



**REGIONE
PUGLIA**



ISTITUTO DELTA
ECOLOGIA APPLICATA



Torre Guaceto

AQUAFARM | STATUS AND PERSPECTIVES OF THE FISHERY SECTOR IN ADRIATIC SEA

Pordenone, 26th May 2022

Challenges in the local sustainable management of fishery and the pilot action in the Natura 2000 site Torre Guaceto Macchia San Giovanni (Apulian Adriatic Sea)

ARGOS Activity 5.2 Improvement of fishermen behaviours

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European Regional Development Fund



EUROPEAN UNION

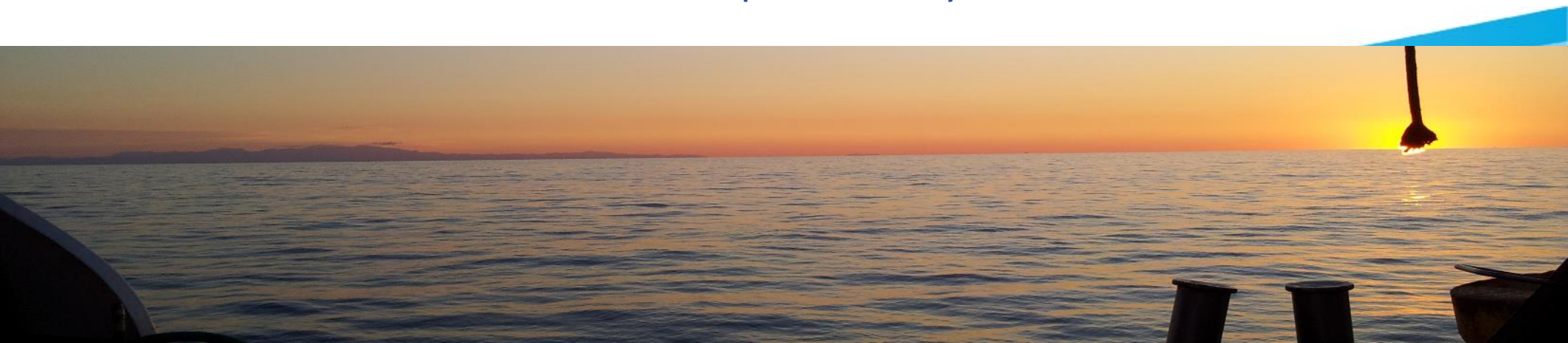


The Fishery change

The last fifty years have been characterized by **innovation on materials**, on **gears** and on **hulls**, rising the curtain on fishery effort management.

The use of effective **fishing technologies** has exerted increasing pressure on the available fish biomasses and has led to the continuous run-up to innovative fishing techniques, **searching for new fishing areas**. So the increase in fishing effort leads to a reduction in the overall yield when natural reproduction capacity of species is exceeded.

Maximum Sustainable Yield (MSY), i.e. the maximum yield characterized by a fishing mortality rate able to ensure a stock of such size that it allows to maintain its productivity.



Sustainable development of CFP

Sustainable use of fishery resources therefore becomes an **indispensable condition** for the profitability of the sector and for the full realization of its potential.

Fishing activities must have a **reversible impact** on biological resources, so that the ability to reproduce of the species, object of sampling, is not compromised and also the integrity of the environment.

For these reasons, the common fisheries policy (CFP) instruments have always had the primary objective of ensuring the exploitation of living aquatic resources in **sustainable conditions** from both an **economic, social and environmental** point of view.



From the Common Policy

CFPs have been evolved: the attention changed from the “Command & Control” approach to the actual CLLD.

In facts, C&C has repeatedly highlighted important weaknesses since, by establishing excessively homogeneous rules, there is the risk of applying them even in unsuitable biological, economic and social contexts.



Fisherman - *generally distinct from fish entrepreneur, especially in artisanal fishing* - has taken on an almost **mythological guise** over time that comes out at dawn to return at sunset, few see him but everyone knows that he exists and everyone appreciates and search for good local fishes.

.... to the Policy of *Commons*

So becomes necessary to define and introduce **suitable management tools** shared with all stakeholders, be they public institutions, trade associations, fish entrepreneurs or fishermen.

Thus, we enter the dimension of **bottom-up management tools**, recently moved to Community Led Local Development, that promote the actors of territories to real architects of their own development, activating growth levers improving multidisciplinary strategies.

We are speaking of tools consistent with the Ostrom's Nobel Prize *governance of the Commons* concept, applied to the **management of natural resources** and, specifically, **of fisheries**.



Lights toward the future: bunch of keys

Management tools shared with all stakeholders, be they public institutions, trade associations, fish entrepreneurs or fishermen that promote the actors of the territories to **real architects of their own development**, activating growth levers that, through the establishment of **multidisciplinary local partnerships**, implementing **coastal development strategies**, aimed at the growth of territories and integration of fishery with other sectors.

Shared rules for access to fishing areas consist of a set of **technical** and **financial measures** aimed at limiting fishing mortality in a given area, through containment of fishing effort, limitation of catches, adoption of restrictive technical measures, introduction of **financial compensation** and **implementation of pilot projects**.



Fishery is a state of Life

Recognize role of fishery is the future: is not just an activity with social (jobs), economic (revenues and induced activities, e.g. tourism and catering) and environmental (impact on biodiversity), but also an **ancient craft**, whose roots are lost over time and historical and socio-cultural implications are extremely relevant in terms of contribution to **cultural diversity**.



Thus, a general regulatory resistance coupled with the need to bring out often neglected social contexts, has generated **multiple local approaches** to management of the fishery resource and the connected maritime space, through interesting initiatives that have become **good practices, potentially exportable**.

1st Apulian case of study: Torre Guaceto MPA

Since 2005 a monitoring and adaptive management program for traditional fisheries has been in place.

In summary, on a completely voluntary basis, a number of local fishermen have joined an innovative initiative despite its apparent simplicity and now known throughout the world.

Over the years there have been very positive effects:

- the **catch obtained** in the MPA zone C is at least **2-3 times higher**
- it is composed of **species** and **sizes** that **ensure a better economic return to fishermen**



2nd Apulian case of study: MPA Porto Cesareo

Following the local MPA fisheries regulation deemed excessively restrictive by local fishermen, they promoted a joint assessment at the managing body, effectively dimensioned on a **social, technical, scientific** and **economic scale**: the **SAMPEI Project**.

Thus was born the **first experience in Italy** as a **fisherman actively involved** in the **decision-making process** that even goes so far as to propose, co-finance and implement a project proposal which, in fact, changed the conditions of entire navy.

The result was that **all fishermen have adopted a net mesh larger than the one initially established** by the regulation and which the operators themselves considered restrictive.

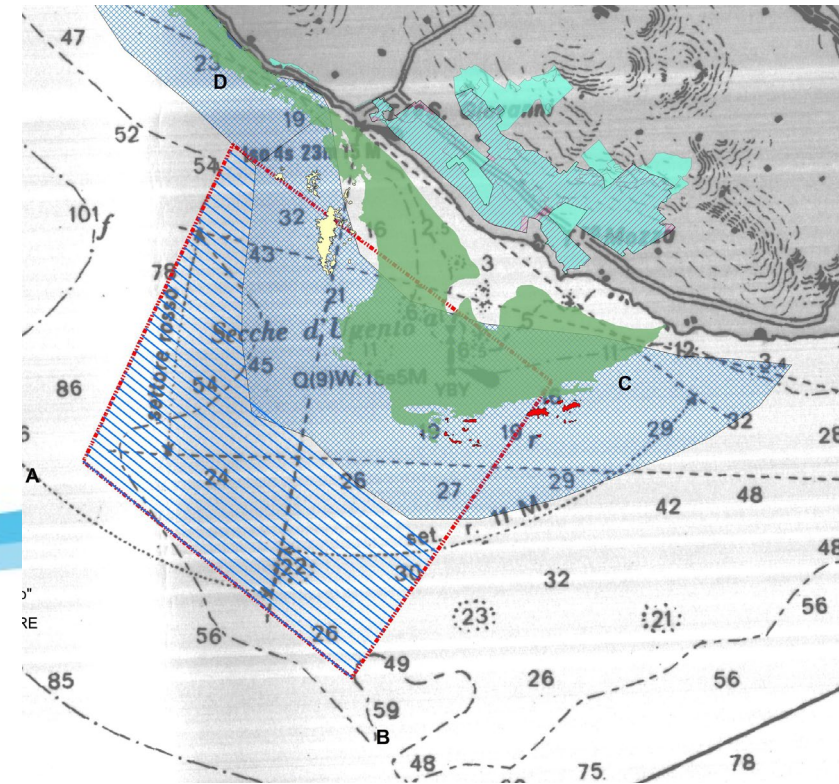


3rd Apulian case of study: Blue Oasis

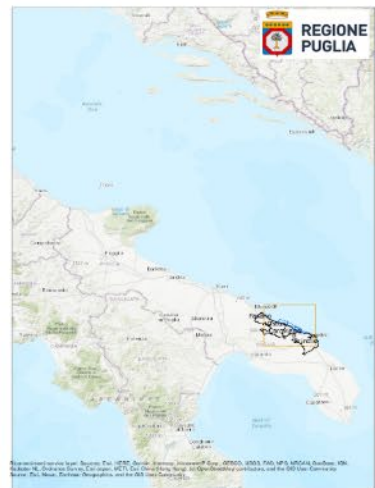
Artisanal fishermen of **Ugento** involved the municipal administration with the frequent incursions of external fishing boats that operated with trawling systems on rocky bottoms and in prohibited bathymetry

So, the **municipality** together with the **local fishing cooperative** and a **research institute** developed a EMF project and an innovative fishing management tool was identified.

The **Blue Oasis** concept found substance in the **regional legislation** becoming a management tool consisting in the temporary acquisition by a local authority of 2000 Natura site, on which set zoning for fishery regulation



The ARGOS Apulian Pilot Action Blue Oasis



REGIONE PUGLIA



Fasano

IT9140005 ZSC
Torre Guaceto e
Macchia S. Giovanni

Riserva
naturale marina
Torre Guaceto

Ostuni

Carovigno

Riserva naturale
statale Torre
Guaceto

Brindisi

Piano di co-gestione della pesca per la gestione condivisa delle attività marine nella ZSC Torre Guaceto Macchia San Giovanni

Attività 5.2 Improvement of fishermen behaviours

Comuni	Carovigno
Fasano	Brindisi
Ostuni	

Area Pilota
Codice, tipo, nome
 IT9140005, ZSC, Torre Guaceto e Macchia S. Giovanni, 7.978 ha
 IT9140008, ZPS, Torre Guaceto

Riserve
 Nome Ufficiale; Ente Gestore
 Riserva naturale marina Torre Guaceto; Consorzio tra i Comuni di Brindisi e Carovigno e l'Associazione di protezione ambientale WWF Italia; 2.209 ha
 Riserva naturale statale Torre Guaceto; Consorzio tra i Comuni di Brindisi, Carovigno e Associazione WWF Italia

The ARGOS Apulian Pilot Action Blue Oasis

Pilot action is planned in three steps:

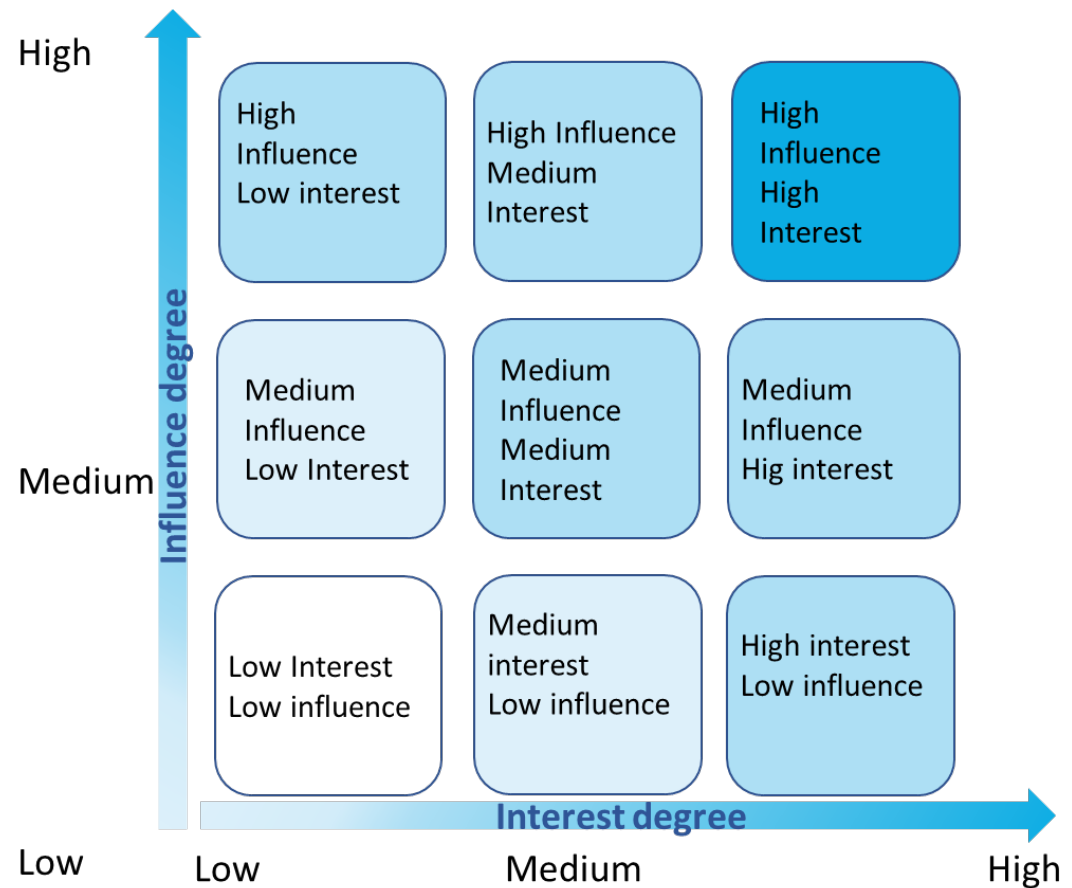
- **A1** Development of a model for an **innovative governance system** of **fish resources** and the coastal areas involving all the relevant institutions, FLAGs and fishermen in the decision-making process.
- **A2** Definition of a **management protocol** of the Pilot area of the Apulian for **professional fishing**, as effective tool for fishery operators and regional institutions in the definition of sector policies.
- **A3** Collection of **data, documentation** and **information**, collected and shared with the stakeholders, drafting of **law that would export the "Blue Oasis" instrument to other territorial realities.**



A1 Model of innovative governance of fishery

As highlighted the main change, in the management vision is the **direct involvement of local community.**

- How?
- Mapping and knowing the stakeholder
- Meetings to explain the project objective



Stakeholder mapping matrix

Change in the management vision

Direct involvement of local community

How?

By identification and mapping of stakeholder, afterwards meetings to explain, inform and collect information.

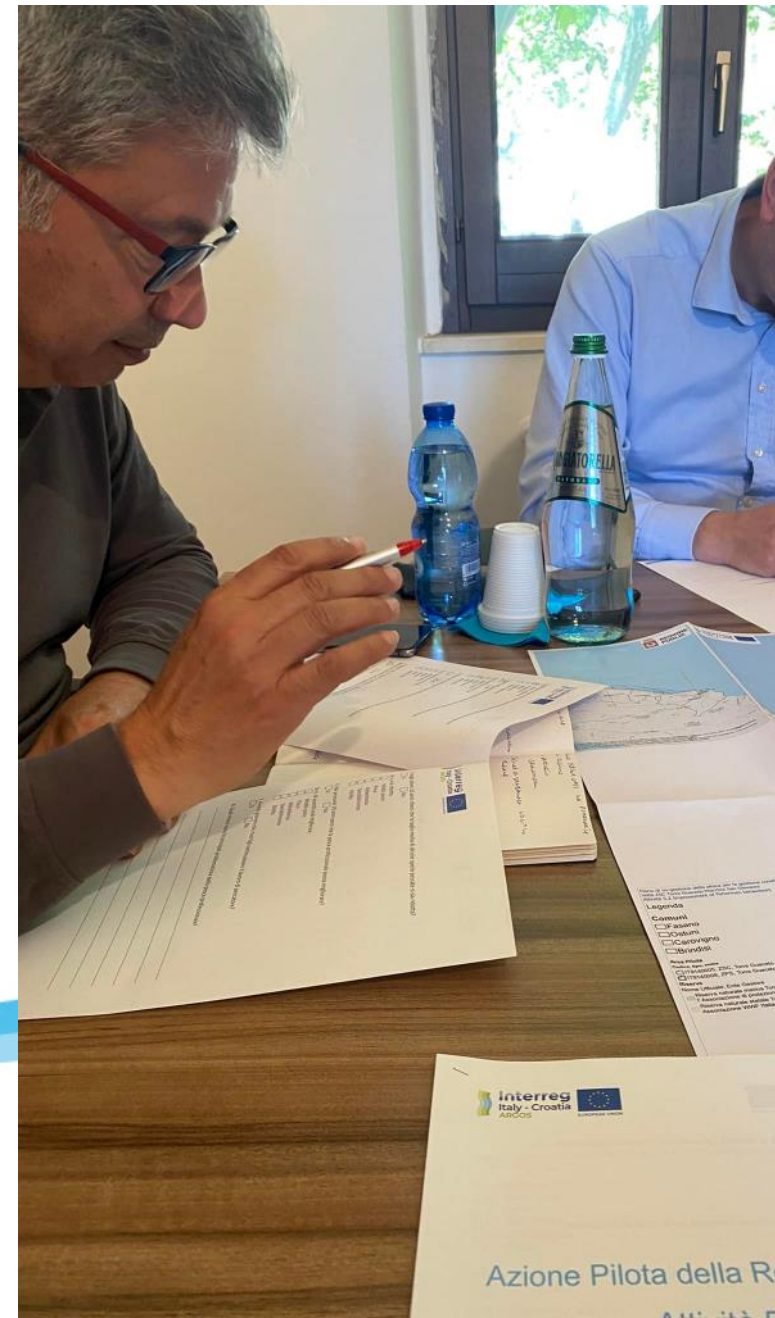
Classical meetings, plus...



...small groups meeting, working with maps of the Pilot area



- **plus** collect the **needs**,
- **the impressions**,
- **prospect** for the future, etc..
- Use specific questionnaires adapted to specific local needs
- Including no-technical questions (also regarding the future)



Some hints (spoiler) of possible steps

Management might needs to take into account not only the open sea but also interaction among sea and coastal wetlands: **wetlands as nursery areas** for some target species.

Integration among different Policies tools apparently conflicting

1. Apulia Regional Law dealing with Planning and development of regional fisheries and aquaculture.
2. Habitat Directive: *"The aim of this Directive shall be to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies"*.

Fisheries and conservation of biodiversity of Natura 2000 sites: how to integrate

Technical ratio

- Modelling of **sustainable management** of fishery is a different way to look at Ecosystem Services (ES)
- Professional fishing as a matter of fact is a well known Provisioning ES "Wild animals (terrestrial and aquatic) used for nutritional purposes"
- The service can be maintained on long term only trough **preservation of good status** of Ecosystems and consequently of the services they provide.



Fisheries and conservation of biodiversity of Natura 2000 sites: how to integrate

Habitat Directive

Art. 6

*For special areas of conservation, Member States shall establish the necessary conservation measures involving, if need be, **appropriate management plans** specifically designed for the sites or **integrated into other development plans**, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites.*

Fisheries and conservation of biodiversity of Natura 2000 sites: how to integrate

- Commission notice C(2018) 7621 final, Brussels, 21.11.2018. "Managing Natura 2000 sites The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC" clarify Conservation measures are mandatory for habitat and species
- **Management Plan are not mandatory**



Fisheries and conservation of biodiversity of Natura 2000 sites: how to integrate

As general rule, a Management Plan should be drafted and adopted *whenever the conservation measures are considered not sufficient to reach the conservation objectives.*

MP must take in consideration positive or negative interaction with economic activities of the area of intervention.

Economic activities are not excluded by Natura 2000 sites.

Practical advantages of a Management Plan, such as introducing not only actions for the conservation of the target habitat and species but also regulation and revisioning the implementation of the management plan and its objectives.

Action Plan structure

Italian Ministry of the Environment provided guideline for drafting the Natura 2000 management plan: *Decreto del Ministro dell'Ambiente e della Tutela del Territorio del 3 settembre 2002. (G.U. della Repubblica Italiana n. 224 del 24 settembre 2002)*

ACTION PLAN STRUCTURE

1. Overview of the Natura 2000 site characteristics
2. Assessment of the ecological requirements of habitat and species
3. Conservation objectives
4. Management strategies

Management strategies: structure

Include concrete actions through to reach the conservation objectives.

They can be categorized by methods of implementation.

Actions are classified as:

- ✓ Active interventions
- ✓ **Regulations**
- ✓ Incentives
- ✓ Monitoring and/or research programmes
- ✓ Educational programmes

All the Actions have a scheme

Title of the action																																		
Action type	<input type="checkbox"/> Active interventions <input type="checkbox"/> Regulations <input type="checkbox"/> Incentives <input type="checkbox"/> Monitoring and/or research programmes <input type="checkbox"/> Educational programmes																																	
Code and name of the Natura 2000 site	Code and name of the Natura 2000 site involved in the actions																																	
Territorial Application	Localized to a specific area; involving a whole Natura 2000 site, etc...																																	
Habitat/ Species Reference map	Code and scientific name of the target habitat/species involved Specify the database, if any, with spatial georeferenced information																																	
Description of current status	Description of current status of the habitat/species																																	
Monitoring indicators	For instance increase of the area covered by the habitat, increase of the population range, number of people involved into the educational programme, etc...																																	
Action objective	Habitat of the species improvement, Restoration, Restocking, Awareness raising, etc...																																	
Action description	How to																																	
Monitoring the implementation/ progress of the action	How to																																	
Description of expected results	Description of expected results in quantitative and measurable terms																																	
Economic interests involved	Description of economic interests involved																																	
Beneficiaries	If applicable description of beneficiaries, for instance in case of action involving specific economic activities, private areas, areas exploited for economic activities etc..																																	
Authority responsible for implementation	The Authority in charge for the action implementation																																	
Authority responsible for monitoring	The Authority in charge for the action monitoring, not necessarily the same responsible for the implementation																																	
Control frequency	After the 1 st year, 2 years, etc...																																	
Penalties	If applicable description of penalties																																	
Action Priority	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low Action priority considering the whole set of actions of the management plan																																	
Corrective action	Description of corrective action if the expected results are not achieved during the control																																	
Timetable and costs	Cost of the actions and timetable for its implementation, add as many as necessary. <table border="1"> <thead> <tr> <th>Year</th> <th colspan="2">1^a</th> <th colspan="2">2^a</th> <th colspan="2">3^a</th> <th colspan="2">4^a</th> <th colspan="2">5^a</th> </tr> <tr> <th></th> <th>min</th> <th>max</th> <th>Min</th> <th>Max</th> <th>Min</th> <th>Max</th> <th>Min</th> <th>Max</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>€</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Year	1 ^a		2 ^a		3 ^a		4 ^a		5 ^a			min	max	Min	Max	Min	Max	Min	Max	Min	Max	€										
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Policy references and funding	Description of funding sources identified to implement the action																																	
References and technical annexes	If applicable description of technical detailed annexes necessary for the implementation of the action																																	

Management strategies: revision&monitoring

Last but not least...

... the Management Plan foresees

ACTION PLAN STRUCTURE

5 Revision and monitoring of the Management Plan

The **revision** must be **cyclic** with a frequency suitable to the time foreseen to achieve the expected results.

The revision allows to adjust actions if needed.



Take home messages

- ✓ Despite the complexity, forms of fishery local management are constantly evolving, becoming powerful tools for coastal economy, environment and sociability improving;
- ✓ Fishery requires important efforts not only financial but also conceptual and systemic;
- ✓ Local dimension and very different from the current planning of large area, oriented to certain species or fishing *metiér*;
- ✓ The challenge is to overcome the mere consultation of fishermen on an occasional basis, setting complex management bodies, recognized and entitled to operate decision-making processes;
- ✓ The documented experiences constitute effective levers on which push for new strategies, supporting coastal environment, fishing economy and related jobs.





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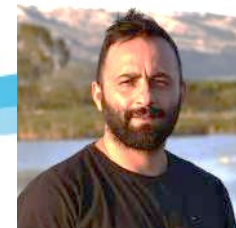
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