ECOSAFIMED

Project funded by the EUROPEAN UNION

ENPI CBCMED
CROSS-BORDER COOPERATION IN THE MEDITERRANEAN

Newsletter no. 9

ECOSAFIMED results

Guidelines and recommendations

The main aim of the ECOSAFIMED project is to promote sustainable artisanal fisheries and the conservation of the Mediterranean seabed.

After two years of study in six different maritime areas of Spain, Italy and Tunisia, the project offers, as one of its main results, a set of guidelines to make artisanal fisheries and sea conservation compatible.

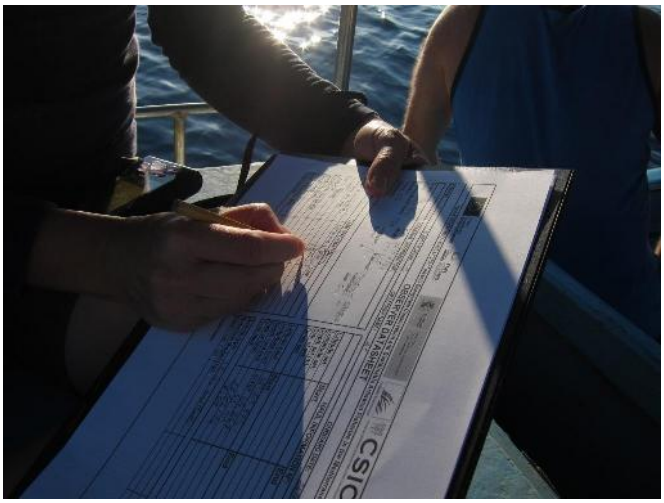
These results have been reached after analysing the data from the oceanographic surveys, where the seabed has been filmed, and from direct observation during on-board surveys with fishermen. In this regard, the impact of selected "métiers" over benthic communities has been assessed.

These are the 10 recommendations to reduce the impact of artisanal fisheries on the seabed:

1.- Promote the inclusion of fishermen's knowledge in scientific studies and monitoring activities

Despite new technology for marine exploration is providing numerous new insights into the deep marine environments, our knowledge on the deep benthic communities is still limited and we need to increase it for scientific, social and management purposes. One way to obtain important information is the work with fishermen;their long activity in the sea represents a source of information of extraordinary value.

A close collaboration among fishermen, scientists and managers helps to report, on a large geographical and temporal scale of observation, extraordinary captures, occurrence of rare species, occurrence of large animal forests, as well as species of considerable size. All this information is much appreciated and needed, and may help not only from a scientific point of view, but also to identify high valuable sites where to establish Marine Protected Areas. These data also represent a way to transform the impact of fishing, represented by the discard, into a scientific, social occasion for collaboration. This goal, in fact, should be obtained through the establishment of a network of fishermen-cooperatives-experts-managers to keep trace of valuable discard species, possibly through email, cell phone and internet. Experts may also provide the most interested fishermen with a photographic chart of the most common and valuable species occurring in the bycatch (based on the ECOSAFIMED data) that could be used on-board for a first identification. This network would represent a legacy to the project ECOSAFIMED and its principal actors in terms of knowledge transfer, future collaboration and monitoring.



On board observation with fishermen

2.- Return in water the benthic discard in less than 30 minutes and avoid as much as possible crushing

ECOSAFIMED data showed that artisanal fishing activities are not immune to impact the sea bottom and its inhabitants. With differences depending on the metier, the sea bottom topography, the type of benthic community and the oceanographic conditions, fishing activities are usually followed by the collection of a wide range of benthic species. This means that specimens, or portions of them, remain entangled in lines and nets

and are brought onboard of the fishing vessels, where they lay for a variable amount of time depending on the rapidity of the fishermen to clean the gears.

The survival of accidental captures of benthic species could be increased if they are returned as soon as possible to the sea so to reduce their exposure to air and heat. Experimental evidences obtained during the ECOSAFIMED project (targeting the gorgonian *Paramuriceamacrospina*) have highlighted in particular that for some habitat forming species, such as arborescent anthozoans, the survival chance increases up to 85% if fishermen return to the sea the colonies in less than 30 minutes. This span of time can therefore be considered a critical time to respect in order to enhance the survival of benthic organisms.

For the same reason, it is important to avoid as much as possible the damaging and crushing of branched or three-dimensional organisms (such as bryozoans, sea urchins, gorgonians, sponges, ...) during the cleaning operations in order to reduce their fragmentation and enhance their recovery. Particular attention should be posed to keyforming species coming onboard as whole colonies, with their own support (such as a rock): experimental data suggest that, when returned to the water, they have 90% chance to fall on the sea bottom in the upright position. This greatly reduces the possibility to be covered by sediment and enhance their chance of survival.

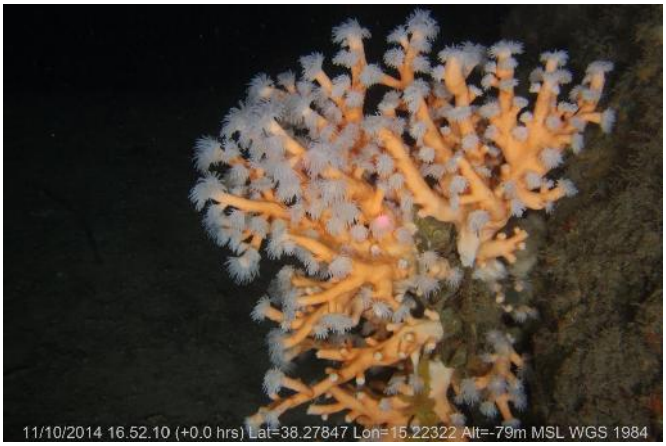
Underwater experiments to evaluate the impact of trammel nets

3.- Return the benthic discard in the same location where the gear has been hauled

Complex marine benthic communities are known to be heterogeneously distributed on the sea bottom according to environmental conditions. Large arborescent anthozoans in particular, such as gorgonians and black corals, representing the most important habitat- forming benthic species in the Mediterranean Sea, are known for their slow growth rates, as well as their limited dispersal ability and their tendency to form aggregations on the sea bottoms. Returning the benthic discard species in approximately the same area of collection increases the probability that they fall back in their original areal of distribution, where environmental conditions are optimal for their growth, thereforeincreasing their survival rate.

4.- Avoid fishing in areas where fragile communities have been detected

Large arborescent anthozoans, such as black corals and gorgonians, represent the most important habitat-forming benthic species of the Mediterranean Sea. Due to their longevity, slow growth rates, limited dispersal ability, and possibility to enhance biodiversity levels of the benthic community, they are considered fragile and vulnerable species with slow recovery ability from mechanical impact. When a fragile community is detected, due to the capture of large benthic species or huge quantities of habitat-forming species, a good practice is to inform the scientific experts and avoid setting the fishing gears along the same track and in the nearby area. This is particularly relevant especially when exploring new fishing grounds.



Dendrophylla ramea (Milazzo Cape)

5.- Pursue the establishment of Marine Protected Areas or fishing restriction zones in the identified valuable ecosystems

ECOSAFIMED project has identified numerous valuable benthic ecosystems that, due to the vulnerability of their main species, deserve special protection. The most efficient way to guarantee this protection is their declaration as Marine Protected Areas or areas with some level of restriction to fishing

activities. These areasshould not be necessarily widely extended as they can only enclose specific populations of important species. In case the explored areas are already protected or their designation is in progress, it would be important to include the data coming from the ECOSAFIMED experiencein the decision making.

6.-Promote the use of more selective gears and more efficient materials

ECOSAFIMED data showed that artisanal fishing activities have a potential impact on the sea bottom and its inhabitants. One of the major results of ECOSAFIMED is the demonstration that the type of gear plays an important role in the magnitude of the impact together with other important factors (type of substrate or the structure of the community). This is why it is very important to promote studies to develop more selective and less impacting gears and to promote their use among the fishermen community. A good example is represented by the selection of more efficient materials, such as multimonofilament(MMF) over polyamide. Trammel nets of MMF, used over maërl bottoms, reduces up to 64% the capture of substrate.

7.- Decrease the fishing impact by reducing the number of sets in the same site in a season

The impact of a fishing net is accumulated in each fishing operation if the gear is deployed in exactly the same position, over and over, for the entire fishing season. A good practice to adopt would be to reduce the number of fishing operations in the same place. For example, the maximum number of repeated operations in the same fishing trackconducted on maërl bottom with trammel nets is suggested to never exceed three in the same fishing season. Adaptations should be made depending on the gear and the site, whether a significant reduction is always suggested.

8.- Decrease the fishing effort by reducing the length of the fishing sets

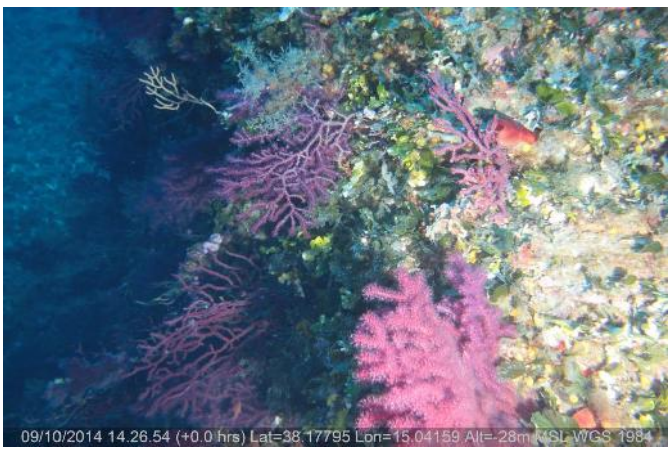
The most productive habitats in terms of benefits for artisanal fishery could be identified in the coralligenous outcrops, rocky areas and maërl habitats, especially for trammel nets. These habitats show a typical patchy distribution over the continental platform with limited rocky areas surrounded by sandy bottoms. The surveys carried out by ROV over this kind of habitats showed that the most effective length of a trammel net should be comprised between 500 and 800 meters in length. This length minimizes the impact over undesirable habitats and minimizes also the possibility for the portions of the nets exceeding the length of the target substrate to remain entangled. Adaptations of this "optimal length" should be made depending on the gear and site (significant reductions are always suggested).

9.- Promote the regular mending of fishing nets

One of the factors that increase the contact surface between the seafloor and a fishing net like a trammel net, is the loss of the buoys line, that weigh the gear and keep the net anchored in an upright position on the sea bed. The loss of the line enhances the possibility for the net to fall on the rock hence to entangle the benthic organisms. Another problem is the presence of loose pieces of nets that may easily remain entangled on ramifiedorganisms, as demonstrated by the ECOSAFIMED ROV footage. A good practice would be to avoid the presence of damages in the nets to reduce the probability for the gear to come in contact with the benthic species.

10.- Promote best fishing practices with easy, straight-forward video footage

“An image is better than thousands words” this could be the synthesis of this recommendation. As demonstrated during the meetings with fishermen, straight-forward video footage, visually showing the scientific backgrounds to some statements (such as the occurrence of lost gears, the survival of discarded species, the status of the returned organisms in the water), obtain a much higher attention and a much more positive response than any technical graph report . Video footage therefore should be considered as a priority communication tool.



ROV footage

ECOSAFIMED capitalization

Marine stewardship agreements

The main objective of marine stewardship is to maintain (capitalize) the results achieved in the project once is finished.

Marine stewardship is a conservation strategy that attempts to generate the responsibility of the competent authorities and the users of the marine environment for the conservation of its natural, cultural and landscape values.

Actors involved are user groups and marine stewardship organizations.

The organizations of the marine stewardship promote and develop this concept through different forms of stewardship agreements with the users and the competent authorities. They include the civil society (associations, foundations and so on) and the public entities (city councils and committees).

Agreements of marine stewardship are any formal or informal contractual arrangement that aims to achieve ocean or coastal conservation goals in which one or more parties (usually right-holders) voluntarily commit to take certain actions, refraining from certain actions, or transferring certain rights and responsibilities in exchange for one or more other parties (usually conservation-oriented entities) voluntarily committing to deliver explicit (direct or indirect) economic incentives.

Marine stewardship requires the maintenance and enhancement of the public action, but it never aims to replace it. It is based on the principle of wilfulness of all the parts involved in its application: the civil society, the marine and fishing private sectors and the administrations.This volunteer character is reinforced by education, information, participation, decision making and collaborative work among the parts involved.

ECOSAFIMED project has the goal of the signing, at least, five marine stewardship agreements, between fishermen and various kinds of stewardship entities, depending on the country. These agreements will contain the former recommendations coming from the project activities, after being discussed and agreed with fishermen.

ECOSAFIMED events

Closing sessions

During November and December 2015, the final activities of the project are developed in Spain, Italy and Tunisia.

The INSTM, University of Genoa and ICM are organizing meetings with fishermen of ECOSAFIMED study areas to show and share with them project results.

During closing sessions, the main findings are showed by partners, being also a great opportunity to debate the general recommendations achieved after data analysis. The feedback of fishermen about recommendations is the base for the content of marine stewardship agreements with which they will voluntary commit.

Italian closing sessions have been held on 24 November in Ponza (Sala conferenze) and on 26 November in Patti (Ex Convento S. Francesco), summing up around 70 participants As a result of this meetings, the fishermen cooperatives “CooperativaPescatori Marina di Patti” and “CoGePesca”, together with GAC-Grupo di Azione Costiero (coastal action group) are discussing the terms of one stewardship agreement to be signed before the end of the project.

Closing sessions in Patti (Sicily) and Ponza (Lazio)

In Tunisia and Spain, these meetings are organized during the second half of December in the Mediterranean locations of Cap de Creus, Menorca, Kelibia, Bizerte and Tabarka.

More information

Website

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The 2007-2013 ENPI CBC Mediterranean Sea Basin Programme is a multilateral Cross-Border Cooperation initiative funded by the European Neighbourhood and Partnership Instrument (ENPI). The Programme objective is to promote the sustainable and harmonious cooperation process at the Mediterranean Basin level by dealing with the common challenges and enhancing its endogenous potential. It finances cooperation projects as a contribution to the economic, social, environmental and cultural development of the Mediterranean region. The following 14 countries participate in the Programme: Cyprus, Egypt, France, Greece, Israel, Italy, Jordan, Lebanon, Malta, Palestine, Portugal, Spain, Syria (participation currently suspended), and Tunisia. The Joint Managing Authority (JMA) is the Autonomous Region of Sardinia (Italy). Official Programme languages are Arabic, English and French. (**www.enpicbcmed.eu**).

The European Union is made up of 28 Member States who have decided to gradually link together their know-how, resources and destinies. Together, during a period of enlargement of 50 years, they have built a zone of stability, democracy and sustainable development whilst maintaining cultural diversity, tolerance and individual freedoms. The European Union is committed to sharing its achievements and its values with countries and peoples beyond its border.

This newsletter has been produced with the financial assistance of the European Union under the ENPI CBC Mediterranean Sea Basin Programme. The contents of this document are the sole responsibility of Biodiversity Foundation and can under no circumstances be regarded as reflecting the position of the European Union or of the Program's management structures.