Guidelines for the management and valorization of Protected Areas

Best practices produced by the Apulia region protected areas

Co-funded by the European Union – European Regional Development Fund (ERDF)
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Table of contents

Introduction……pag. 3

Best practices……pag. 4

Materials and Methods……pag. 7

Critical analysis approach……pag. 8

Limitations to the analysis of Natura 2000 sites management ecological effectiveness……pag. 8

Policy planning and implementation process ……pag. 9

Best practices : definition……pag. 14

BIG project Best practices catalog……pag. 15

Protected Areas management process……pag. 17

References……pag. 23

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Introduction

The data collected were used for the realization of a data-set that includes:

- Scientific name: was used the binomial nomenclature recognized by the EUNIS system.
- Taxonomic group: animal or plant group having natural relations
- Status and conservation: summary of available information on the conservation status of the species in Europe and Italy, as well as regulatory and legislative aspects concerning the species. Was used the Red Lists, CITES, Birds Directives and Habitat Directive (Conti *et al.,* 1992, Conti *et al.,* 1997)
- Bibliographic references that lists: Author/s, title; magazine; year of publication.

For invertebrate and vertebrate fauna was considered the taxonomic groups:

- Porifera, Cnidaria, Mollusca, Crustacea and Echinodermata, Amphibians, Reptiles, Birds and Mammals.

For flora was considered the taxonomic groups:

- Algae, Pteridophytae, Gimnospermae and Angiospermae

Literature collection ranges from a period 1934-2015

Natura 2000 sites management effectiveness

Action 2.2 of the BIG project is intended to assess the effectiveness of the management of Natura 2000 through the analysis of the best practices used and / or produced by the managing bodies.

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To this aim, we completed a critical analysis based on the founding documents and best practices coming from BIG project area.

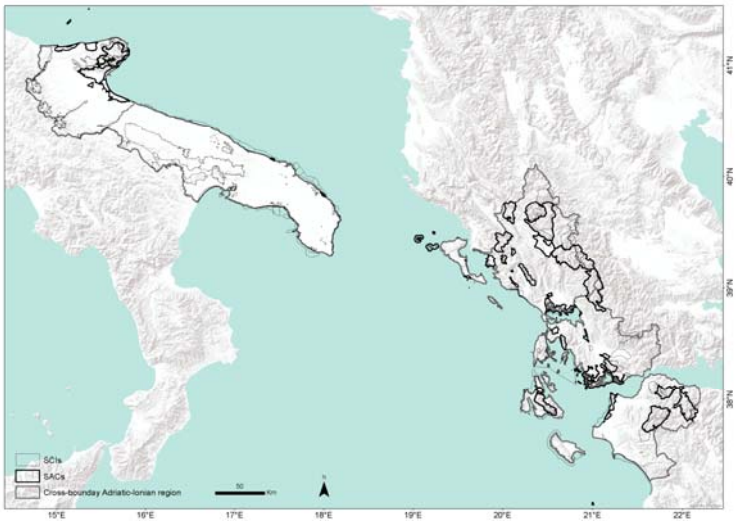

Figura 1: The cross-boundary Adriatic-Ionian region includes Apulia, Ionian Islands, Epiros and Western Greece Regions

Best practices

Best practices are, by definition, the best ways to reach a specific goal.
A Best practice (BP) could be a technological innovation, a new way of utilising natural resources, a new working method or immaterial “tool” or new ways of collaborating between stakeholders or some combination of these that gives positive results for the environment and preferably also for the economy and society at large. A BP should be implemented in practice.

A BP should also raise environmental performance to above state of the art level. The concept of Best Practice is roughly synonymous with labels such as good examples, good practices, success stories, front-line demonstration facilities etc.

BPs are relative, not absolute, and depending on region, context and time. Nothing is “best” everywhere and forever. Hopefully, cases that are considered BP today will be widespread mainstream solutions tomorrow. BPs could also be found on different system levels, e.g. a new energy conservation appliance could be considered BP, but also a building or a city block, with a large number of environmental innovations related to heating, water and waste could as a whole be considered a Best Practice.

To classify an action as BP or GP, this must be disseminated and replicated over time and space (At a workshop in The Hague, the Netherlands on May 11–12 2004, the LIFE Committee reached a common un- derstanding on how to use BP as a dissemination method to replicate project results of the LIFE programme).

Relevant features that distinguish best practices from good practices and guideline are their validation, replicability and dissemination.

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In the context of the EU Co-funded BIG (*Improve governance, management and sustainable valorization of coastal and rural protected areas and contributing to the implementation of the Natura 2000 provisions in Greece and Italy*) best practices have been collected through a web search and questionnaires submitted to the managers of the protected areas to build a reference database/atlas.

The database critical analysis has highlighted some gaps about the effective presence and applicability of these best practices. The process of protected area management is composed by two principles sub-processes.

The first one, a top-down process, that specify the parameters of conservation, by the founding of the protected area. The second is a bottom-up process connected with the activity of the management entity.

Moreover, their effectiveness has been analyzed on the base of the specific characteristics of the Italian and Greek areas involved in the BIG project. Some contrasting problems to the best practice application have been highlighted.

We can divide the forms of management of Natura 2000:

- policies and regulations at the regional scale;
- site management;
- conservation actions active

Materials and methods

For the collection we have been used 3 search criteria:

1) A web-based search of scientific literature (via different university libraries, SCOPUS, ScienceDirect and Google Scholar) and grey literature (via a general web search and Google Scholar) has been conducted.

This type of analysis was conducted through:

- The examination of the "Project derivables" (mainly Best Practices, Good Practices, Guidelines, Handbooks) made under the various programs of regional cooperation, national and international;

- Examination of Best Practices, Good Practices, Guidelines, Handbooks made by various national and international organizations (IUCN, CBD, WCPA, Ramsar Convention, the European Commission - Natura 2000);

- Examination of Best Practices, Good Practices, Guidelines, Handbooks, Establishment Degree; Regulation drawn up by the individual protected areas involved in the project.

2) Questionnaires submitted to the managers of protected areas involved in the project;

3) Survey through direct interviews with managers of protected areas involved in the project.

Critical analysis approach

The large majority of analysed studies adopted a '**critical analysis**' approach when discussing the ecological effectiveness of Natura 2000 sites for given species and/or habitats. As defined by the Convention on Biological Diversity, a critical analysis within the conservation context is "*an assessment of the extent to which a protected area system meets protection goals set by a nation or region to represent its biological diversity*".

In short, critical analyses determine ecological effectiveness based on whether the site or network of sites provide the necessary requirements or coverage of a species/habitat for achieving favourable conservation status in the long-term.

Limitations to the analysis of Natura 2000 sites management ecological effectiveness

Several factors were outlined in the literature as being barriers to determining the ecological effectiveness of the Natura 2000 network. Amongst these factors, the lack of available and reliable data was most frequently cited/quoted in the reviewed sources.

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In the context of marine protected areas, the lack of before-after-control-impact assessment was cited as a limitation for assessing effectiveness (Olsen *et al.,* 2013).

For studies that gathered data first-hand, it was found to be patchy and inconsistent in terms of the methodologies used, making a uniform comparison of data and analyses across studies difficult. Also, many articles cited the resolution of data as limiting the extent of detail possible in analyses. Data was often only available at coarse scales, which in some cases may have obscured recognition of the impacts of small Natura 2000 sites. Despite these shortcomings, Henle *et al.*, (2014) highlights that the majority of Member States do not officially recognize the need to collect more data and that the institutions which are currently involved in biodiversity monitoring activities are largely lacking knowledge, financial resources and human capacities to respond to emerging European priorities.

Policy planning and implementation process

Multiple factors were cited in the literature which can impede the ability of policy makers and planners to make appropriate policy decisions in response to current and potential future threats (Apostolopoulou and Pantis 2009; Bagella, Caria, and Filigheddu 2013; Albuquerque *et al*,. 2013).

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In addition to a range of contextual barriers which come into play (including, e.g. economic, financial, institutional and political barriers), this incapacity also results from a lack of reliable data (Abdulla *et al.*, 2008; Henle *et al.*, 2014) and from insufficient communication of scientific data to policymakers and planners (i.e. inadequate 'knowledge transfer'), particularly within the context of performing gap analyses (Müller and Opgenoorth 2014; Milberg 2014). Regarding marine protected areas, for example, Johnson *et al.*, (2008) found that current knowledge of species' role in maintaining the structure and function of marine habitat types presented a barrier to efficient selection of these sites; using only a key species as an indicator for site performance or habitat health could be counterproductive, since too little is understood about marine species and marine ecology. In the face of coming challenges such as climate change, more emphasis needs to be placed on sharing objective, scientific information in the policy planning and implementation processes in order to increase the effectiveness of the Natura 2000 network (Maiorano *et al.*, 2007).

Insufficient participation of the public and of land owners and lacking support of local authorities was also found to negatively impact the effectiveness of Natura 2000 implementation.

While local authorities play an important part in identifying important areas for conservation (especially in connecting sites), targeted efforts to increase their support for the Nature Directives (Beunen, Van Assche, and Duineveld 2013; Grodzinska-Jurczak and Cent 2011) should be complemented with increased (voluntary) participative (Beunen and de Vries 2011; Lawton *et al.*, 2010; Henle *et al.*, 2014; Apostolopoulou, Touloumis, and Pantis 2014) and bottom-up processes (Grodziska-Jurczak *et al.*, 2012; Mathevet *et al.*, 2014).

The conflict between economic interests and conservation goals was identified as a further risk to conservation planning and implementation (see e.g. Albuquerque *et al.*, 2013; Papageorgiou and Vogiatzakis 2006; Péron *et al.*, 2013; Miklín and Čížek 2014). In France, for example, concern has been expressed about successfully implementing marine protected areas with weak regulations that do little for helping conservation status, or whose efficiency is threatened by high and/or increased fishing activity at marine protected area borders (Péron *et al.*, 2013). A lack of support by local authorities was also found in Poland due to concerns about potential restrictions on various types of economic and infrastructure development which might result as a consequence of new Natura 2000 site designations (Grodzinska-Jurczak and Cent 2011). A lack of clear goals and divergences between stated and actual goals in Greece has also been cited as having “led to bureaucratic

interpretations of conservation objectives and distortion of decision processes in favour of satisfying economic and development interests" (Apostolopoulou and Pantis 2009: 221). This factor is exacerbated by the lack of access to and use of scientific data, meaning that other concerns assume a more dominant role in planning and implementation than objective scientific information.

Inadequate personnel, administrative and financial resources resulting in ineffective management are cited in the literature as a further factor hindering the effective implementation of Natura 2000 goals(see e.g. Abdulla *et al.*, 2008; Albuquerque *et al.*, 2013; Ioja *et al.*, 2010).

Effective management is key to the success of Natura 2000, but is challenged by the inclusion of a variety of land categories with different ownership status, types of land use and levels of human activity (Grodzinska-Jurczak *et al.*, 2014) as well as varying amounts of data availability.

Most habitats in the Natura 2000 network have historically been created and/or significantly affected by human activity (Maiorano, Falcucci, and Boitani 2006), leading many studies urge the consideration of human activities as an integral part of habitat and species management. The literature review found that the central role of conservation and low-intensity agriculture and forestry activities in preserving valuable habitats is not reflected in Member State policy priorities and site management (Maiorano, Falcucci, and Boitani 2006; Halada *et al.*, 2011; Miklín and Cížek 2014)

Studies also found an insufficient implementation of management plans across Member States (MS), species, and habitats, which negatively impacted progress towards conservation goals (Abdulla *et al.*, 2008; Agardy, di Sciara, and Christie 2011; Henle *et al.*, 2014). The establishment of management authorities has been uncoordinated and inefficient in many Member States, especially when multiple protection designations cover the same area, as is the case especially in Greece (Apostolopoulou and Pantis 2009). Management authorities are still lacking for many parts of the Natura 2000 network, and, as raised in section 3.1, there is also a significant need to increase stakeholder participation and community engagement in management processes (Apostolopoulou, Drakou, and Pediaditi 2012; Grodzinska- Jurczak *et al.*, 2014); Grodzinska-Jurczak et al 2014).

The aim of the Natura 2000 Network is to protect vulnerable habitats and species across their natural range in Europe and ensure that they are restored to, or maintained at, a favourable conservation status.
Natura 2000 is however not merely a system of strict nature reserves where human activities are systematically excluded.

Management of Natura 2000 sites is therefore best done by working closely with the landowners and stakeholder groups in or around individual Natura 2000 sites in order to agree on the most appropriate ways to conserve the species and habitats whilst respecting the local socio-economic and cultural context.

Over, the years, the Commission has been actively encouraging the exchange of experiences and good practices on the management of different types of Natura 2000 sites.

Best practices: definition

Formally a Best practice (BP) could be a technological innovation, a new way of utilising natural resources, a new working method or immaterial “tool” or new ways of collabora- ting between stakeholders – or some combination of these that gives positive results for the environment and preferably also for the economy and society at large. A BP should be implemented in practice.

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BIG project Best practices catalog

An objective of the BIG project is to build a catalog of "Best practices" related to some management aspects of Natura 2000 protected areas.
Research was carried out mainly on the web; two scales of research have been followed (Young *et al.*, 2012) :

1 - large scale: research on the websites of international and national organizations concerned conservation and management of protected areas (IUCN, Ramsar, CBD, WWF, Ispra, EU);

2 - project (local) scale: research on the websites of the regions involved in the project (Apulia, Western Greece, Ionian Islands) and the websites of protected areas that comprise the BIG area.

We also collected founding documents , regulations of BIG protected areas; hanbook and other type documents.

It was necessary to clarify the definition of "best practices" in order to establish a hierarchy among the documents collected, as not all were within the limits of the definition. The internal catalog subdivision is also due to a time factor as the word "best practice" has become commonly used in the management of protected areas only recently and most of the documents are labelled as guidelines and good practices.

They were collected 298 documents divided into 16 best practices, 30 establishment decree, 10 good practices, 103 guidelines, 32 handbook, 65 regulation and 42 other type document.

The catalog has been made available as an on line repository (http://big-project.di.ionio.gr/best-practices.html) freely available and queried through 6 tags:

- BEST PRACTICES
- GOOD PRACTICES
- GUIDELINES
- HANDBOOK
- REGULATION
- OTHER

The repository is including user manual and synthetic files, explaining the contents of the repository useful to improve the consultation by stakeholders.

Once the search is complete documents online, the survey was addressed directly to the managers of protected areas of the BIG by filling in a questionnaire information.

The questionnaires include information on:

1- natural features of protected area (species and habitats)
2- most significant problems of protected area
3- use of "Best Practices" from international institutions
4- production of "Best Practices" by the bodies managing the protected areas of the BIG
5- critical evaluation of 'managing body of the practices implemented

Protected Areas management process

The collection of basic documents, regulations and practices applicable documents allows to control the whole process management of protected areas. In fact the process of protected area management is composed by two priciples sub-processes. The first one, a top-down process, that specify the parameters of conservation, by the founding of the area. The second is a button-up process connected with the activity of the managing body.

Indeed decrees and regulations define the constraints of action of the managing bodies (Louette *et al.*, 2011).

In the founding documents, they are given the institutional objectives of each protected area, the target species and habitats; while regulations are found some forbidden activities within the area. The first legally identify management priorities and the latter reported in more specific constraints being put on the achievement of the objectives contained in the founding documents.

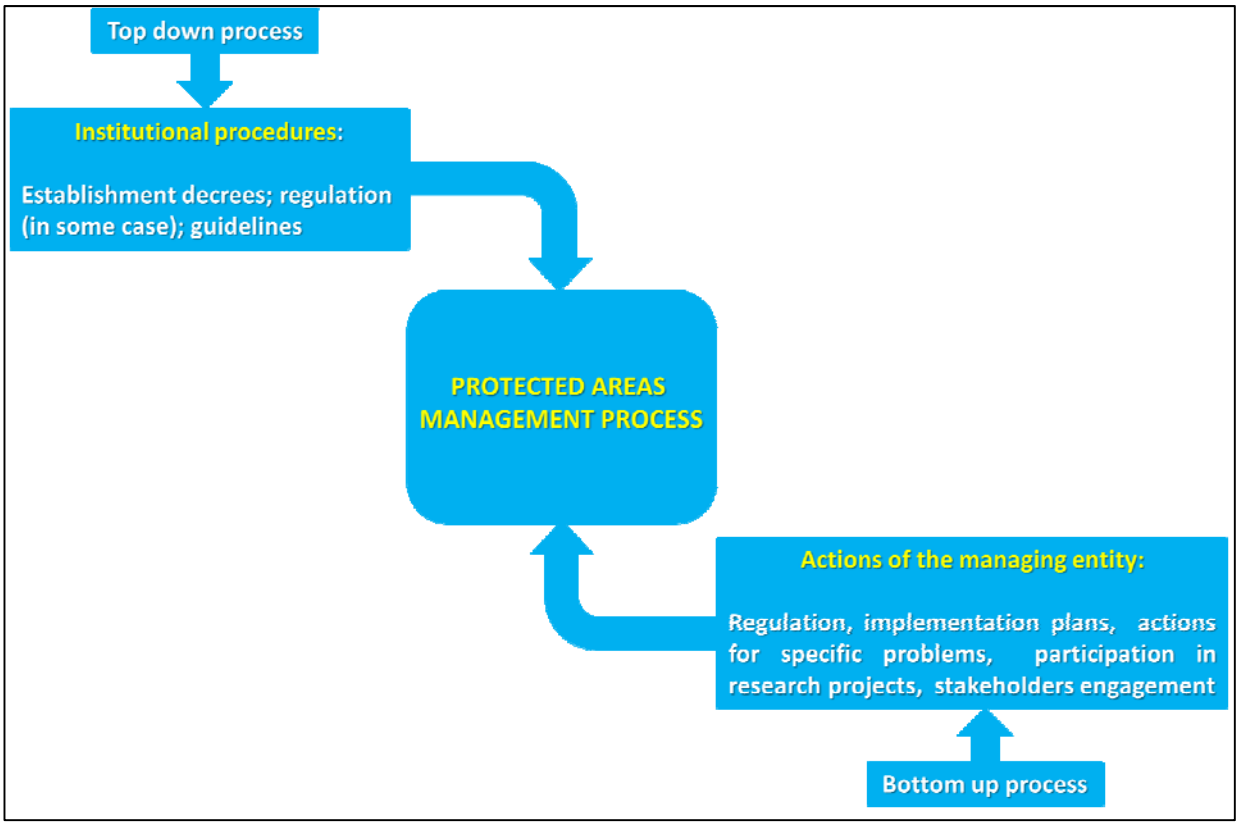

Figure 2.: Protected areas management process scheme

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The gap analysis of the BIG protected areas asset management asset of is composed of two successive steps:

1- comparison of habitats and species (from the official lists downloaded from the website (ec.europa.eu) with habitats and species present in the founding documents and regulations

2- comparison of habitats and species with the objectives of the practices implemented in the protected areas of the project.

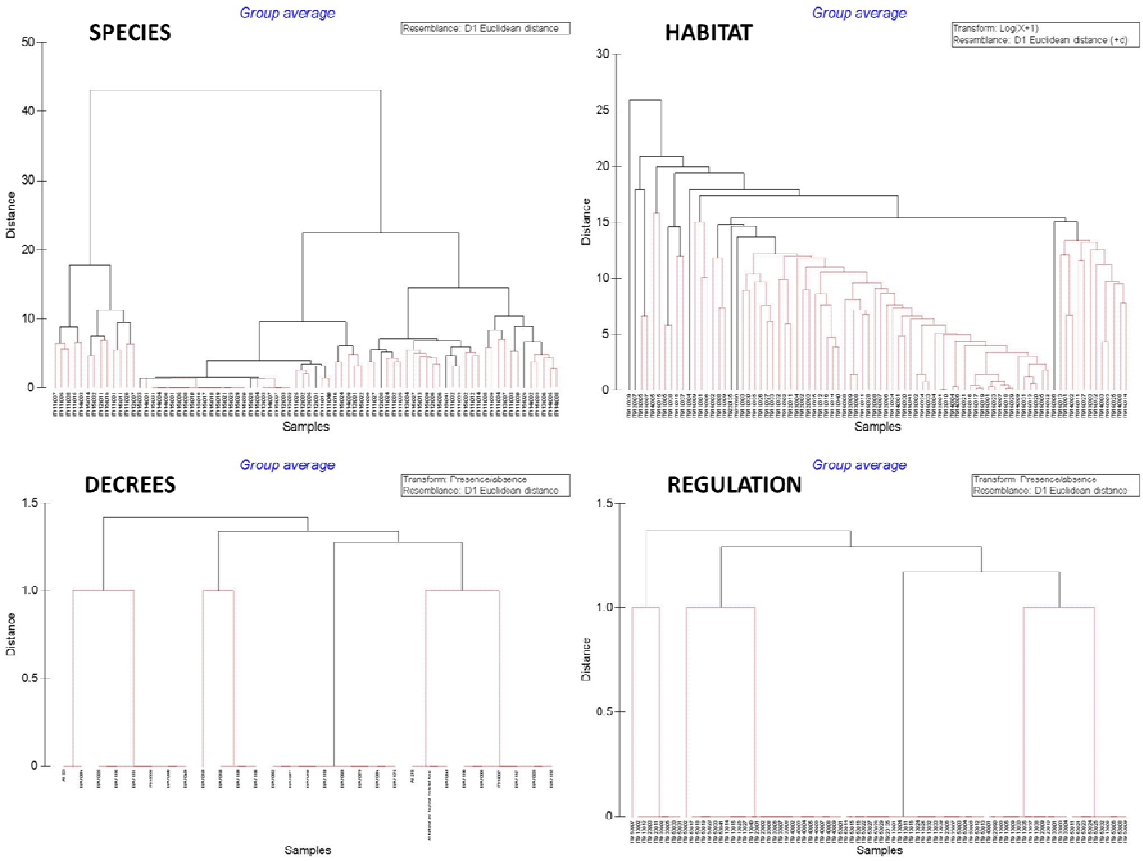

Figure 3: The decrees setting up are not representative.

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They have identified two major critical issue.

1 - The decrees setting up are not representative of the peculiarities of the protected areas (Figure 3).

2- The management bodies do not produce best practices; formalize few practices within the parameters accepted and not make them usable by stakeholders.

The only best practices formally correct coming from Puglia Natura 2000 sites relates to the management of small-scale produced by the protected area of Torre Guaceto.

The marine protected area of Torre Guaceto extends over 2200 ha, with 8 km of coastline. Its maximum depth is 50 metres. The reserve is divided into 3 separate regulatory areas. The Torre Guaceto territory has always been a site frequented by fishermen. Upon its creation in 1991 fishing was initially prohibited in the marine protected area. With the help of scientists and fishermen, the managers have established a management plan where a partial opening of the reserve for fishing was decided on. Joint governance with the fishermen was then put in place to ensure adapted and regulated co-management: the fishing effort has been determined and the fishing gear selected in order to limit the impact of fishing on juveniles, benthic communities and habitats (length of trammel nets and mesh size).

Fishing is now regulated in the marine protected area and only artisanal fishing can be practised in zone C once a week and by a limited number of artisanal fishermen (all other forms of fishing are prohibited). Fishing catches monitored inside and outside of the MPA show that catches on the inside of the MPA are 2 to 3 times higher than those on outside of the MPA. The fishermen have formed a cooperative of fishermen from Torre Guaceto, bringing the fishermen together in an association, with the idea of fishing less and selling more.

They are clearly identified and speak with one voice.
They have received public awards and have created a quality mark. Communication has been essential to enhance the marine protected area of Torre Guaceto and its co-management with the fishermen. Fishermen from Torre Guaceto emphasised the good results of this co-management experience, which translates into good returns for their business. Fishermen are also promoting their business among the younger generation and intervene in schools to stress the importance of sustainable fisheries and sustainable environment.

In Italy, the regulations do not permit fishermen to be part of the management bodies of marine protected areas. On the other hand, each site is free to get involved in management activities such as the creation of the management plan and the defining of the MPA rules (such as at Torre Guaceto).

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The best practices carried out establishing the Torre Guaceto (Puglia Region) MPA regard the following main issues:

- The Torre Guaceto territory has traditionally been exploited by fishermen
- The fishing effort and gears has been determined in order to limit the impact on fishing on juveniles, benthic communities and habitats.
- Fishermen established a cooperative with the idea “fishing less and selling more”
- The cooperative received public awards and created a quality mark
- Communication has been a main driver for the business promotion
- Greater involvement of schools and young generations
- Fishermen involvement in a specific management plan

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