDIUM IMPACT	1 Telašćica

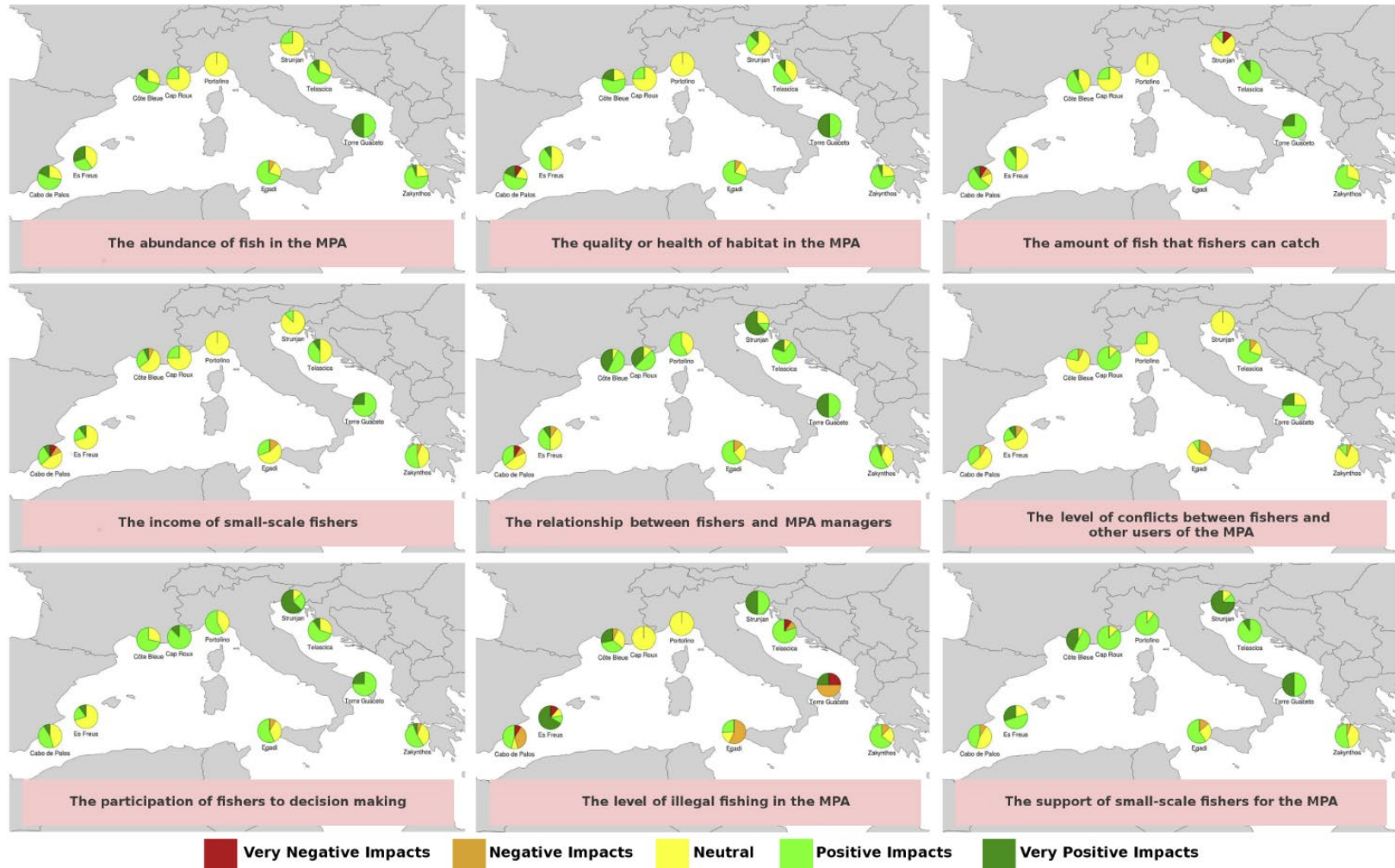
Cost, Time & Stakeholder involvement needed to implement each tool and perceived effectiveness

Feasibility & Effectiveness of tools

What impact do you think the changes of MPA management have had or will have on each of the following aspects?



Feasibility & Effectiveness of tools



Feasibility & Effectiveness of tools

Perception of the tools:

- having selected the tools themselves stakeholders had improved willingness to implement the toolkit
- felt to have potential to positively effect fish stocks, habitat health, fish catch, and fishers' income
- 67% of fishers reported that the new set of management measures had enhanced their relationship with the management board in the MPA

A positive perception can promote pro-environmental behaviour and improve support for the MPA



Concluding thoughts

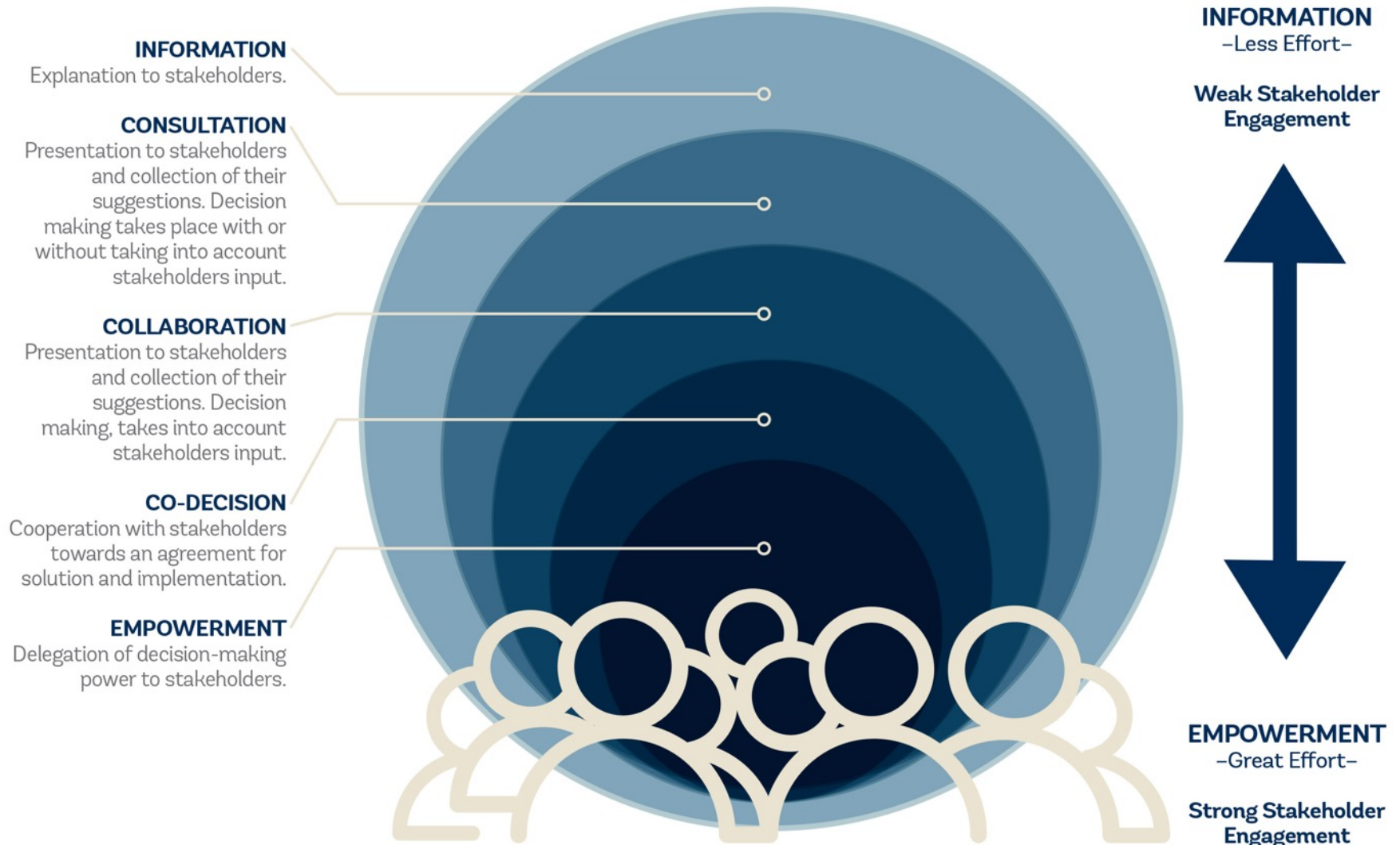
The toolkit can be a useful instrument for any MPA manager wanting to improve his/ her MPA's effectiveness for small-scale fisheries management through better cooperation with local stakeholders

A key message is to understand the importance of honest and open dialogue with small-scale fishers and other stakeholders

FishMPABlue2 results show cooperation with local small-scale fishers can bring benefits for the MPAs



Example: Degree of Participation



Thank you. Questions?

