

Fisheries co-management plan in a Natura 2000 site

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Report	Fisheries co-management plan in a Natura 2000 site and operative protocol
Description	Development of an implementation model for an innovative governance system for fisheries resources and the coastal zone that involves all relevant institutions Definition of the Management Protocol of an Apulian coastal area and of fish resources subjected to professional fishery. Draft law scheme that would export the 'Blue Oasis' tool, adopted by the Apulia Region, to other territorial realities as an effective measure for the delimitation of areas for the recovery of fish stocks and biodiversity conservation.
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1. INTRODUCTION

ARGOS project aims to establish a common governance of fishery and aquaculture activities in the Adriatic Sea, with the purpose of protection of marine resources and preservation of good environmental status.

The Apulia Region in the framework of activity 5. 2 for the elaboration of a co-management plan for fisheries in a Natura 2000 site, has elaborated a progressive work process divided into 3 steps: 1) Modelling of the shared management of fishery resources and the coastal strip, involving all the institutions in charge in the decision-making process; 2) Elaboration of a management protocol to govern professional fishery, in order to improve the fishery stock as well as do not damage the conservation status of habitats and species of the Natura 2000 site; 3) Definition of a law scheme to export the “Blue Oasis”, as a conservation tool for fish stocks and biodiversity in Natura 2000 marine sites.

The overall strategy has been the search for win-win solutions, the activities distributed in phases allowed for a progressively detailed analysis of the issue. Through modelling, a common scheme was identified, which is crucial for replicability of the model, the management protocol and of the law scheme within the ARGOS partnership. While still in line with the project objective, the replicability is actually much broader, being applicable to all marine and coastal areas of Natura 2000 sites in which fishery is carried out.

Through the development of the management protocol, a win-win solution gradually emerged and was identified as the Ecosystem Based Management (EBM). EBM is a concept originated in science and was later applied to maritime spatial planning (Directive 2014/89/EU) as well as to areas where, similarly to fishery, production depends on ecosystem conditions. EBM considers mankind as an integral part of the natural system, it is an interdisciplinary management approach that recognises the complex nature of ecological systems and integrates social, ecological and governance principles to achieve sustainable use of natural resources in an equitable manner. EBM is based on management aimed at maintaining the structure and functions of the ecosystem, while maintaining the services produced over time. As a matter of fact, fishery totally depends on the precise ecosystem service “*the provisioning of food*”, codified in the Common International Classification of Ecosystem Services (CICES) classification as “*Wild animals (terrestrial and aquatic) used for nutritional purposes*”.

Unmanaged or poorly managed fisheries can deplete marine resources, for instance when overfishing occurs, leading to a progressive reduction in the catch, as well as bycatch can impoverish the coastal marine ecosystem and its capacity to produce ecosystem services as the food provisioning, feeding a negative spiral. On the contrary a wisely management of fishery times, methods and areas allows not only a long-lasting use of fish resources but also to increase the natural stocks, by improving the coastal marine ecosystem in a positive synergy with the fishery sector.

Drafting of the law has therefore followed the aforementioned principles, taking into account the EU regulations concerning professional fishery and the competences of the various Authorities in the field, with the aim of contributing to the implementation of sustainable fisheries by pursuing the durability of fishery resources for present and future generations as well as conserving and increasing fish stock as an ecosystem service of marine and coastal areas.

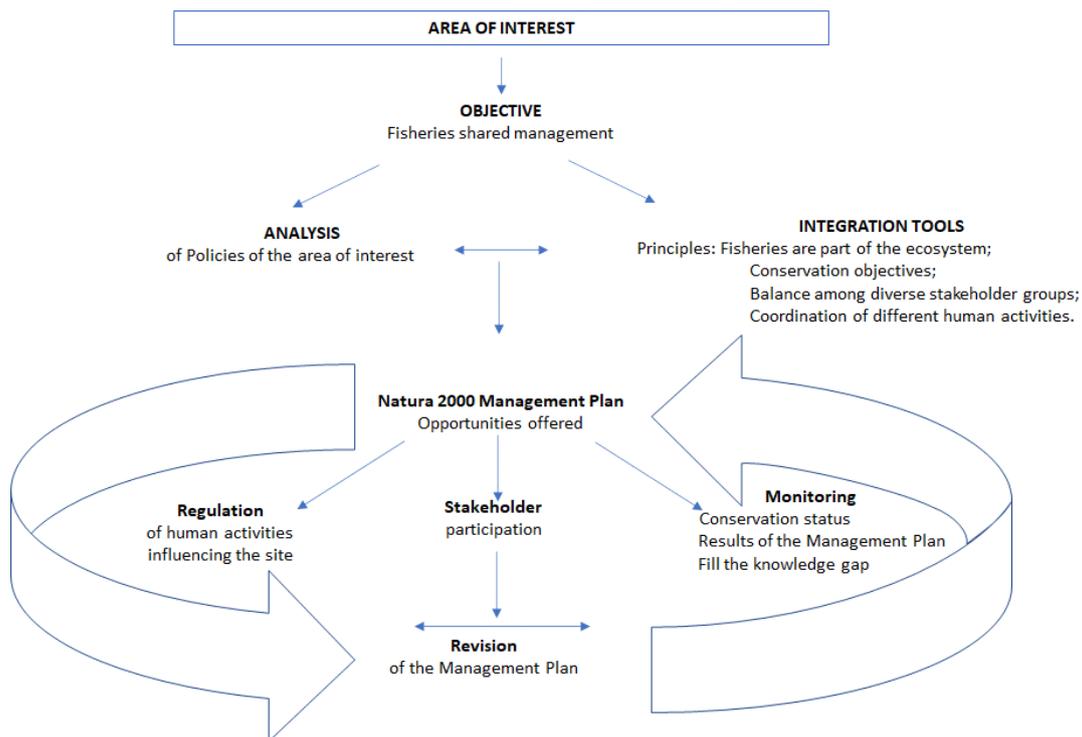
Last but not least, it is necessary to mention that the professional fishery sector, in comparison to other primary sectors, is not particularly abundant in terms of number of employees, but it constitutes a strategic section of the socio-economic mosaic, since it feeds the chain of other irreplaceable sectors: trade, tourism and catering.

2. ATTUATIVE MODEL FOR FISHERY RESOURCES AND COASTAL AREA CO-MANAGEMENT PLAN

The model for fisheries co-management plan for the shared management of marine activities in a Natura 2000 site has been developed from the study of the pilot site of the Apulian coast, sited in the Special Conservation Zone (SCZ) IT9140005 *Torre Guaceto e Macchia S. Giovanni*.

The model defines a scheme of logical steps in the framework of policies insisting over the pilot site. Moreover, it can be implemented into the other Natura 2000 marine sites of ARGOS Project, or even further, since it is based on the technical principle of the Ecosystem services, that are common to the ecosystems and not linked to local regulations, because the common binding policy is the EU Habitat Directive.

The modelling approach adopted is outlined in the following flow chart.



The principle of the model is the co-management of the area of interest, following the spirit of Apulia Region law n. 43/2017, nevertheless policies analysis highlighted opportunities that must be seized. In particular, Management Plan of the site is not mandatory, but in case it should address all existing activities, including regular ongoing activities; participation of stakeholder is necessary and fisheries can also provide valuable data for the monitoring activities.

Besides the abovementioned features the developed model:

- a) is not strictly linear, in particular logical steps of policies analysis and technical integration might follow a different sequence. In some cases the results of the analysis might be already available;
- b) is adaptative, it means the results of the management plan must be monitored, taken in account and, in case of undesired outcomes, the Plan can be reshaped. As a matter of fact, the environment condition over the years might change both as result of the actions as for complementary and unforeseen impact from other sources;
- c) must be monitored, the monitoring of fishery target species, no-target species and socio-economic impact is a cardinal component of the management model and necessary for the revision;
- d) is replicable, the model can be applied to the area of ARGOS Project, since Habitat Directive is binding for all the Member States of European Union.

APPLICATION OF THE MODEL TO THE NATURA 2000 PILOT SITE ON THE APULIAN COAST

Area of interest

The area of interest is the Special Area of Conservation (SAC) IT9140005 Torre Guaceto e Macchia S. Giovanni covering a surface of 7,978 ha, of which 7,659 marine area and 319 ha coastal/terrestrial area.



The pilot site interest the fisheries of the municipalities of Fasano, Ostuni, Carovigno and Brindisi.

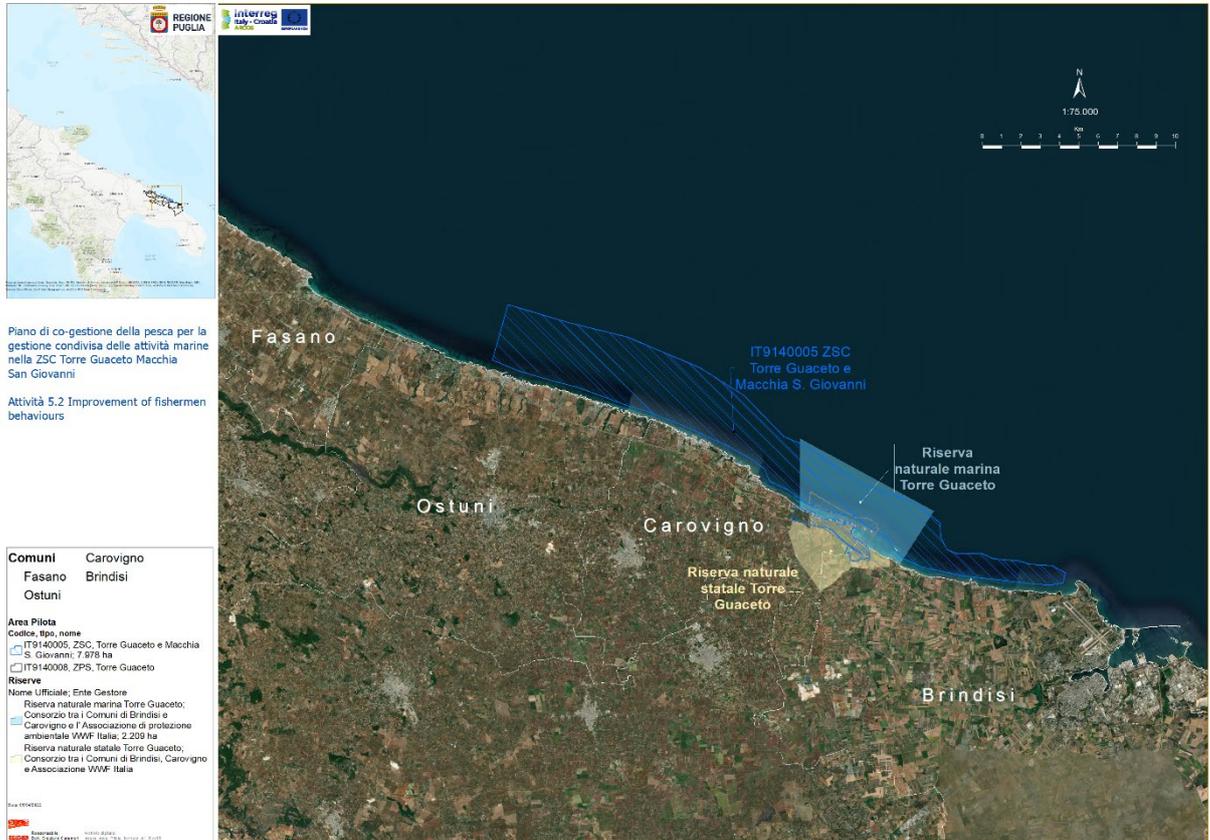


Figure 1: area of interest.

Objective

The specific objective is Fisheries resources conservation and shared management.

Analysis of policies of the area of interest

The main policies insisting on the area of interest are:

- Habitat Directive 92/43/EEC – implemented by Italian D.P.R. 357/97 -
- Italian Minister's Decree DM 3 settembre 2002. G.U. n. 224 del 24 settembre 2002
- Italian law L. 394/91;
- Italian Minister's Decree DM 04/02/2000 (G.U. n. 124 30/05/2000);
- Ramsar area (D.P.R. n.448 del 13 marzo 1976);
- Apulia Region Law n. 43/2017.

The above listed policies do not cover all the pilot site but portion of it and also do not coincide, the pilot site Natura 2000 overlaps all the other areas and therefore constitute an useful framework also for integration of other policies.

Integration tools

Fisheries insist on an area with an array of different policies, most of which the main objective is the conservation of habitat and species, therefore apparently in contrast with economic activities and exploitation of the resources.

Anyhow, the importance of the environment and the strict link among ecosystem preservation and economic activities has a long history.

The Ramsar convention is half a century old and its introductory paragraph clearly states: *“Being convinced that wetlands constitute a resource of great economic, cultural, scientific, and recreational value, the loss of which would be irreparable”*.

The statement introduced the concept of economic connected to the ecosystem. Since then, the concept evolved into the Ecosystem services which are defined by the IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) as *“The benefits people obtain from ecosystems.”*

And the most recent studies highlight that *“An ecosystem is healthy if it is active, maintains its organization and autonomy over time, and is resilient to stress. Healthy ecosystems provide human well-being via ecosystem services, which are produced in interaction with human, social and built capital”* (Hernández-Blanco et al. 2022).

Therefore, the sustainable management of fishery is a different way to look at Ecosystem Services (ES) as matter-of-fact fisheries rely on a well-known

Provisioning ES "Wild animals (terrestrial and aquatic) used for nutritional purposes" (CICES - Common International Classification of Ecosystem Services, ver. 5.1).

The area of interest is a Natura 2000 site and the Habitat Directive (HD) provide the opportunity of integration among economic activities and conservation of the ecosystem. In facts, the aim of the Directive is defined by Art.2:

"1. 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.

2. Measures taken pursuant to this Directive shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest.

3. Measures taken pursuant to this Directive shall take account of economic, social and cultural requirements and regional and local characteristics."

Again, the Directive aim is biodiversity conservation and human activities are not forbidden; actually the measures shall take account of economic, social and cultural requirements and regional and local characteristics and the influence of socio-economic factors on conservation of habitat and species must be considered.

Management Plan of Natura 2000 sites

The measures for conservation inside the site are defined by 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.*

The Commission notice "Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC' (2019/C 33/01)" clarify that conservation measures are mandatory for habitat and species.

The Management Plan (MP) are not mandatory for such sites but, as general rule, a MP should be drafted and adopted whenever the conservation measures are considered not sufficient to reach the conservation objectives. MP should address all existing activities, including regular ongoing activities.

A second point to consider is the practical advantages of a MP, such as introducing not only actions for the conservation of the target habitat and species but also a tool for monitoring and revising the implementation of the management plan and its objectives. Furthermore, MP must take in consideration positive or negative interaction with economic activities of the area of intervention. The Italian Ministry of the Environment provided guidelines for drafting such Management Plan (*Linee guida per la gestione dei siti Natura 2000. 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*). In the following section is proposed a structure of the Management Plan which follows the cited guidelines of the Italian Ministry of the Environment. The structure does not replace the guidelines but it is useful to highlight the opportunities offered by the MP, which can be used in any sites since it is based on the ecological requirements of the target habitat and species, as well as the territorial and socio-economic context.

The Management Plan can be divided into 5 main chapters:

1. Overview of the Natura 2000 site characteristics
2. Assessment of the ecological requirements of habitat and species
3. Conservation objectives
4. Management strategy
5. Revision and monitoring of the Management Plan

The Management strategy includes concrete actions necessary to reach the conservation objectives. The actions are categorized by methods of implementation:

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

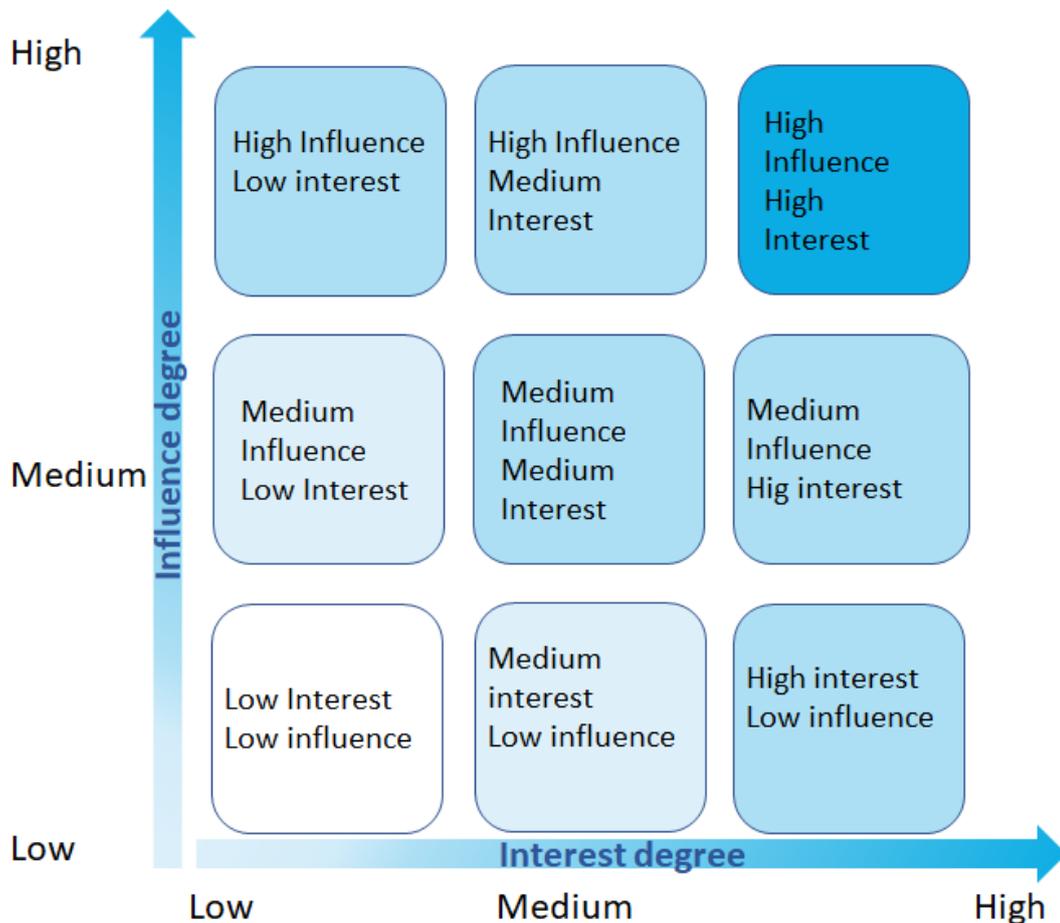
In the present context the Regulations are the main tool for the fisheries management, and deal also with the monitoring program and the Revision of the Management Plan.

Stakeholder

Since Management plans should address all existing activities, including regular ongoing activities, the participation of stakeholders is a tool to improve the success probability of the plan.

Stakeholder can be mapped in a matrix which offers a view of the level of interest as well as of influence of each stakeholder. The matrix is a classification of the degree of interest plotted on x axis on an increasing scale from low to high interest, and the degree of influence plotted on y axis again from low to high influence, all the intermediate levels can be used.

In general term, the stakeholders positioned at the lower extreme level, such as low interest and low influence, probably, do not want even being involved. At the opposite stakeholders with high influence and high interest are probably the main driver of the decision-making process.



Stakeholder mapping matrix

In the case of professional fishery, the level of influence depends on local conditions, and - in addition to participation - professional fishermen have a

specific role in monitoring actions that needs to be capitalized; as fisheries can provide valuable data on changes occurring at the site. In fact, the species targeted by fisheries are not the species object of conservation but share the same environment and are connected by the same trophic web. Furthermore, fisheries can provide data also on species and habitat of conservation interest, such as bycatch, occasional sighting, indirect surveillance of the area and data on the presence and abundance of alien species.

The fisheries therefore are not only stakeholder to be involved but shall be an active actor in the management of the site.

As a matter of fact, fisheries co-management is an application of governance of the “*Commons*” - being in this case the marine resources - and one of the main points of governance is information sharing.

Regulation

Regulations are any plans or laws that must be applied locally or at a wider scale, necessary for the conservation objectives. The regulations must be binding in order to grant the Authority the power to enforce such rules.

Considering that Management plans should address all existing activities, including regular ongoing activities; the regulation in this case shall regard the fisheries and it must be adapted to the need of the site and to the influence of fisheries on it.

The principle governing such the regulation is “*An ecosystem is healthy if it is active, maintains its organization and autonomy over time, and is resilient to stress. Healthy ecosystems provide human well-being via ecosystem services, which are produced in interaction with human, social and built capital*” and the objective is to maintain the provisioning ecosystem service of “Wild animals (terrestrial and aquatic) used for nutritional purposes” (CICES classification ver. 5.1)

The Apulia Region Law n. 43/2017 has the objective to Planning and development of regional fisheries and aquaculture, and Art. 8 letter d) foresees a management tool for fisheries regulation. Therefore, for the abovementioned reasons such a regulation shall be part of the of the Management Plan.

Monitoring

The monitoring and/or research programs aim to measure the state of conservation of habitats and species, as well as to evaluate the results of the actions of the Management Plan.

These programs also aim to fill in any knowledge gap, the accurate knowledge is necessary to define the management more precisely and to calibrate the strategy identified.

Revision

The Management plan structure include a chapter on Revision and monitoring of the MP. This chapter is of particular importance since the model must be adaptive, once regulations are set the results of regulation must be monitored and in case they shall be changed.

The revision objective is to evaluate the plan implementation and to adapt it to the new situation.

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

Other opportunities

The approval of a regulation of fisheries inside the Natura 2000 site Management Plan provides other opportunities and advantages.

The structure of the MP foresees also “Incentives”. They, on the contrary of regulations, are not mandatory rules but they can be used on voluntary basis. Incentives usually are economic with the objective to direct activities, economic, fisheries, touristic, etc., in the site useful to reach the conservation target.

The drafting and adoption of a Management Plan also avoid the environmental impact assessment of the activities already regulated in the site.

Replicability of the model

The model is replicable at the ARGOS programme scale since Natura 2000 is a European Network and each the Member States have designated these conservation sites.

Management Plan (MP) structure is defined by the Italian Ministry of the Environment guidelines (*Linee guida per la gestione dei siti Natura 2000. 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*); notwithstanding, the MP outlined has the aim to implement Habitat Directives therefore it can be applied to any of the SAC Natura 2000 sites.

Furthermore, the MP have the objective of conservation in favourable status and is based on Ecological requirements of the species and habitats and the Commission notice clarify that the ecological requirements “...are based on scientific knowledge and can only be defined on a case-by-case basis, according to the natural habitat types in Annex I, the species in Annex II, and the sites which host them. Such knowledge is essential to make it possible to draw up the conservation measures, on a case-by-case basis.”

The Apulia Region Law n. 43/2017 is a step forward supporting the integration of economic activities such as fisheries and resources conservation at Art. 1 “(a) the preservation, rational use and biological rebalancing of aquatic ecosystems and fish fauna and flora;”. Anyhow even in absence of such local law fisheries are strategic part of the economic, social and cultural requirements and regional and local characteristics, cited by the Art. 2 of Habitat Directive therefore the model is applicable.

The following table represents a minimal list of 36 Natura 2000 sites of Italy and Croatia in the Adriatic Sea with marine areas where potentially the model can be applied. Such list might be enlarged to include coastal sites with transitional waters in which fisheries occur even if practiced with different modalities and instruments.

Site code	Site name
HR1000035	NP Kornati i PP Telašćica
HR1000036	Srednjedalmatinski otoci i Pelješac
HR1000038	Lastovsko otočje

Site code	Site name
HR1000039	Pučinski otoci
HR3000062	Plićine oko Tramerke
HR3000099	Brusnik i Svetac
HR3000100	Otok Jabuka - podmorje
HR3000161	Cres - Lošinj
HR3000172	Obalna linija od luke Gonoturska do rta Vratnički
HR3000419	J. Molat-Dugi-Kornat-Žirje-Zlarin-Murter-Pašman-Ugljan-Rivanj-Sestrunj-Molat
HR3000426	Lastovski i Mljetski kanal
HR3000469	Viški akvatorij
HR3000477	Grebeni u Jabučkoj kotlini
HR4000001	Nacionalni park Kornati
HR4000008	Jabuka
HR5000032	Akvatorij zapadne Istre
HR5000037	Nacionalni park Mljet
HR5000038	Park prirode Lastovsko otočje
IT3250047	Tegnùe di Chioggia
IT3250048	Tegnùe di Porto Falconera
IT3270025	Adriatico Settentrionale Veneto - Delta del Po
IT3330009	Trezze San Pietro e Bardelli
IT4060018	Adriatico settentrionale – Emilia-Romagna
IT7120215	Torre del Cerrano
IT9110040	Isole Tremiti
IT9120009	Posidonieto San Vito - Barletta
IT9140001	Bosco Tramazzone
IT9140002	Litorale Brindisino
IT9140003	Stagni e Saline di Punta della Contessa
IT9140005	Torre Guaceto e Macchia S. Giovanni
IT9150002	Costa Otranto - Santa Maria di Leuca
IT9150003	Aquatina di Frigole
IT9150006	Rauccio
IT9150011	Alimini

3. MANAGEMENT PROTOCOL OF THE NATURA 2000 SITE

FOREWORD

The premises for the development of this Management Protocol (MP) stem from the necessity to regulate human activities that may influence the conservation status of habitats and species in a Nature 2000 site. The Art. 2 of the Habitat Directive defines the objective:

- “1. The aim of this Directive shall be to contribute towards ensuring biodiversity 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.*
- 2. Measures taken pursuant to this Directive shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest.*
- 3. Measures taken pursuant to this Directive shall take account of economic, social and cultural requirements and regional and local characteristics.”*

On the Nature 2000 site object of this protocol - IT9140005 SAC *Torre Guaceto e Macchia S. Giovanni*, the Conservation Measures approved by Regional Council Decision n. 262_08.03.2016 and modified by DGR_646_del_02-05-2017 are to be applied.

The conservation objectives of the measures include the *“regulation of the fishery activities and of the touristic-recreational fruition, with specific reference to anchoring and trawling”*.

Moreover, also transversal conservation measures, conservation measures aimed at habitats, invertebrates, marine turtles and marine mammals, have a direct impact on professional fishery.

Apulia Region promotes this Management Protocol for the identification of the *Blue Oasis*, in accordance with Regional Law 3 November 2017, n. 43, art. 8.

Area of the protocol application

The Management Protocol is applied at the Nature 2000 site IT9140005, SAC *Torre Guaceto e Macchia S. Giovanni*, in the marine area not covered by the Torre Guaceto Protected Marine Area (PMA), already regulated and zoned.

Therefore, it includes the North-Western portions of the PMA, covering 5.052 ha, as well as the South-Eastern part, covering 1.039 ha, as showed in *Figure 3*.

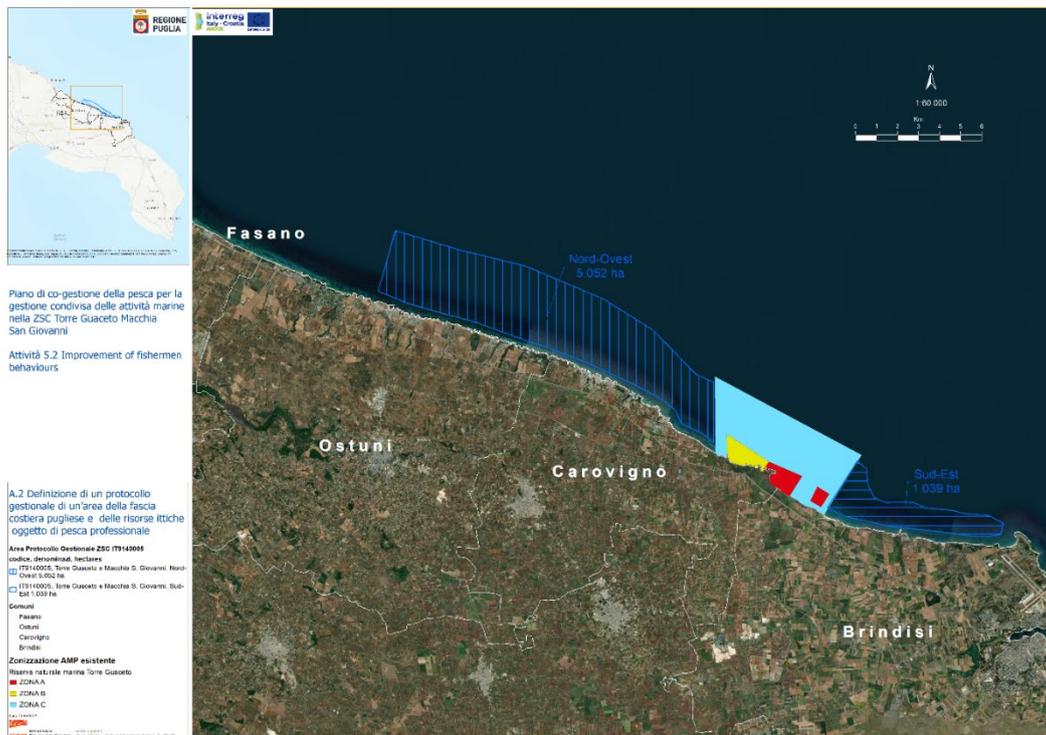


Figure 3: Area of the management protocol application.

Scope

The Management Protocol is intended for professional fishery operators and its subscription is voluntary and free of charges.

Objective

The general objective of the Protocol is to improve the sustainability of professional fishery through the rational use of resources and the biological recovery of aquatic ecosystems.

Specific objective is the shared management of fishery with the direct involvement of fishery companies that subscribe the protocol.

Council

In order to achieve the objectives of the Protocol, a Council is established, involving a representative of the Region, a representative of the Management Body of the site, and a representative of the professional fishery operators adhering to the protocol.

Based on an analysis of fishery data, the Council decides on the zoning of the object area of the protocol, establishing for example – but not limited to – biological rest areas, with annual or pluriannual rotation for the recovery of fish stocks.

The zoning and other provisions decided by the Council constitute a regulation for the entire professional fishery sector in the area of the protocol.

The Council meets at least once a year to analyse and assess the data on fisheries, the regulating provisions on professional fishery, the conservation status of habitats and species of the Nature 2000 site and all related issues.

Commitments and guarantees

The subscribers of the Protocol commit to the respect of current regulations and to their dissemination in their own interest and with the intent to promote a sustainable and fruitful fishery activity.

They have the right to participate in the co-management of the area through their own representative in the Council, as well as to possible incentives and indemnities defined for professional fishery within the area of the protocol.

Management

The subscription of this protocol of shared management represents the tool for to perimeter the *Blue Oasis*, for the formal identification by the Authority in accordance with art. 8, R.L. 3 November 2017, n. 43.

4. DRAFTING A LAW SCHEME ABLE TO EXPORT THE BLUE OASIS APULIA REGION'S TOOL

ASSOCIATED REPORT TO THE LAW SCHEME

Foreword

The Regional Law No. 43 of 03/11/2017 "*Planning and development of regional fisheries and aquaculture*", published on BURP No. 125 of 03/11/2017 (<https://burp.regione.puglia.it/documents/20135/1108727/LR43.pdf/3b1a42f1-af6c-900b-7f67-6b3d6e9cf15e?version=1.0&t=1622811839779>), states in Art. 8 that:

for the purpose of the protection, increase and enhancement of marine and lacustrine biological resources, without prejudice to national competences on the matter and as far as it is within their competence, the Director of the Department of Agriculture, Rural and Environmental Development of the Apulia Region - by their own measure and after consulting the Local Advisory Commission for Fisheries and Aquaculture - identifies, on the basis of specific studies, the areas of productive interest and/or management planning, proposing regulatory actions to the competent administrations.

Specifically, c. 2, lett. d) defines *Blue Oasis*:

a management tool that consists of the temporary acquisition (handing over) by a local authority of a Site of Community Interest (SCI) area at sea and/or any area conterminous to it, within which zoning and regulation of activities (professional, sporting and recreational) is carried out.

The application of this management approach in some areas found to be suitable has received some notes from the Central Ministries for environment and fisheries, highlighting, *on the one hand, a significant similarity of the areas called "Blue Oasis" with "Marine Protected Areas", also in terms of regulation, since the proposed regulations address environmental aspects that are beyond the scope of protection activities related to the increase and enhancement of marine biological resources, and, on the other hand, the exclusive competence of the Central Ministry on matters of fishery and regulation of*

fishery operations, through the provision of limits and prohibitions in time and marine space that, on the basis of scientific or technical studies, are recognized as an area of reproduction or growth of marine species.

The Regulation (EU) No. 1380/2013 of the European Parliament and of the Council of December 11, 2013 on the Common Fisheries Policy, stipulates in paragraph 1 of Article 20 that:

A Member State may take non-discriminatory measures for the conservation and management of fish stocks and for the preservation or improvement of the conservation status of marine ecosystems in the area of 12 nautical miles from its baselines, provided that the Union has not adopted conservation and management measures specifically for this area or that specifically address the problem identified by the Member State concerned. The same Regulation norms in Article 7 Measures for the conservation and sustainable exploitation of marine biological resources, which may include, among others:

- 1. the characteristics of fishery gears and the rules governing their use;*
- 2. limitations or prohibitions of the use of certain fishery gears, and of fishery activities, in specific areas or periods;*
- 3. the interruption of fishery activities of fishery vessels in a specified area for a defined minimum period to protect temporary aggregations of endangered species, spawning fish stocks, fish below the minimum conservation reference size, and other vulnerable marine resources.*

In order to clarify the interaction between the competent Bodies and to produce an scheme of a law coherent with national legislation and potentially adoptable in other EU areas as well, the ARGOS Project - through the Pilot Action operated by the PP5 Apulia Region - intended to identify the elements within which to better hinge the "Blue Oasis" tool:

1. The scope and perimeter of the rule is exclusively related to professional fishery.
2. The purpose of the draft bill is to help implement sustainable professional fishery - on local scale - by pursuing the durability of fishery resources for present and future generations, contributing to the increase of coastal ecosystem services, including fishery, which is recognised as an ecosystem service of food supply¹

¹ "Wild animals (terrestrial and aquatic) used for nutritional purposes" according to the definition of CICES (Common International Classification of Ecosystem Services) <https://cices.eu/>

3. The adopted approach taken in the drafting of the law scheme is to facilitate the Central Authorities in charge of identify effective and efficient bottom-up management tools, locally shared and immediately operational, after their approval.
4. For this reason, the role of the Regional Administrations in supporting the National Bodies in charge of to set rules for the correct recognition of the areas, is fundamental.
5. The Blue Oasis, therefore, takes the form of a mere management tool for local professional fishery only and hasn't - both in its setting and its purpose - no relevance to marine protected areas
6. It has the sole purpose of implementing measures to regulate the professional fishery activity in space and time, similarly to the so-called *Local Fisheries Management Plans* financed under European programming for fisheries and aquaculture.

Interactions between fisheries and Natura 2000 sites and coherence with Community regulations

The work of the Pilot Action is based on the one hand on evaluations on cross-border Directives and on the other on common scientific principles; for the above reasons, the scheme can easily be used in different territories and possibly customised for specific needs.

In addition to Regulation (EU) No. 1380/2013, the scheme has also been drafted taking into account the Habitats Directive 92/43CEE and its subsequent modifications (on the conservation of natural habitats and of wild fauna and flora) and Regulation (EC) No. 1967/2006 as amended (on management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea), as well as the latest technical and scientific principles for sustainable fishery and resource conservation.

Fishery that is not wisely managed can deplete fishery resources, whenever overfishing occurs, inducing a progressive reduction in the catch, and also bycatch, which can deplete the coastal marine ecosystem and reduce its capacity to produce ecosystem services (including food supply, feeding a downward spiral).

On the contrary, the sensitive management of timing, mode and area of fishery allows not only continuous and sustained use of fish resources, but also increases them by improving the coastal marine system, in a positive synergy with the fishery sector. For

example, but not limited to, by protecting and improving nursery areas that host the juvenile stages of species - the most delicate stage of the life cycle - which is essential for maintaining a thriving population for any species.

It must be remembered that professional fishery sector is not particularly large in terms of total employment, yet it is a strategic piece in the socio-economic mosaic, as it feeds the supply chain of other irreplaceable sectors such as trade, tourism and catering.

Professional marine fishery is not only about the use of shared common resources, but also about socio-economic aspects and ecology; when practiced within the Natura 2000 Network it also adds a layer of complexity, as well as offering some governance opportunities. Indeed, the Natura 2000 Network does not *a priori* prohibit human activities, as long as these do not hinder the conservation of the habitats and species to which the network sites are dedicated.

The Blue Oasis, therefore, also fits into this new space without overlapping with other codified systems of marine resource conservation, such as Biological Protection Zones or Marine Protected Areas, and - while respecting fisheries competencies - proposes a new mode of Ecosystem Based Management (EBM).

Article 1 – Definitions

Definitions of the technical terms used in the scheme are hereby declined in order to clarify the meaning and avoid ambiguities.

1. The type of Administrations involved for the purposes of this law scheme.
2. Definition of professional marine fisheries and the activities it includes.
3. and 4 In addition to fishery as such, the scheme includes complementary activities that can be carried out by fish entrepreneurs to supplement and improve their income. Complementary activities also perform a parallel function of disseminating and increasing knowledge of the sector.
5. The Blue Oasis in order to be managed must be able to be identified by boundaries, such as the area of a Natura 2000 marine site and/or possible conterminous area or even a portion of the site itself.

Defining an area also allows its characteristics to be studied and known so that regulations can be proposed.

6. Identification of the community understood not only as public administrations but also as a grouping of professional marine fisheries operators.

7. The definition of Ecosystem Services is taken from the IPBES² and is: *the benefits that people derive from ecosystems*. Fisheries are based on a specific ecosystem service: *the provision of food from wild organisms*, a service that is produced by the common good represented by the marine and coastal environment whose preservation is of public interest because said environment is a provider of a plurality of services such as: tourism, leisure enjoyment and recreation activities, and fruition of landscape assets. The provision of ecosystem services depends, in fact, on the condition of the ecosystem, often referred to as *ecosystem health*. An ecosystem is defined as healthy when it is stable and sustainable, if it is, therefore, active and maintains its organization and autonomy over time and is resilient to stress factors³.

Article 2 – Principles

1. The governance of professional fishery imposes complex challenges; fish resources migrate, move and cross administrative limits and borders, therefore, it is necessary to call for compliance with existing EU, national and Regulatory Bodies legislation, which have already provided specific regulations.

2. Following the same principle, the value of increasing scientific and technological knowledge, which has always contributed to the improvement of the sector, is recognised.

Management is, in this way, rooted in knowledge and innovation from which it draws its basic principles in a process of continuous improvement, thanks to scientific and technological progress in a virtuous circle of development and improvement.

Likewise, cooperation with all institutional levels is a necessary aspect of both governing common resources and sharing and finding solutions to new challenges.

Article 3 – Subject and objectives

² IPBES is the acronym for the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services at <https://ipbes.net/>

³ Hernández-Blanco, M., Costanza, R., Chen, H., deGroot, D., Jarvis, D., Kubiszewski, I., Montoya, J., Sangha, K., Stoeckl, N., Turner, K., & van 't Hoff, V. (2022). Ecosystem health, ecosystem services, and the well-being of humans and the rest of nature. *Global Change Biology*, 28, 5027– 5040. <https://doi.org/10.1111/gcb.16281>

1. For the purpose of transferring the Apulia Region's "Blue Oasis" instrument, the scope has been bounded exclusively to professional marine fisheries and their complementary activities. In this way, specific boundaries of the fisheries sector are respected, avoiding conflicts of competence.

2. The three specific objectives explicit the subject pursued by the draft law.

A key role is assigned to the direct involvement of fishery stakeholders according to the *bottom-up* principle, as conservation and enhancement of the resource is primarily for the benefit of these stakeholders.

Socio-economic development is clearly the consequence of the first objective, and modernization comes from new scientific and technological knowledge, the importance of which is recalled in Article 2 Principles above.

The third objective recalls and recognizes the importance of a comprehensive ecosystem-based approach (EBM - Ecosystem Based Management) - a concept that originated in science and was later applied to maritime spatial planning (Directive 2014/89/EU), as well as to areas where productions depend on ecosystem conditions.

EBM is an interdisciplinary management approach that recognises the complex nature of ecological systems and integrates social, ecological and governance principles to achieve the sustainable use of natural resources in an equitable manner. For example, fisheries productivity is influenced by the conditions of marine and coastal waters, which are considered the constituent elements of a single system.

Article 4 – Preservation and enhancement of marine and coastal fish stocks

1. The purpose of the law scheme is sustainable fisheries by pursuing the durability of fishery resources for present and future generations through the conservation and increase of the ecosystem services of marine and coastal areas.

2. The "Blue Oasis" instrument allows for the harmonisation of the professional marine fishery activity within the marine sites of the Natura 2000 Network as it is identified through consultations and any specific studies.

The apex figure of the Administration has precisely the function of identifying the Blue Oasis.

2. The next step after the identification of the area is the transmission of the proposed regulation to the national competent body, which is the only one with jurisdiction on the matter.

3. The regulatory proposal must be consistent with Regulation (EC) No. 1967/2006, a sector regulation that cannot be ignored as it contains management measures for the

sustainable exploitation of fishery resources in the Mediterranean Sea. The Natura 2000 Network, established by the Habitats Directive, has as its objective the safeguarding of biodiversity but does not prohibit human activities rather it takes them into account as stated in Art. 2: "*1. The purpose of this Directive shall be to contribute to the safeguarding of biodiversity by the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies. 2. Measures taken under this Directive shall be designed to ensure the maintenance or restoration, at a favourable conservation status, of natural habitats and species of wild fauna and flora of Community interest. 3. Measures adopted under this Directive shall take into account economic, social and cultural needs, as well as regional and local peculiarities.*"

Article 5 – Implementation tools

1. Three specific tools are identified for the implementation of the provisions of the draft law: management protocols; programme agreements; local management plans. Moreover, any possible management form identified and subsequently proposed is left open to use.

2. Management protocols have as their general objective sustainable professional fishery through the rational use of resources and biological restoration of aquatic ecosystems. Specific objectives are the shared management of fisheries with the direct participation of fishery enterprises that sign the protocol with the Natura 2000 Site Management Entity and other sectoral institutional entities.

3. The programme agreement, i.e., a convention between public territorial entities - from regions down to municipalities or even parks and other entities with territorial competence - is intended to coordinate works, interventions or programmes of interventions. Fisheries, in fact, affect several sectors, which is why in marine Natura 2000 sites it is necessary to operate cross-sectoral planning in the same Region, and between different Regions in the case of shared, bordering or even neighbouring sites.

4. Local fishery management plans identify activities and ways of conserving fishery resources and enhancing them, and at the same time not harming the ecosystems from which the resource originates.

Ecosystem-based management (EBM) implies a sound knowledge base that is achieved through the collection of specific multi-year data sets and continuous updating of scientific and technological progress in the field.

LAW SCHEME

Sustainable fisheries planning and development through the 'BLUE OASIS' management tool, for fish stock recovery and biodiversity conservation

Art. 1 Definitions

1. Administration: Region or County responsible for the adoption of this law.
2. Professional maritime fishery: the organized economic activity, carried out in marine or brackish environments, aimed at searching for living aquatic organisms, setting, hauling and recovering fishery gear, transferring catches on board, transshipping, retaining on board, processing on board, transferring, caging, fattening and landing of fish and fishery products. It includes, as long as they do not predominate overfishing, processing, distribution and marketing of fisheries products, promotion and valorisation actions, active management interventions, aimed at productive valorisation, sustainable use and restoration and improvement of aquatic ecosystems, fishery tourism and ichthyic tourism.
3. Fishtourism: the activity of embarking people, not as part of the crew, on fishery vessels for the purposes of tourism and recreation.
4. Ichthyic-tourism: the activity of hospitality, recreational, didactic, cultural and services, aimed at the proper fruition of aquatic ecosystems, fishery resources and valorisation of socio-cultural aspects of fishery enterprises, carried out by individual or associated entrepreneurs, through the use of their own lodging or structure at the entrepreneur's disposal.
5. Blue Oasis: an area of the marine Natura 2000 site and/or of the possible bordering areas, identified by the apical administrative figure of the Administration, within which - on the basis of specific studies and at the request of the community - a restriction of local professional fishery activity may be implemented for its management.
6. Community: one or more public administrations or fishery operators group representing the majority of the operators of a perimeter of a marine Natura 2000 site area at sea and/or of possible bordering area.
7. Ecosystem services: the benefits people obtain from ecosystems.

Art. 2 Principles

1. The current law operates in harmony and coherence with the relevant Community and State legislation and in compliance with the competences of the competent Bodies.
2. The Administration fosters the knowledge and the technological increase and scientific development of the professional fishery sector, the implementation of institutional relations and forms of co-operation and partnership with community and national institutions, with other Regions and with cross-border countries, for the implementation of common policies and strategies and of shared management systems of fishery resources.

Art. 3 Subject and objectives

1. The current law aims to plan and develop sustainable professional fishery in order to enhance the rational use of fishery resources and to encourage the restoration of aquatic ecosystems in support of ecosystem services.
2. For the purposes of the above clause 1, the Administration fosters and promotes the following specific objectives:
 - a. the direct involvement of local professional fisheries operators for the co-management, protection and enhancement of the fish stocks;
 - b. the socio-economic development, modernization of sustainable fisheries;
 - c. the preservation, rational use and restoration of marine and coastal aquatic ecosystems.

Art. 4 Preservation and enhancement of marine and coastal fish stocks

1. For the aim of the preservation, increase and valorisation of the fishery resources, except the national competences on the topic, the top administrative figure of the Administration - by its own measure and after consultation of the local fishery advisory bodies - identifies the area called "Blue Oasis".
2. The proposal to regulation restriction of local professional fishery within the 'Blue Oasis' area is transmitted to the competent Authority.
3. The proposal referred to the above clause 2. must be in compliance with Regulation (EC) No. 1967/2006, with other Community and national legislation and with the possible Management Plan and/or conservation measures of the Natura 2000 site.

Art. 5 Implementation tools

1. The implementation tools of the local fisheries development and management strategy in the Blue Oasis are:
 - a. management protocols;
 - b. programme agreements;
 - c. local management plans;
 - d. any other effective local management tool shared between consortia, trade associations, sector cooperatives, public bodies, research institutes, consortia.
2. The management protocol regulates the co-management of professional fishery with the direct involvement of the participating fishery enterprises.
3. The programme agreement coordinates the development activities of the fisheries sector, in synergy with the local public bodies, defining the objectives, in terms of employment and/or productive reconversion, productive improvement, recovery and/or increase of fishery resources, increase of knowledge, as well as the timeframe for implementation, sanctions and termination modalities.
4. Local fisheries management plans aim to preserve and increase the renewal capacity of fish stocks without harming marine ecosystems.