United Nation Environment Programme

Ministry for the Environment, Land and Sea

Emilia-Romagna Region

Lazio Region

Liguria Region

SardiniaRegion

TuscanyRegion

# CAMP Italia

## "CAMP Italy Project" Feasibility Study

INDEX

# 1. GENERAL CONTEXT

## 1.1 STRATEGIES, POLICIES AND PRIORITIES FOR SUSTAINABLE DEVELOPMENT OF THE COASTAL AREAS INCLUDED IN THE CAMP ITALY PROJECT.

The CAMP project is part of the Italian broader strategy for protection, management and conservation of the Mediterranean Sea.

This document results from the agreement between the Italian Ministry for the Environment and Protection of Land and Sea (MATTM) and the authorities of the five participating regions (Emilia-Romagna, Lazio, Liguria, Sardinia and Tuscany), according to the PAP / RAC (Priority Actions Programme / Regional Activity Centre) Operational Manual "Formulation and implementation of field projects" (Split-Athens, 1999).

The diverse Italian coastal regions have been analysed in order to highlight common challenges and opportunities and to detect aspects related to the National Strategy on Integrated Coastal Zone Management (ICZM). Moreover, the experience gained in the field of integrated coastal management and the complementarity of the CAMP project with other ongoing initiatives has been taken into account. As a result, five Italian regions have been selected to represent a strategic geographical area for sustainable development, where socio-economic welfare and protection of natural ecosystems can be conjugated according to the ICZM objectives.

### 1.1.1 INTERNATIONAL LEVEL - MEDITERRANEAN REGION (UNEP) AND THE COMMUNITY (EU).

The Coastal Zone Management Program (CAMP) was established in 1989. The CAMP activities are identified and pursued by the Contracting Parties to the 1976/1995 Barcelona Convention, aimed at the protection of the marine environment and the coastal region of the Mediterranean.

At the level of the Mediterranean countries, the PAP / RAC (Priority Actions Programme / Regional Activity Centre) is the MAP Centre responsible for the co-ordination of CAMP, under the supervision of MED Unit. All acknowledged and activated CAMP projects in Mediterranean countries address and aim to implement work plans for the integrated management of coastal areas. These plans are experimentally developed on pilot areas, representative of the whole Mediterranean coastal zone from the environmental, town-planning and tourism-management point of view.

The CAMP Italy project has as main objective the development and implementation of strategies, actions and procedures resulting from the collaboration of all Italian public administrations, at national, regional and local level. These strategies could be likewise applied for the sustainable development of adjacent coastal areas (neighbouring countries participating in the MAP). In fact,

the ultimate goal of the project is to identify and apply methodologies and tools specifically created for key areas, but transferable to other regions of the Mediterranean.

### 1.1.2 NATIONAL LEVEL

Italy, as a Mediterranean country, is a Party to the Barcelona Convention and signed the Protocol on Integrated Coastal Zone Management (ICZM Protocol - Integrated Coastal Zone Management), adopted during the Plenipotentiary Diplomatic Conference held in Madrid on January 20-21, 2008. This Protocol is the main reference of the CAMP program. Within Camp-Italy, the Ministry of the Environment and Protection of Land and Sea (MATTM) will direct and coordinate the activities in order to establish national standards. In turn, the MATTM actions will be coordinated by the PAP / RAC, for the whole duration of the project.

The main objectives of CAMP Italy are: (1) testing the ICZM Protocol and the approach of integrated coastal management in Italian regions where sustainable development policies are already in effect; (2) defining a national strategy for integrated management of coastal areas.

For this purpose, the MATTM and the selected regions have set up a coordinating table (named "Tavolo CAMP") which ensures the continuous strategic and operational coordination among all the involved authorities.

The members of the CAMP-Italy coordinating board, established with a Memorandum of Understanding, signed on December 2, 2008, are:

1 Representative of the MATTM, acting as President;

1 National Consultant for the MATTM;

1 Representative from each participant region;

1 Scientific expert for each participant region.

### 1.1.3 LOCAL LEVEL

The coastal areas selected for the CAMP Italy Project are of high socio-economic, historical and naturalistic value, even thoug (with exception of some Sardinian localities) the strong demographic growth of the 20th century has heavily impacted their environmental system. In these areas, the regional administrations have so far adopted their own approaches to solving the many problems related to the coastal zone management. Within the CAMP-ITALY, all adopted regional strategies will be positively and constructively compared.

The integrated management of coastal and marine areas, as a tool to protect the welfare of coastal communities and maintain the ecological integrity and biological diversity is explicitly considered one of the main components of the sustainable development concept. In particular, Chapter 17 of Agenda 21, on the protection of oceans and of seas including enclosed and semi-enclosed seas and coastal areas, make coastal States to adopt new integrated approaches for coastal zone management, through interdisciplinary, participatory and empowering methods and tools.

Therefore a series of other important initiatives, at both global and regional level have been activated by international organizations interested in the proper and efficient coast management, they being designed to emphasize the need to develop and to implement a comprehensive strategy for integrated and sustainable management of coastal environment, taking into account the interactions between environment, socio-cultural heritage and human communities.

In this sense, the CAMP Italy project is among the most important initiatives of protection and management of the entire Mediterranean Sea basin.

In order to ensure sustainable development of marine and coastal space, each Region participating to the project decided to adopt its own approach to solve the problems associated with coast management. More specifically:

Emilia Romagna adopted a strategic approach, by elaborating a set of integrated guidelines. Consistent with the European guidelines, the framework for regional action on "Integrated Coastal Zone Management" (ICZM) was expressed through the three-year Regional Program Environmental Protection of 2001, entitled "Environmental Action Plan for a Sustainable Future". This plan emphasizes the importance of stability of the coastline as a regional objective.

Sardinia, through the Regional Strategic Document (DSR) 2007-2013, indicates the reference principles of sustainable development as guidelines of action planning and use of natural resources of Sardinia. In particular, according to the DSR, the coastal zone management based on interdependence and specificity of natural systems and human activities, should aim to "improve the knowledge framework and the tools for planning and for the sustainable management of coastal areas," according to the following strategies:

- Deepening the framework of knowledge of the operating status and evolution of marine and coastal environment;
- Overcoming the fragmentation of responsibilities in a higher coordination and cooperation between local and supra-institutional level;
- Integrating regulatory and planning tools.

Within this strategic framework, the main operational action plan covers the preparation of Integrated Coastal Management Plan, based on the international reference concepts related to ICZM.

With regard to Liguria region, highlighting that in recent years there has been a strong widespread adoption of environmental management systems by local authorities, (certified to ISO 14001 or EMAS registered) with a prevalence of entities involved in various ways in the management of the coastal strip, the fundamental role of the coastal environment policy is enshrined in the Region, which identifies, among other things, next priorities:

- To stabilize the coastline through the planning and the programming of maintenance and environmentally sustainable structural initiatives;
- Enhancing the value of natural resources also for the promotion of eco-tourism and enjoyment of territories indicated as particularly rich in natural values, in line with the need to halt the decline of biodiversity;
- Pursue an improvement in overall quality of water bodies and associated ecosystems and promoting the balance of the water cycle, ensuring the availability of the resource for domestic, agricultural and industrial uses;
- Update and simplify the regional normative in the view of the environmental enhancement and territory protection requirements.

Tuscany through the proposal of the Regional Plan for the integrated coast management, has paid great attention to governance. Through Memoranda of understanding with the coastal Municipalities have sanctioned the will of a joint action (Region-Local Authorities system) starting from the implementation of restoration and re-balancing of the costs for the integrated management of coastal areas.

In this regard it was decided to consider prejudicially, but not separately, the geological profile of the rearrangement of the coastal areas. This choice is now formalized in the "regional plan for integrated management of the coast for the purpose of the hydrogeological reorganization" that is waiting for an urgent and full implementation. On the other hand, since 2002, this issue has been appreciated and valued significantly even within the European Community, especially in meetings in Brussels at DG Environment.

Finally, with regard to the Lazio Region, by Regional Law on January 5, 2001, No. 1, have defined the "Standards for the use and development of the coast of Lazio" providing as strategic the diversification of touristic offer and the empowerment of productive activities.

## 1.2 LEGISLATIVE INSTRUMENTS FOR ICZM

Italy, as Mediterranean country, is Contracting Party to the Barcelona Convention, and has ratified among others, the LBS Protocol on pollution sources and land-based activities, and the SPA/BD Protocol on specially protected areas and biodiversity. It has also signedin Madrid on 21 January 2008 at the Conference of the Plenipotentiariesthe Protocol on Integrated Coastal Zone Management (ICZM Protocol) .

While avoiding the retrieval of the contents of the UN Convention on the Law of the Sea or the Programme of Action "Agenda 21", and the successive recommendations, guidelines, white papers, experimental programs that followed in this context, as well the ICZM Protocol, an important normative reference in the CAMP program is the Recommendation concerning the implementation of Integrated coastal Zone Management in Europe (2002/413/EC) of 30 May 2002 and the Marine Strategy Framework Directive 2008/56/ECof 17 June 2008 establishing a

framework for community action in the field of marine environmental policy.

With reference to the Italian national context and the division of legislative powers between the State and the Regions, it is noted that the Italian Constitution has distinguished between the "protection of the environment, the ecosystem and cultural heritage", reserved to the Stateexclusive legislative power, and the subject matter of "enhancement the cultural and environmental heritagesubjectto the concurrent legislationof the State and the Regions (Const. art 117).

Besides, additional special forms and conditions of autonomy, related to the areas specified in art. 117, in particular the "protection of environment, ecosystem and cultural heritage", may be attributed to Regions by State Law, upon the initiative of the Region concerned, after consultation with the local authorities.

.At the State level, Legislative Decree no. 152/2006 (so-called Environmental Code), amended by Legislative Decrees no. 284/2006 and no. 4/2008,made a general reorganization of the whole regulation of environmental matters by setting:procedures for Strategic Environment Assessment (SEA), Environmental Impact Assessment (EIA) and Integrated Pollution Prevention and Pollution Control (IPPC); procedure to preserve soil, prevent desertification, effectively manage water resources and protect water from pollution; procedures to effectively manage waste and remediate contaminated sites; air protection and reduction of atmospheric pollution; environmental liability.

Over the years the EU directives have changed the Code by introducing skills to be allocated to local authorities at central level or reallocation of the tasks assigned to regions (e.g.river basin authorities). Finally, Law no. 88/2009 provides for the transposition of several directives that will

have an impact on environmental matters governed by the Code. In particular, we would recall the Air Quality Directive 2008/50/EC, Directive 2007/60/EC on the flood risk, Directive 2008/56/EC and Directive 2008/98/EC on the marine environment and on waste issue, respectively.

## 1.3 STRUCTURE OF INSTITUTIONS INVOLVED IN THE MANAGEMENT OF COASTAL AREAS

The integrated management of coastal areas should also be understood as the ability to overcome the fragmentation existing among the levels of government. Is undeniable, however, the plurality of levels of government who are interested in different ICZM policies. Thus, avoiding the attempt to provide an assessment of the capacity or the state of integration of the various levels of government who are interested in different ICZM policies, in this context, we attempted to highlight the relationship between different levels of government (vertical dimension ) and some of the main sectorial policies affecting coastal areas, at the same administrative level (horizontal dimension).

In particular, with regard to the central level, while acknowledging the Ministry for the Environment, Land and Sea a vital role in the field of integrated management of coastal areas, it should be noted that, to date, there is not a unique institution owhich is directly responsible of this issue. Having administrative decentralization also interested the different bodies involved in coastal management, this fact inevitably results as a superposition of expertise in many sectors (Agriculture, Fisheries, Industry, Infrastructure and Transport, Tourism, Health, Economic Development...) which for various reasons are, directly or indirectly related to the concept of integrated coastal area.

The multiplicity of institutions which are connected, with different competencies, to the integrated management of coastal areas is reflected in a long series of legislative measures, ranging from EU Directives, to Transposition Acts of the International Conventions, to the Framework Laws at National and Regional level.

# 2 CAMP ITALY

## 2.1 CRITERIA FOR SELECTING AREAS OF INTERVENTION

The identification of the coastal areas and of the regional administrations involved in the CAMP project has been achieved through subsequent phases.

The first phase consisted in collecting technical-scientific information about all Italian coastal regions to support the choice of suitable areas for the realization of the CAMP ITALY project. For this purpose, the following data were compiled and analysed for each region: coastal types, habitat types and distribution, geographical features, administrative organization, degree of human settlement, economic activities, existing spatial planning instruments.

Subsequently, the analysis of a set of descriptors belonging to three macro areas (natural features, natural and anthropogenic pressures, governance instruments) allowed the development of synthetic indexes for a preliminary evaluation of the suitability of the Italian coastal regions for the CAMP-ITALY project.

On the basis of the obtained results, following the indications from PAP / RAC and, additionally, taking into account geographical and physical characteristics as well as anthropogenic pressures and risks arising from the effects related to climate changes (natural pressure), the regions which may potentially achieve optimal results according to the aims of the CAMP Italy project have been selected.

For the selection, significant weight has been assigned to the following aspects:

- territorial planning instruments and/or experience on management of coastal areas to ensure the feasibility of the CAMP project with existing resources;
- sites with significant naturalistic and environmental value to preserve their biodiversity (i.e. presence of protected natural areas);
- areas at risk from current and future effects of climate changes, such as flooding by sea-level rise, coastal erosion, desertification;
- regional structures and / or processes for coastal management to increase the certainty of success of the project
- territorial continuity with other selected regions to test procedures and structures for an effective coordination of areas shared by different regions.

As a result, five Italian areas have been selected. They are distributed along the coastal zones of Liguria, Tuscany, Emilia Romagna, Lazio and Sardinia.

**Area 1** (Tuscany and Liguria):

coastal zone between Punta di Portofino and Livorno, including the Tuscan Archipelago;

**Area 2** (Emilia-Romagna):

coastal zone between the mouth of the Po di Goro and the mouth of Rubicon river;

**Area 3** (North Sardinia):

coastal area between Cape Galera and Cape li Canneddi, including Piana and Asinara islands;

**Area 4** (West Sardinia):

coastal zone between Torre Pittinuri and GrottaAzzurra (southern limit of Arbus town) and facing islands;

**Area 5** (Tuscany and Lazio):

coastal area between Principina a mare (GR) (the northern limit of the Maremma Regional Natural Park) and Ladispoli (Rome), including the islands of Formiche di Grosseto, Giglio and Giannutri.

For the sake of simplicity, in the following pages, the five study areas will be merely indicated with their reference number (Area 1, Area 2,… ).

## 2.2 GEOGRAPHICAL FEATURES


*Figure 1 Location of the 5 areas of CAMP ITALY*

Detailed descriptions are available in the feasibility studies of individual regions.

### 2.2.1 AREA 1: LIGURIA - TUSCANY

Area 1 extends for about 150 km, from the promontory of Portofino to the mouth of the Calambrone river, along a diversified seashore. In particular, from west to east, the Ligurian coast includes many small physiographic units named "Golfo del Tigullio", "Baia del Silenzio", "Riva Trigoso", "Moneglia", "Deiva", "Torrente Ghiararo", "Cinque Terre", "Muzzerone", "Golfodella Spezia", "Magra River". This coastal zone is divided into different sectors characterized by rocky outcrops with substantially different lithological characteristics (conglomerates, marlylimestones, alternations of turbiditic sandstones and clays, clays, limestones and dolomites). Large sectors of the Ligurian coast consist of alluvial plains created by the main rivers. These areas extend in length for almost 7 km in the western part (from "Le Grazie" Promontory to "Rocche di Sant'Anna") and for about 4 km in the eastern sector (Magra river plain).

The Tuscan coast extends from Marina di Carrara to the mouth of the Calambrone river and lies entirely in only one physiographic units for a length of 63.5 km, including the whole Tuscan Archipelago with its 7 major islands: Gorgona, Capraia, Elba, Pianosa, Montecristo, Giglio and Giannutri. From the morphological point of view this coastal zone is dominated by sandy beaches, even if rocky coastlines characterize the Tuscan Archipelago. The northernmost sector of the Tuscan shore shows a high degree of urbanization which developed, at first, as a consequence of the intense port activity in Carrara and Viareggio and, subsequently, due to the expansion of touristic sites, such as Marina di Massa, Forte deiMarmi and Viareggio. The coastal zone between the Viareggio harbour and the Arno River mouth, boasts a better preserved natural environment which lies within the Regional Natural Park of "Migliarino San Rossore-Massaciuccoli".

See Figure 2.2.1.1 Geographical features of the area: limits (red point), administrative limit of municipalities (red polygons), bathymetry (blue lines)

### 2.2.2 AREA 2: EMILIA-ROMAGNA

Area 2 is located in the north-eastern coastal zone of the Emilia Romagna region and corresponds to the terminal segment of a wide alluvial plain (Po Valley). The coast extends from the mouth of the "Po di Goro", to the north, to the mouth of Tavollo river in the south, with a total length of about 83 km. The geographical and geomorphological characteristics of the shore are complex and, locally, very diversified. Generally, the coast of Emilia-Romagna is characterized by fine-grained sandy sea bottoms, large beaches and coastal dunes. However, shapes and characteristics of the beach-dune system vary along the shoreline depending on local weather conditions, geomorphological and geological features, as well as human impact. Due to both natural and anthropogenic causes, the coastal area is strongly affected by subsidence, with an average rate of nearly 8 mm / year for an extension of up to 5 km from the shoreline.

On the whole, the coastal arc can be divided into two main areas: (1) a northern one which extends from the "Po di Goro" mouth to the "Saline di Cervia" and is characterised by many damp and brackish environments and (2) a southern one which is typified by sandy beaches and, behind them, by relicts of former beaches.

See Figure 2.2.2.1 Geographical features of the area: limit (red point), administrative limit of municipalities (red polygons), bathymetry (blue lines)

### 2.2.3 AREA 3: NORTH SARDINIA

North Sardinia area extends along the coast between "Capo Galera" (Alghero), up to the promontory of Capuneddi, including the Asinara island, with a linear development of 362 km of coastline.

See Figure 2.2.3.1 Geographical features of the area: limit (red point), administrative limit of municipalities (red polygons), bathymetry (blue lines)

### 2.2.4 AREA 4: WEST SARDINIA

Area 4 extends from the southern end of the wide "Buggerru-Portixeddu" bay, including the granite promontory of "Capo Pecora", the complex Scivu-Piscinas dune system and the Oristano Gulf, and ends on the Montiferru rocky coasts ("Santa Caterina di Pittinurri") with a total linear development of about 292 km. It is worth noting that the industrial harbour of Oristano, located in the middle of the Gulf, is the main node of the maritime traffic of this area.

See Figure 2.2.4.1 Geographical features of the area: limit (red point), administrative limit of municipalities (red polygons), bathymetry (blue lines)

### 2.2.5 AREA 5: TUSCANY-LAZIO

Area 5 extends from "Principina a mare" (Grosseto, Tuscany) to Ladispoli (Rome, Lazio) for a length of about 150 km. From the morphological point of view, the coast is characterized by shallow beaches with sandy bottoms in the northern sector. The promontory of Argentario, with the Giannella and Fenigliatombolos, interrupt the coastal flat morphology in the central sector whereas sandy beaches, with low slope, appear south of the promontory and characterize the remaining coastal area.

In particular, the Tuscan coastal zone included in the project spreads from "Principina a Mare" to the Chiarone river mouth, at the boundary of the Lazio region, for a length of about 98 km. It lies entirely within the province of Grosseto and can be divided into two main sectors: the northern one, including the municipalities of Grosseto and Magliano, and the southern one, also known as "Costa d'Argento", which lies in the southernmost part of the Grosseto province and comprises the municipalities of Monte Argentario, Orbetello and Capalbio ("MaremmaGrossetana"). The most important physiographic units which influence the sedimentology of the area are represented by the "Monte Argentario" and the Ombrone river. Between the promontory and the Ombrone delta, more than 10 km from the coastline, a lens-shaped deposit of probable fluvial origin (Tiber) occurs and reaches the maximum thickness of nearly 26 m. From the geomorphological point of view, the coastline is characterized by sandy beaches with low coastal slopes in the Grosseto province, the Giannella and Fenigliatombolos and the Capalbio shore. These characteristics are also typical of the area comprised between the Talamone Gulf and Argentario. The main sandy beaches are fed by sediment load of the major rivers of the area (Ombrone and Albegna).

The coastal segment belonging to the Lazio region extends for about 200 km in length from Linaro Cape to Anzio Cape. The northernmost sector of this area (Montalto di Castro) consists of sandy shores affected by strong erosional processes and is characterized by relict dunes, almost disappeared due to the local agricultural activity. The southern Lazio's sector includes the municipalities of Santa Marinella, Cerveteri and Ladispoli and appears as a coastal plain with low slope (<1%).

See Figure 2.2.5.1 Geographical features of the area: limit (red point), administrative limit of municipalities (red polygons), bathymetry (blue lines)

## 2.3 ENVIRONMENTAL FRAMEWORK

The Areas of CAMP Italy are fully included in the general climatological characteristics of the Mediterranean. The mitigating effect of the sea makes climate mild in Liguria; in the other regions, more exposed to north-eastern (Emilia-Romagna) and north-western (Tuscany, Sardinia, Lazio) winds, the weather can lead to more severe winters.

Rainfall is usually sufficient. Only in Sardinia there is a certain tendency to aridity.

The vegetation presents, especially in the islands, the typical Mediterranean maquis. In some places the human pressure has caused the disappearance of the plants, exposing the coastal dunes to heavy erosion.

The terrestrial and marine ecosystems have characteristics of all types in the Mediterranean Region (high coasts, sandy coastal plains, deltas, coastal lagoons, continental shelf, continental slope).

The national and regional administrations, following the International and European guidelines and directives, have implemented, for a long time, a consistent policy for protecting the natural environment.

Protected areas ( terrestrial and marine ), Sites of Community Importance (SCI ), Special Protection Areas (SPAs ) and several regional parks and reserves have been established.

The following pages present figures showing, for each area of CAMP Italy, only :

- soil use (Corine Land Cover);
- RAMSAR Sites, Marine Protected Areas, regional parks and natural reserves;
- tSites of Community Importance (SCI ) and Special Protection Areas (SPAs), according to Natura 2000.

Individual feasibility studies, presented by the regions, contain a detailed description of the different coastal environments and associated flora and fauna.

### 2.3.1 AREA 1LIGURIA - TUSCANY

See Fig. 2.3.1.1. Land use in Area 1 (Corine Land Cover)

See Fig. 2.3.1.2.The protected areas ( not including NATURA 2000)

See Fig. 2.3.1.3. The Natura 2000 areas

### 2.3.2 AREA 2 EMILIA-ROMAGNA

See Fig. 2.3.2.1. Land use in Area 2 (Corine Land Cover)

See Fig. 2.3.2.2.The protected areas ( not including NATURA 2000)

See Fig. 2.3.2.3. TheNatura 2000 areas

### 2.3.3 AREA 3NORTH SARDINIA

See Fig. 2.3.3.1. Land use in Area 3 (Corine Land Cover)

See Fig. 2.3.3.2.The protected areas ( not including NATURA 2000)

See Fig. 2.3.3.3. TheNatura 2000 areas

### 2.3.4 AREA 4WEST SARDINIA

See Fig. 2.3.4.1. Land use in Area 4 (Corine Land Cover)

See Fig. 2.3.4.2.The protected areas ( not including NATURA 2000)

See Fig. 2.3.4.3. The Natura 2000 areas

### 2.3.5 AREA 5TUSCANY-LAZIO

See Fig. 2.3.5.1. Land use in Area 5 (Corine Land Cover)

See Fig. 2.3.5.2.The protected areas ( not including NATURA 2000)

SeeFig. 2.3.5.3. TheNatura 2000 areas

## 2.4 CULTURAL HERITAGE

The history of the investigated regions has very ancient origins.

In eastern Liguria the certain presence of a primitive settlement, dating back to the Grimaldian civilization, is evidenced by bones and stone tools found in the Cave of Colombi, on the west coast of the Island of Palmaria. From the III to the II century BC numerous wars between Rome and the Ligurian communities led to the subjugation of the region to the Roman power. With the fall of the Roman Empire, the eastern Liguria, after the invasions of Ostrogoths, Byzantines and Longobards, suffers, from the VIII and XIX century, by the incursions of the Saracens, who had their bases in Corsica and Provence. This is a push to leaving the coastal road network and the decay of the settlements associated with it. The annexation to the Kingdom of Sardinia and later to the Kingdom of Italy marks the beginning of a tourist fortune of this coast; in the Far East the rapid industrialization and militarization of La Spezia, thanks to the construction of the railway line Genoa-La Spezia in 1874, makes the area highly populated.In Emilia Romagna the first important settlement in the historical period is the greek-etruscan city of Spina, which arose in the VI century BC near the mouth of the Po Spineto. It was a thriving commercial port between the Adriatic and the Po valley hinterland. The modification of the coastline and the Gallic invasion caused the Spina decline. In Roman times, the rise of Ravenna began. Under Augustus rule, the city became an important centre with the powerful military port of Classe, the base of the eastern Mediterranean fleet.The northern area of the Tuscany Region, historically have suffered from the influence of the Papal State. The territory of Versilia, in the past, caused the lusts of Florence, Pisa, Lucca and Genoa until 1513, when Pope Leone III assigned it to Florence. The southernmost coast of Pisa has  a Ligurian-Etruscan origin and later became a Roman city. Around 642 AD Pisa was occupied by the Longobards, and in 1092 became a bishopric. On the six smaller islands of the Tuscan Archipelago are the remains of ancient Etruscan and Roman settlements.The history of the countries of the Maremma coast, near Grosseto, has very ancient origins. They were inhabited since prehistoric times as evidenced by the discovery of numerous findings dating back to the neolithic period, and to Bronze Age. The Etruscans built several cities that had their heyday around the seventh century. The Middle Ages began with the barbarian invasions, which caused the loss of some important centres of Etruscan and Roman settlements in favour of other more secure sites.

Detailed descriptions are available in the feasibility studies of individual regions.

## 2.5 SOCIAL-ECONOMIC FRAMEWORK

The increase in human settlements, in the twentieth century, is the major cause of the strong pressures on the coastal ecosystem (lifestyles and consumption patterns), giving rise to indirect pressure related to the settlements (industrial, agricultural, tourism and transport, etc.). Among the impacts resulting from intense urbanisation of the coast the destruction of natural habitats, coastal erosion, pollution of marine waters and fish depletion are very important. The high population density (associated with strong presence in the tourist season) leads to a strong demand for natural resources with many problems for coastal areas.The coasts of CAMP Italy, except for a few areas, have a high proportion of population with a significant hypertrophy of human settlements and infrastructures. Tourism, now a primary resource of the local economy, shows an increase in numbers of tourists, playing for them urban scenarios as possible conform to stereotypes of inland cities. In this way, summer houses, holiday villages, hotels, beaches and parks have proliferated in many areas, altering the remaining dune systems, destroying the protective vegetation and affect water resources, introducing factors of imbalance and upsetting the existing environmental units.

The concentration of industrial areas, located in the coastal zone, based on development needs of the hinterland, has profoundly changed the appearance of some parts of the coast (i.e. among others the industrial areas in Livorno and Apuan territory). The coastal areas, in some cases, have become key areas of environmental and territorial conflicts.

The tables below show, in the areas of CAMP Italy, data related only to the permanent population, which, during the summer, may increase significantly due to the presence of tourists.

The following thematic maps show administrative boundaries of regions, provinces, municipalities in the investigated area. In addition, thematic maps are presented relating to transport infrastructures (railways, roads, highways ) and different types of ports in coastal areas.

Detailed descriptions are available in the feasibility studies of individual regions.

### 2.5.1. AREA 1TUSCANY-LAZIO

The Liguria Region is one of the most densely populated Italian regions, as it hosts more than 1,600,000 inhabitants with a density of 297 inhabitants / km ², above the national (194) and European (116) average.

In Area 1 the Ligurian coast is highly urbanized with a higher intensity on the seasonal summer. The situation concerning the population of the municipalities, derived from analysis of statistical data, is shown in the table below. The most important aspect is the strong increase in summer population in coastal communities due to the strong commitment of the tourist resort. This increase is even more important in some localities, located along the coast, where some towns such as Portofino, Santa MargheritaLigure, Zoagli, SestriLevante, Moneglia, Bonassola, Monterosso see more than triplicating the population in summer.

In Tuscany Region, the analysis documents a demographic trend since 1951. The coastal population increases consistently, with high growth rates from 1951 to 1981, declining and stabilizing until the present day.

With the exception of all the island communities, the coastal municipalities have higher density values than the provincial average. The maximum values are recorded in the town of Viareggio, which, with 1,985 inhabitants /km2, is second only to Florence. The lowest values are found in the Island of Capraia (18 inhabitants /km2). The average density is equal to 155 inhabitants per km2 ; in the Tuscany coast the average density is 265 inhabitants/km2, compared to 138/km2 in inland Tuscany.

| Area | Regione | Provincia | Comune | Costa (km) | Superficie (kmq) | Popolazione |
|---|---|---|---|---|---|---|
| AREA 1 | LIGURIA | Genova | Portofino | 6,33 | 2,56 | 493 |
| | | | Santa Margherita Ligure | 4,68 | 9,80 | 10.045 |
| | | | Rapallo | 4,93 | 33,63 | 30.582 |
| | | | Zoagli | 4,04 | 7,60 | 2.566 |
| | | | Chiavari | 5,11 | 12,46 | 27.593 |
| | | | Lavagna | 5,54 | 13,87 | 13.029 |
| | | | Sestri Levante | 12,44 | 33,49 | 18.722 |
| | | | Moneglia | 7,48 | 15,40 | 2.845 |
| | | La Spezia | Deiva Marina | 0,56 | 14,00 | 1.491 |
| | | | Framura | 5,12 | 18,00 | 733 |
| | | | Bonassola | 5,12 | 9,31 | 977 |
| | | | Levanto | 7,06 | 38,00 | 5.597 |
| | | | Monterosso al mare | 4,03 | 11,25 | 1.522 |
| | | | Vernazza | 7,11 | 12,28 | 995 |
| | | | Riomaggiore | 8,14 | 10,26 | 1.718 |
| | | | La Spezia | 4,92 | 51,39 | 95.635 |
| | | | Portovenere | 0,38 | 7,68 | 3.942 |
| | | | Lerici | 14,66 | 15,86 | 10.453 |
| | | | Sarzana | 1,72 | 34,23 | 21.698 |
| | | | Ameglia | 9,35 | 13,00 | 4.583 |
| | | | ***Liguria*** | ***118,71*** | ***364,07*** | ***255.219*** |
| | TOSCANA | Massa Carrara | Carrara | 4,03 | 71,29 | 65.760 |
| | | | Massa | 8,77 | 94,13 | 70.902 |
| | | | Montignoso | 0,75 | 16 | 10.439 |
| | | Lucca | Pietrasanta | 4,24 | 41 | 24.833 |
| | | | Forte dei marmi | 4,81 | 9 | 7.760 |
| | | | Camaiore | 2,96 | 84,59 | 32.183 |
| | | | Viareggio | 11,25 | 31,88 | 32.183 |
| | | Pisa | Vecchiano | 3,80 | 67 | 12.031 |
| | | | San Giuliano Terme | 3,55 | 91,71 | 31.317 |
| | | | Marina di Pisa | 20,41 | 185 | 87,166 |
| | | Livorno | Isola d'Elba | 135,07 | 225 | 31.660 |
| | | | Isola di Gorgona | 8,52 | 2,25 | 147 |
| | | | Isola di Capraia | 28,95 | 19 | 385 |
| | | | Isola di Pianosa | 25,30 | 10,3 | - |
| | | | Isola di Montecristo | 20,17 | 10,39 | 2 |
| | | Grosseto | Isola di Giannutri | 13,56 | 2,3 | 10 |
| | | | ***Toscana*** | ***296,13*** | ***960,84*** | ***319.699*** |
| | | | **Tot. Area 1** | **414,84** | **1324,91** | **574.918** |

Table 1. Demographics in the area.

See Fig. 2.5.1.1 Administrative boundaries : Municipalities in the area of CAMP Italy (red), administrative boundaries : regions, provinces, municipalities ( gray).

See Fig. 2.5.1.2 Transport infrastructures in the area of CAMP Italy: railways (black), roads (green), highways (orange ), ports (commercial (yellow ), navy (orange ), port-channel (green ), marinas (blue ).

Area 2 data since 1996 show a general increase in population. The growth, although widespread, had a different intensity in the provinces.

In the "Riviera" area - which is affected by CAMP - residents increased by 9.5%, to 477,308 units (compared with 436,055 a decade earlier), surpassing any other regional area. In this area there are many municipalities that have registered an increase of immigration, higher than the regional average.

| Area | Regione | Provincia | Comune | Costa (km) | Superficie (kmq) | Popolazione (Ab) |
|---|---|---|---|---|---|---|
| AREA 2 | EMILIA ROMAGNA | Ferrara | Goro | 22,54 | 31 | 3.979 |
| | | | Codigoro | 3,15 | 169,85 | 12.681 |
| | | | Comacchio | 23,55 | 283 | 23.138 |
| | | Ravenna | Ravenna | 50,39 | 652,89 | 157.479 |
| | | | Cervia | 9,37 | 82,19 | 28.603 |
| | | Forlì-Cesena | Cesenatico | 7,66 | 45,13 | 25.375 |
| | | | Gatteo | 0,88 | 14,15 | 8.673 |
| | | | Savignano sul Rubicone | 0,25 | 23,16 | 16.970 |
| | | | San Mauro Pascoli | 0,73 | 17,35 | 10.714 |
| | | | ***Emilia Romagna*** | ***118,71*** | ***1318,72*** | ***287.612*** |
| | | | **Tot. Area 2** | **118,71** | **1318,72** | **287.612** |

Table 2. Demographics in the area.

See Fig. 2.5.2.1 Administrative boundaries : Municipalities in the area of CAMP Italy (red), administrative boundaries: Regions, Provinces, Municipalities (gray).

See Fig. 2.5.2.2 Transport infrastructures in the area of CAMP Italy: railways (black ), roads (green), highways (orange ), ports (commercial (yellow), navy (orange), port-channel (green), marinas (blue).

## 2.5.3. AREA 3NORTH SARDINIA

The data analysis shows that Area 3 is characterized by a number of residents just over 207,000 units, approximately 13% of the regional population. The residents are concentrated (about 60%) in the municipality of Sassari. Population density has values significantly higher than the regional average and that of the coastal municipalities of the island: the four main centers are positioned in the top ten most populous coastal municipalities of the Region.

The 2001 census recorded a total number of homes next to 110,000 units, approximately 14% of the regional total and a quarter of the housing stock of the coastal municipalities.

| Area | Regione | Provincia | Comune | Costa (km) | Superficie (kmq) | Popolazione (Ab) |
|---|---|---|---|---|---|---|
| AREA 3 | SARDEGNA | Sassari | Alghero | 88,491 | 224,43 | 43.831 |
| | | | Stintino | 51,197 | 58,52 | 1.606 |
| | | | Sassari | 45,328 | 546,08 | 130.656 |
| | | | Porto Torres | 122,976 | 102,62 | 22.289 |
| | | | Sorso | 16,49 | 67,05 | 14.718 |
| | | | Castelsardo | 17,408 | 45,48 | 5.846 |
| | | | Valledoria | 3,146 | 24,45 | 4.125 |
| | | Olbia Tempio | Badesi | 8,354 | 30,71 | 1.853 |
| | | | Trinità d'Agultu-Vignola | 35,211 | 136,43 | 2.134 |
| | | | ***Sardegna*** | ***388,60*** | ***1.235,77*** | ***227.058*** |
| | | | **Tot. Area 3** | **388,60** | **1.235,07** | **227.058** |

Table 3. Demographics in the area.

See Fig. 2.5.3.1 Administrative boundaries : Municipalities in the area of CAMP Italy (red), administrative boundaries : regions, provinces, municipalities ( gray).

See Fig. 2.5.3.2 Transport infrastructures in the area of CAMP Italy: railways (black), roads (green), highways (orange), ports (commercial (yellow), navy (orange), port-channel (green), marinas (blue).

## 2.5.4 AREA 4WEST SARDINIA

Area 4 records a resident population of more than 90,000 units, approximately 6% of the total of Region. The municipalities of Oristano,Terralba, Guspini account for 60% of the population, with a decisive extent on the socio-economic profile of the area.

In this area there are over 46,000 homes, approximately 6% of the regional housing stock and 10% of the units located in the coastal municipalities of the Sardinia Island.

| Area | Regione | Provincia | Comune | Costa (km) | Superficie (kmq) | Popolazione (Ab) |
|---|---|---|---|---|---|---|
| AREA 4 | SARDEGNA | Oristano | Guspini | | 174,73 | 12.465 |
| | | | Terralba | 1,382 | 34,87 | 10.366 |
| | | | Arborea | 19,235 | 115 | 3.991 |
| | | | Santa Giusta | 6,61 | 69,17 | 4.408 |
| | | | Oristano | 9,164 | 84,63 | 32.453 |
| | | | Cabras | 60,165 | 102,18 | 9.004 |
| | | | Riola Sardo | 1,7 | 48,23 | 2.137 |
| | | | San Vero Milis | 18,934 | 72,2 | 2.532 |
| | | | Narbolia | 1,853 | 40,49 | 1.832 |
| | | | Cuglieri | 33,669 | 120,54 | 3.146 |
| | | Medio Campidano | Arbus | 61,917 | 267,16 | 6.779 |
| | | Carbonia-Iglesias | Buggerru | 10,921 | 48,23 | 1.120 |
| | | | Fluminimaggiore | 2,074 | 108,21 | 3.002 |
| | | | ***Sardegna*** | ***227,62*** | ***1285,64*** | ***93.235*** |
| | | | **Tot. Area 4** | **227,62** | **1285,64** | **93.235** |

Table 4. Demographics in the area.

See Fig. 2.5.4.1 Administrative boundaries : Municipalities in the area of CAMP Italy (red), administrative boundaries : regions, provinces, municipalities (gray).

See Fig. 2.5.4.2 Transport infrastructures in the area of CAMP Italy: railways (black), roads (green), highways (orange), ports (commercial (yellow), navy (orange), port-channel (green), marinas (blue).

### 2.5.5 AREA 5TUSCANY-LAZIO

Area 5 shows a highly urbanized territory with a high intensity of seasonal residences in summer, producing a multiplier effect of pressure on natural resources and on the coastal ecosystem.

| Area | Regione | Provincia | Comune | Costa (km) | Superficie (kmq) | Popolazione (Ab) |
|---|---|---|---|---|---|---|
| AREA 5 | TOSCANA | Grosseto | Grosseto | 25,31 | 474,3 | 287 |
| | | | Magliano | 5,788 | 250,68 | 3.753 |
| | | | Orbetello | 36,367 | 226,98 | 15.217 |
| | | | Monte Argentario | 42,205 | 60,29 | 13.023 |
| | | | Capalbio | 11,72 | 108,6 | 4.306 |
| | | | Isola di Giglio | 34,667 | 23,8 | 1.461 |
| | | | ***Toscana*** | ***156,057*** | ***1.144,65*** | ***38.047*** |
| | LAZIO | Viterbo | Montalto di Castro | 17,959 | 189,64 | 8.812 |
| | | | Tarquinia | 18,971 | 279,65 | 16.527 |
| | | Roma | Civitavecchia | 20,597 | 71,95 | 52.203 |
| | | | Santa Marinella | 21,681 | 49,2 | 18.183 |
| | | | Cerveteri | 4,555 | 134,43 | 34.912 |
| | | | Ladispoli | 8,189 | 26 | 40.338 |
| | | | ***Lazio*** | ***91,952*** | ***750,87*** | ***170.975*** |
| | | | **Tot. Area 5** | **248,01** | **1.895,52** | **209.022** |

Table 5 Demographics in the area.

See Fig.2.5.4.1 Administrative boundaries : Municipalities in the area of CAMP Italy (red), administrative boundaries : regions, provinces, municipalities (grey).

See Fig. 2.5.4.2 Transportinfrastruttures in the area of CAMP Italy: railways (black), roads (green), highways (orange), ports (commercial (yellow), navy (orange), port-channel (green), marinas (blue).

## 2.6. ANALYSIS OF PRESSURES AND IMPACTS ON THE SUB-AREAS INCLUDED IN THE CAMP ITALY PROJECT

In the first proposal presented at the COP- Almeria 2008, the main impacts that emerged in the selected 5 areas were summarised as shown in the table below.

**Impacts / risks raised for the CAMP ITALY (COP of Almeria, 2008)**

**Area 1**

- increased pollution of wastewater caused by tourism
- damage caused by moorings and anchorages at sea
- air pollution
- pollution from contaminated sites (risk)

**Area 2**

- coastal erosion
- eutrophication
- pollution
- saltwater intrusion
- subsidence

**Area 3**

- desertification (Asinara)
- coastal erosion
- pollution from the industrial area of Porto Torres

**Area 4**

- coastal erosion (risk)
- flood (risk)

**Area 5**

- coastal erosion (strong)
- eutrophication of Lake Burano
- pollution from contaminated sites (risk)
- pollution from industrial sites and ports

The analysis, carried out with the direct participation of experts from the 5 regions, outlines with greater detail which types of pressures and impacts on the environment, and on the socio-economic systems are currently affecting the selected areas of CAMP-ITALY.

In the following pages, pressures and impacts (the latter expressed also with a "critical degree") are listed in relation to the most important driving forces. This indication has to be considered as qualitative, being derived from expert opinions and not from experimental data. Nevertheless, it is extremely useful to provide an overview of the major issues related to coastal management and protection in the five Italian areas.

The main driving forces identified are 11: three of them are of natural origin (Climate, Geology and Coastal Dynamic) and eight of anthropogenic origin (Urbanisation, Agriculture and Breading, Industry, Maritime activities, Tourism, Transport Infrastructure, Defence of the coasts).

### 2.6.1 NATURAL PRESSURES AND IMPACTS

| **Driving force** | **CLIMATE** | | | |
|---|---|---|---|---|
| **Pressures** | **Types of impacts** | **Criticality** | **CAMP-ITALY Area** | **Detail** |
| Floods | Risk for the population, infrastructure and settlements | HIGH | 3 | Capo Caccia, Sassari west coast, Sorso, Castelsardo, Valledoria La Ciaccia |
| | Damage to the local economy | MEDIUM | 3 | Lower valley of Coghinas: Badesi, Valledoria, Porto Torres, Sassari |
| | Risk for the population, infrastructure and settlements | MEDIUM | 4 | Arbus, Fluminimaggiore, Rio Mare and Foghe, Santa Caterina di Pittinurri |
| | | MEDIUM | 4 | Buggerru, Torre dei Corsari-Pistis, Cuglieri |
| | Damage to the local economy | HIGH | 5 | Tarquinia and Montalto di Castro |
| | | HIGH | 5 | Grosseto, Monte Argentario, Orbetello |
| | Loss / alteration of habitats / species of wetland | HIGH | 5 | Tarquinia and Montalto di Castro |

| | | | | |
|---|---|---|---|---|
| | | HIGH | 5 | Grosseto, Monte Argentario, Orbetello |
| | Risk for the population, infrastructure and settlements | HIGH | 5 | Tarquinia and Montalto di Castro, Grosseto, Monte Argentario, Orbetello |
| Soil erosion and desertification | Loss / alteration of habitats / species of the coast | HIGH | 3 | Asinara, Stintino, Nurrasettentrionale |
| | | MEDIUM | 4 | Arborea and Oristano plains, Arbus, Buggerru and Fluminimaggiore |
| | Damage to the local economy | MEDIUM | 4 | Arborea and Oristano plains, Arbus, Buggerru and Fluminimaggiore |

| **Driving force** | **GEOLOGY** | | | |
|---|---|---|---|---|
| **Pressures** | **Types of impacts** | **Criticality** | **CAMP-ITALY Area** | **Detail** |
| Natural subsidence | Loss / alteration of habitats / species of wetland | HIGH | 1 | Tuscany : alluvial plains |
| | Loss / alteration of habitats / species of wetland | HIGH | 5 | Costa d"Argento, Maremma Natural Park |
| | Coastal erosion | HIGH | 2 | the whole CAMP area |

| Driving force | COASTAL DYNAMICS | | | |
|---|---|---|---|---|
| **Pressures** | **Types of impacts** | **Criticality** | **CAMP-ITALY Area** | **Detail** |
| Coastal erosion | Damage to the local economy | HIGH | 3 | Porto Conte, Porto Ferro, Argentiera, La Pelosa-Stintino, Porto Torres, Platamona, Casteldardo, Valledoria, Badesi |
| | | HIGH | 4 | San Nicolo-Portixeddu, Torre dei Corsari Pistis, Marina di Arborea, Mari Ermi, IsArutas, San Giovanni, PutzuIdu, Su Pallosu, Is Arenas Narbolia, S"Archittu, Santa Caterina di Pittinurri |
| | | HIGH | 5 | distributed over almost the entire coastline of CAMP area |
| | | HIGH | 5 | Near the mouth of the Ombrone River and the beaches adjacent to the mouth of the Albegna River. South Orbetello and Capalbio towns. |
| | Damage to architectural and cultural heritages | HIGH | 5 | over almost the entire coastline of CAMP area |
| | Loss / alteration of habitats / species of the coast | HIGH | 1 | Migliarino, San Rossore and some SIC-ZPS areas |
| | | HIGH | 1 | Pocket beaches in the Tuscan Archipelago |
| | | MEDIUM | 3 | La Pelosa, Castelsardo, Porto Torres |
| | Loss / alteration of habitats / species of wetland | HIGH | 1 | Apuan Riviera, in the port of Carrara (Marina di Carrara and Marina di Pisa), near the mouth of Arno River |

| | | | | |
|---|---|---|---|---|
| **Loss of part of the coast** | **Damage to the local economy** | **MEDIUM** | **1** | **Chiavari-Lavagna, Marinella di Sarzana** |
| **Risk of flooding** | **Risk for the population, infrastructure and settlements** | **HIGH** | **1** | **Magra plain** |

### 2.5.2 HUMAN PRESSURES AND IMPACTS

| **Driving force** | **URBANIZATION** | | | |
|---|---|---|---|---|
| **Pressures** | **Types of impacts** | **Criticality** | **CAMP-ITALY Area** | **Detail** |
| Change of soil use | Landscape modification | HIGH | 3 | Stintino, Sorso, Castelsardo, Valledoria |
| | | MEDIUM | 4 | Torre dei Corsari, Pistis, Marina di Arborea, Putzuldu, Porto Mandriola, Su Pallosu, S'Archittu, Santa Caterina di Pittinurri |
| | Soil degradation | HIGH | 5 | From Civitavecchia to Ladispoli |
| | | MEDIUM | 4 | Torre dei Corsari, Pistis, Marina di Arborea, Putzuldu, Porto Mandriola, Su Pallosu, S'Archittu Santa Caterina di Pittinurri |
| | Disruption in hydrology | HIGH | 3 | Stintino, Sorso, Castelsardo, Valledoria |
| | Coastal erosion | MEDIUM | 4 | Torre dei Corsari, Pistis, Marina di Arborea, Putzuldu, Porto Mandriola, Su Pallosu, S'Archittu Santa Caterina di Pittinurri |

| | | | | |
|---|---|---|---|---|
| | Loss / alteration of habitats / species of the coast | HIGH | 1 | Chiavari, Lavagna, Sestri Levante, mouth of Magra River, Sarzana plain |
| | | HIGH | 3 | Stintino, Sorso, Castelsardo, Valledoria |
| | | HIGH | 5 | From Civitavecchia to Ladispoli |
| | | MEDIUM-HIGH | 1 | Tuscany, excluded islands |
| | | MEDIUM | 4 | Torre dei Corsari, Pistis, Marina di Arborea, PutzuIdu, Porto Mandriola, Su Pallosu, SArchittu Santa Caterina di Pittinurri |
| | Loss / alteration of habitats / species of wetland | HIGH | 4 | Buggerru-Portixeddu, Marina di Arborea, Oristano: mouth Tirso River, Porto Mandriola-PutzuIdu, Santa Caterina di Pittinurri |
| Consumption of environmental resources | Loss / alteration of habitats / species of the coast | HIGH | 3 | Stintino, Sorso, Castelsardo, Valledoria, Trinità d'Agultu and Vignola |
| Urbanization | Loss / alteration of habitats / species of the coast | HIGH | 3 | Stintino, Trinitàd'Agultu and Vignola |
| | The damage to architectural and cultural heritages | HIGH | 3 | Stintino, Trinitàd'Agultu and Vignola |

| | | | | |
|---|---|---|---|---|
| **Driving force** | **AGRICOLTURE AND BREADING** | | | |

| Pressures | Types of impacts | Criticality | CAMP-ITALY Area | Detail |
|---|---|---|---|---|
| Change of soil use | Soil degradation | MEDIUM | 3 | Nurra, Fertilia, Lake Baratz Lake, the countryside of Sassari and Sorso |
| Emission | Soil degradation | HIGH | 4 | Arborea Plain and land reclamation of Sassu |
| | Decreased marine-coastal water quality, | MEDIUM | 2 | Ferrara province: eastern part |
| | | | | |
| | | MEDIUM | 3 | Nurra, Fertilia, Lake Baratz Lake, the countryside of Sassari and Sorso |
| | | MEDIUM | 5 | Montalto, Tarquinia, Civitavecchia |
| | | MEDIUM | 5 | Lago di Burano, Piana dell'Albegna, Laguna di Orbetello |
| | Decreased water quality / Salinisation of groundwater | MEDIUM | 1 | Tuscany |
| | | MEDIUM | 5 | Montalto, Tarquinia, Civitavecchia |
| | | MEDIUM | 5 | Lago di Burano, Piana dell'Albegna, Laguna di Orbetello |
| | Eutrophication | MEDIUM | 1 | Tuscany: Versilia, Massaciucoli Lake |
| | | MEDIUM | 2 | Ferrara province: eastern part |
| | Loss / alteration of habitats / species of wetland | MEDIUM | 1 | Tuscany: Versilia, Massaciucoli Lake |

| | | | | |
|---|---|---|---|---|
| | Loss / alteration of habitat / marine species | MEDIUM | 1 | Tuscany: Versiglia |
| Overuse of water | Loss / alteration of habitats / species of the coast | HIGH | 2 | Whole CAMP Area |
| | Decreased water quality / salinisation of groundwater | MEDIUM | 5 | Montalto, Tarquinia, Ladispoli, Cerveteri, Capalbio, Grosseto |

| **Driving force** | **FISHERY AND ACQUICOLTURE** | | | |
|---|---|---|---|---|
| **Pressures** | **Types of impacts** | **Criticality** | **CAMP-ITALY Area** | **Detail** |
| Excessive fishing effort | Decline of fish stocks | HIGH | 3 | Castelsardo, Stintino, Alghero |
| | | MEDIUM | 4 | general |
| | Loss of nursery areas | MEDIUM | 5 | The whole CAMP area |
| | Loss / alteration of habitat / marine species | MEDIUM | 4 | The whole CAMP area |
| | Reduction of fish stocks | HIGH | 3 | The whole CAMP area |
| Uncontrolled trawling | Loss / alteration of habitat / marine species | HIGH | 3 | Castelsardo, Stintino, Alghero |
| | | MEDIUM-HIGH | 5 | Montalto Tarquinia Civitavecchia, Santa Marinella |
| | | MEDIUM | 1 | Liguria: SestriLevante offshore |

| | | | | |
|---|---|---|---|---|
| | | MEDIUM | 1 | Tuscany: Versilia, the Tuscan Archipelago |
| | | MEDIUM | 5 | Monte Argentario (Porto S. Stefano) |

| **Driving force** | **INDUSTRY** | | | |
|---|---|---|---|---|
| **Pressures** | **Types of impacts** | **Criticality** | **CAMP-ITALY Area** | **Detail** |
| Change of soil use | Loss / alteration of habitats / species of the coast | HIGH | 3 | Porto Torres |
| | | MEDIUM | 1 | Liguria: La Spezia Gulf, Magra riverplain |
| Emission | Soil degradation | MEDIUM-HIGH | 5 | Tarquinia, Santa Marinella. South of Civitavecchia |
| | Soil degradation | MEDIUM | 4 | Oristano, Oristano, Guspini, Fluminimaggiore and Buggerru for disused mining areas |
| | Decreased marine-coastal water quality | HIGH | 3 | Porto Torres |
| | | MEDIUM-HIGH | 5 | Tarquinia, Santa Marinella. South of Civitavecchia |
| | | MEDIUM | 1 | La Spezia Gulf |
| | | MEDIUM | 4 | Oristano, Oristano, Guspini, Fluminimaggiore and Buggerru for disused mining areas |
| | Decreased quality / salinisation of groundwater | MEDIUM-HIGH | 5 | Tarquinia, Santa Marinella. South of Civitavecchia |

| | | | | |
|---|---|---|---|---|
| | | MEDIUM | 1 | Magra river plain |
| | Decreased air quality | HIGH | 3 | Porto Torres |
| | | MEDIUM | 1 | La Spezia Gulf |
| | | MEDIUM | 1 | Tuscany: Massa Carrara |
| | | MEDIUM | 4 | Oristano, Guspini, Fluminimaggiore and Buggerru for disused mining areas |
| Extraction of fluids from underground | Loss / alteration of habitats / species of wetland | HIGH | 2 | The whole CAMP area |
| | Loss / alteration of habitats / species of the coast | HIGH | 2 | The whole CAMP area |
| Pollutants release risk | Risk for the population, infrastructure and settlements | MEDIUM | 1 | Tuscany: Massa Carrara |
| | Soil degradation | HIGH | 3 | Porto Torres |

| **Driving force** | **MARITIME ACTIVITIES** | | | |
|---|---|---|---|---|
| **Pressures** | **Types of impacts** | **Criticality** | **CAMP-ITALY Area** | **Detail** |
| Emission | Decrease of marine-coastal water quality, | HIGH | 1 | Tuscan Archipelago |
| | | MEDIUM-HIGH | 1 | Tuscany: Marina di Cararra, Viareggio, ports of TuscanyArchipelago |

| | | | | |
|---|---|---|---|---|
| | | MEDIUM-LOW | 2 | the Ravenna harbour |
| Pollutants release risk | Loss / alteration of habitats/ marine species | MEDIUM-LOW | 1 | Tuscany: Marina di Cararra, Viareggio, ports of the TuscanArchipelago |

| **Driving force** | **TOURISM** | | | |
|---|---|---|---|---|
| **Pressures** | **Types of impacts** | **Criticality** | **CAMP-ITALY Area** | **Detail** |
| Anchoring and mooring | Loss / alteration of habitats / marine species | HIGH | 1 | Liguria: Santa Margherita, San Michele di Pagana, Baia del Silenzio and Punta Manara, Portovenere |
| | | HIGH | 1 | Tuscany: coast of Versilia, Pisa. Tuscan Arcipelago |
| | | HIGH | 3 | Capo Caccia, Porto Conte and Porto Ferro, Stintino, Platamona, Valledoria and Badesi |
| | | MEDIUM-HIGH | 4 | Torre dei Corsari- Pistis, San Giovanni, IsAruttas, Mari Ermi, Is Arenas, S'Archittu |
| Change of land use | Loss / alteration of habitats / species of the coast | HIGH | 3 | Capo Caccia, Porto Conte and Porto Ferro, Stintino, Platamona, Valledoria and Badesi |
| | | MEDIUM-HIGH | 5 | Ladispoli |
| Construction of marinas | Loss / alteration of habitats / species of the coast | HIGH | 1 | Chiavari, Lavagna, |
| Emission | Decrease of marine-coastal water quality, | MEDIUM | 2 | |

| | | | | |
|---|---|---|---|---|
| | Decrease of air quality | MEDIUM | 2 | |
| Coastal erosion | Coastal erosion | MEDIUM-HIGH | 4 | Torre dei Corsari- Pistis, San Giovanni, IsAruttas, Mari Ermi, Is Arenas, S'Archittu |
| Attendance | Disturbing wildlife | LOW | 2 | |
| | | HIGH | 4 | Capo Caccia, Porto Conte and Porto Ferro, Stintino, Platamona, Valledoria and Badesi |
| | Loss / alteration of habitats / species of the coast | HIGH | 3 | Capo Caccia, Porto Conte and Porto Ferro, Stintino, Platamona, Valledoria and Badesi |
| | | MEDIUM-HIGH | 4 | Torre dei Corsari- Pistis, San Giovanni, IsAruttas, Mari Ermi, Is Arenas, S'Archittu |
| Bathing activities | Disturbing wildlife | HIGH | 1 | Tuscany: Apuan-Versilia-Pisa -Coast,Tuscan Archipelago |
| | Loss / alteration of habitats / species of the coast | HIGH | 1 | Tuscany: Apuan-Versilia-Pisa -Coast,Tuscan Archipelago |
| | Increased risk of flooding | MEDIUM | 1 | Liguria |
| | Loss / alteration of habitats / species of the coast | MEDIUM | 1 | Liguria |
| | | LOW | 5 | Principina a Mare, Alberese, Monte Argentario, Capalbio |
| | | HIGH | 5 | Cerveteri and Ladispoli |
| Overuse of water | Decreased quality / salinisation of groundwater | HIGH | 1 | All plains of Tuscany |
| | | HIGH | 5 | All plains of Tuscany and Lazio |

| Driving force | TRANSPORT INFRASTRUCTURES | | | |
|---|---|---|---|---|
| **Pressures** | **Types of impacts** | **Criticality** | **CAMP-ITALY Area** | **Detail** |
| Change of soil use | Coastal erosion | HIGH | 4 | Portixeddu-San Nicolò, San Giovanni, Mari Ermi, IsAruttas, Putzuldu-Porto Mandriola |
| | | MEDIUM | 3 | Capo Caccia, Stintino, Platamona-Sorso, Castelsardo, San Pietro a Mare- Valledoria and Badesi Mare |
| | Loss / alteration of habitats / species of the coast | HIGH | 4 | Portixeddu-San Nicolò, San Giovanni, Mari Ermi, IsAruttas, Putzuldu-Porto Mandriola |
| | | MEDIUM | 3 | Capo Caccia, Stintino, Platamona-Sorso, Castelsardo, San Pietro a Mare- Valledoria and Badesi Mare |
| Attendance | Loss / alteration of habitats / species of the coast | MEDIUM-HIGH | 5 | Municipalities located along the Aurelia Road |

| Driving force | COASTAL DEFENCE | | | |
|---|---|---|---|---|
| **Pressures** | **Types of impacts** | **Criticality** | **CAMP-ITALY Area** | **Detail** |
| Construction of rigid defense | Damage to the local economy | HIGH | 1 | Liguria: Chiavari |
| | Decrease in the resilience of the coast | HIGH | 1 | Liguria: Chiavari |

| | | | | |
|---|---|---|---|---|
| | MULTIPLE | HIGH | 5 | From Civitavecchia to Ladispoli |
| | Loss / alteration of habitats / species of the coast | HIGH | 1 | Tuscany: High in the area of Massa Carrara and coast of Pisa coast. |
| Sediment Transport and handling | Loss / alteration of habitats / species of the coast | HIGH | 1 | Liguria: Chiavari, Lavagna, Sestri Levante, Portovenere, Ameglio, Sarzana |
| | Loss / alteration of habitats / marine species | LOW | 1 | Liguria: Chiavari, Lavagna, Sestri Levante, Portovenere, Ameglio, Sarzana |

As shown above, a variety of environmental impacts have been detected in the five examined areas. However, they confirm the main problems highlighted in the proposal of 2008.

The analysis carried out delineates the following main issues:

- The most common types of pressure identified in the considered areas are

  - Emissions
  - Change of land use
  - Floods
  - Coastal erosion
  - Human attendance
  - Pressure from bathing activity
  - Uncontrolled trawling
  - Overfishing.

- The most common types of impacts detected in the considered areas are

  - Loss / alteration of habitats / species of the coast
  - Deterioration of marine-coastal water quality
  - Loss / alteration of habitats/ marine species

- Damage to the local economy
- Deterioration of water quality / salinization of groundwater
- Loss / alteration of habitats / species of wetland
- Soil degradation
- Risk to populations, infrastructures and settlements.

In particular, regarding the pressures and their impact:

Coastal erosion, both as natural pressure and human-induced impact, is one of the main problems in all five areas.

Coast protection involves significant pressures, especially in areas 1 and 5, mainly through the construction of hard defence structures and beach nourishment.

The main risk factors are related to flooding and pollutant release from contaminated sites and, especially in the Tuscan Archipelago, to accidental spills from ships in transit.

Urbanisation causes multiple effects on the environment in all areas with the exclusion of Area 2.

Agriculture / breading pressures and impact occur in all areas, mainly due to discharge in soil and rivers and, in some cases, to excessive use of water.

In some cases there is excessive fishing effort and employment of trawling techniques which damage sensitive habitats; the aquaculture is not particularly critical in the studied areas.

Industry is responsible for various pressures (mainly emissions) that are generally localised and do not concern all the analysed areas.

Maritime activities impact, locally, two of the analysed areas (1 and 2), mainly due to discharge into the water and risk of accidents with release of pollutants.

Tourism is a factor responsible for diverse impact which, at varying degrees, affect all the analysed areas.

Transport infrastructures impact areas 3, 4 and 5; in particular, in Sardinia the roads are indicated as an obstacle to the natural evolution of the shoreline with consequent erosion and loss of habitats.

## 2.7 EVALUATION OF FUTURE DEVELOPMENT TRENDS

### 2.7.1. AREA 1 LIGURIA - TUSCANY

In the near future, the current phase of erosion of the Tuscan - Ligurian beaches will tend to increase: difficulty in increasing the sediment transport by rivers, creation by some municipalities of significant works of defence, designed to protect the short front of the beach without any assessment of the effects on adjacent coastlines.

In summary the envisaged problems are:

- a persistent erosion of the coast over time (lack of solid river inputs, shortage of supply of material, the persistent phenomena induced by human works and, in the future, sea level rise);
- lack of planning for interventions on the basis of priority and risk, lack of operational guidelines, frequent use of locally designed projects, often dictated by emergency or needs of individual dealers.

In particular, for the features of the Ligurian coast, the Regional Plan for the protection of the marine and coastal environment, prepared and adopted for physiographic units and with the role of a Basin Plan, should produce an equilibrium between urbanised areas and natural ones.

Regarding the area of Tuscany, the development of the Coastal Logistics Platform (including the port of Livorno, the inland port "A. Vespucci" of Guasticce, the airport "G. Galilei" of Pisa, the stable connection with the inland port of Gonfienti (Prato), the airport of Florence, the Upper Tyrrhenian Sea Port System, the relations between the highway of the sea and the Corridor 1) should be the solution to these problems.

### 2.7.2 AREA 2 EMILIA ROMAGNA

The entire coastal territorial system suffers from the increasing pressures of urban, manufacturing and tourism - bathing developments. The tourism - resort system continues to produce the greatest impact: the coastal system coincides largely with the tourism system.

However, fishing, agriculture and industrial activity, in areas adjacent to the coast, are significant.

The strategy identified includes:

- prevent the further construction of private tourist facilities,
- upgrade the tourism offer
- make a second tourist attraction, behind the shoreline, based on protected areas of high natural value.

The territory is affected by a system of infrastructure outside the coastal area with a heavy weight on the coast. For some time, some solutions have emerged, not easy to implement. First, the highway E 55 (Venice-Ravenna, a completion of the Adriatic Corridor) located away from the coastline, would alleviate the traffic of State Route 309 (Romea), transformed to play the role of "the street of the Delta Park." The strengthening of the rail network should be the Romea Rail (with the union, if any, of Codigoro and Adria).

Other major infrastructure projects are the development of the port of Ravenna and the waterway, from Ravenna to the Po river and Ferrara, to increase water transport.

The submerged barriers have been designed with devices studied to achieve a concentration of fish and increase the substrates useful to benthic macro-fauna settlement. Such interventions should promote the production of edible bivalve molluscs in the form of passive mariculture. The presence of a filter barrier system helps break down the particles suspended in water and any bacterial load.

Interventions in watersheds include: re-naturalization of rivers, construction of the reclaimed areas (flood control, irrigation and constructed wetlands), reduction of pumping water, improvement of water purification in the rivers to reduce the polluting potential.

### 2.7.3 AREE 3 -4 (NORTH SARDINIA) E (WEST SARDINIA)

The analysis of trends, both positive and negative, of territorial processes have demonstrated:

- A progressive advancement trend of coastal erosion and extreme events related to the dynamics of the river and slopes, accompanied, however, by a steady trend in the management and conservation of marine-coastal resources.

For Area 3:

- a growing trend in the spread of projects for the rehabilitation, protection and exploitation of natural and environmental resources;

- a trend towards growing forms of management and conservation of marine and coastal resources through the extension or new institution of protected areas ;

For Area 4:

- a widespread planning for the reclamation and protection of environmental resources.

The recent evolution of tourism demand shows a widespread increase, particularly over the summer, associated with a decreasing utilisation rate of beds and tends to a significant increase in the density of tourism compared to the resident population. In addition, there is a large deficit in the number of structures with environmental certification.

### 2.7.4 AREA 5 TUSCANY-LAZIO

The Tuscany region has high hopes to the creation of the CD "Tyrrhenian corridor." The main source of future development of the coastal territory of Lazio is represented by the marinas. New moorings are planned in future years: 600 in Tarquinia and Montalto, 200 in Civitavecchia, 100 in S. Marinella. Even the towns of Fiumicino and Ladispoli have a program for the adaptation of the existing port and the construction of a new marina and new docks.

The new Transport Master Plan (TMP) provides for a new railway which will connect the port of Civitavecchia to the airport of Fiumicino and a link road (Orte-Civitavecchia), which will connect the hinterland with the coast.

The aspect that has most changed the scenarios of the coastal area is linked to the development of the port of Civitavecchia. The cruise ship traffic has increased in the last 10 years from 150 to 755 ships.

Energy production, in the coastal area north, is concentrated between Civitavecchia and Montalto di Castro. The new production of the North Central Valdaliga Tower, under construction, could pose a significant environmental impact on agriculture and public health.

The quality of river water and marine-coastal beaches and stability are two other major challenges.

Erosion is an inevitable phenomenon for a coast affected by marine works and a strong reduction of the solid transport of rivers. The average of erosion is 5000 cubic meters / year / km in the beaches to the north, while to the south can be up to 18000mc/year/km (Beachmed, 2004).

The fish sector has a little importance with the exception of Civitavecchia. The only economic area that could show growth is tourism, although today it presents some signs of suffering. The

trend of recent years shows a significant decrease in attendance (-15.8%) and arrivals (-16.7%); these values have a more negative connotation when compared with the positive data of the whole Lazio region and the national territory. The trend may be caused by certain deficiencies reported by tourists: increased costs of infrastructure, lack of tourist services, lack of road signs and lack of points of leisure for tourists.

## 2.8. ANALYSIS OF ACTUAL AND POTENTIAL CONFLICTS AMONG THE USES OF THE COASTAL ZONE IN THE SUB-AREAS INCLUDED IN THE CAMP ITALY PROJECT

In the 5 areas of CAMP Italy the major conflicts have been observed between:

- Tourism and conservation of habitats and species,
- Agriculture and conservation of habitats and species,
- Urbanisation and habitat conservation / species protection,
- Urbanisation and coastal defence,
- Fishing and conservation of habitats and species,
- Coastal defence and ports.

However, in some cases, the conflict between two activities is not necessarily one-to-one, such as the relation between tourism and conservation of habitats and species. Indeed, in some areas of Sardinia, the protection of natural resources has a positive effect on touristic activities whereas the development of tourism causes an overall negative impact on coastal habitats.

Actually, among many activities there is an ambivalent relation of conflict vs. synergy; it is the case of the relations between tourism and agriculture or coastal defence and conservation of habitats and species.

## 2.9 DESCRIPTION AND EVALUATION OF LOCAL INSTITUTIONS WITH REFERENCE TO THE ICZM

In the regions of Liguria, Emilia Romagna and Tuscany integrated coastal zone management is entrusted to administrative divisions and/or directions relating to various Regional Councils, each responsible for their own areas of interest. This reflects, in a similar manner, what happens at the national level, where the powers fall under different ministries.

In the Liguria Region the Department of Environment of the Region has set up a specialised office, for the integrated management of coastal areas,: the Office of Coastal Ecosystem, which deals with the following environmental issues:

- identification, typing, monitoring and classification of water bodies into compliance with the Water Framework Directive and the Legislative. 152/06;

- protection of marine biodiversity, with particular reference to the identification, monitoring and protection of marine SCI, in fulfilment of Decree 357/97 and the Habitats Directive;

- environmental permit immersion of materials in the coastal area (geological materials, handicrafts, marine sediments) pursuant to art. 109 of Legislative Decree no. 152/06;

- evaluation of technical adequacy (effectiveness, design, direct and indirect effects of the marine works).

The Office of Coastal Ecosystem:

- coordinates the activities of Arpal (monitoring of coastal waters);

- provides technical advice for investigations of the procedures for approval of plans and projects (EIA, SEA, conference services);

- develop and propose to the regional government technical criteria for the design of work, for safeguarding the stability of the coastline and for the protection of habitats;

- Participates in advisory boards and testing of the port works.

In the Emilia Romagna region the following Committees have been created:

-an Institutional Committee (Region, the 14 coastal municipalities and 4 provinces), the reference for the strategic direction of integrated management of the coast;

-an Intersect-oral Committee, which involved the Directorates General (Environment and Soil and Coast, Spatial Planning and Mobility Systems, Productive Activities, Commerce and Tourism, Agriculture).

Both committees have long addressed issues such as: 1. Coastal physical system, risk factors and defence strategies; 2. Pollutant loads, water resources management, monitoring, and 3. Ports, waste from boats, shipping risks, 4. Habitat enhancement, biodiversity, landscape, 5. Tourism 6. Fisheries and aquaculture, 7. Agriculture 8. Energy policies; 9. Settlement system and infrastructure (services and mobility).

This has produced already in 2003, a plan for integrated coastal management, with the involvement of local authorities (municipalities and provinces) and the various sectors that operate on regional issues of direct interest to the coastal area.

In the Sardinia Region, the Regional Agency for Conservatory of the Sardinian Coast was established in 2007, with legal personality under public law, with self regulatory, financial, organisational, administrative, capital, and managerial accounting. The Agency aims to protect,

preserve and enhance coastal ecosystems and develop an integrated management of coastal areas with particular landscape and environmental significance. In particular, the functions concern: a) the coordination of regional initiatives on integrated coastal zone management in dealing with other Italian regions and local authorities of the countries bordering the Mediterranean; b) the coordination of integrated initiatives for the management of coastal zones, produced by the regional government, local authorities and administrations of protected areas and sites of Community interest, c) the promotion and dissemination of issues related to environmental protectionand sustainable development of landscape and coastal areas, d) the development of guidelines and general principles of intervention for the protection and monitoring of coastal areas, e) to claim the pre-emption on the sale of land and buildings and the right of costless acquisition of properties falling in the coastal belt within 2 km from the sea; f) the expropriation and / or purchase of buildings where environmental quality, landscape and culture is such that it is considered as necessary to their preservation and protection g ) the exercise of regional competences on the public lands immediately overlooking the coastal areas of conservation and individual assets entrusted to it; h) the exercise of powers, delegated to the Region, for cultural property buildings falling in coastal conservation areas entrusted to it; i) activation of the forms of cooperation with municipalities (single or combined) in order to:

- ensure the preparation of plans for the use of communal lands, involving coastal areas, consistent with the purposes of the Agency;
- focus on the adoption of acts of disposal of municipal land in favor of the Agency when included in the coastal areas;

l) determining the forms and tools for collaboration and exchange of information with the government system and with other institutions and agencies responsible for land management.

In the Lazio Region, the Regional Observatory of Lazio Coast was established (Regional Law 53/98), in regional organizational structures, with the specific task of monitoring the factors affecting the dynamics of the regional coast and to achieve the monitoring of actions and of operations authorized. In this context, activities have been developed in the field of monitoring, research resources, of the environmental impact assessment, planning interventions and other defense activities. The Observatory, which is an operating structure, refers to the Monitoring Centre which is a specific structure to play an important role in cataloguing the collected data.

The structure consists of operational staff of the Lazio Region which is headed by Councillorship of Environment (Directorate Environment and Civil Protection). The Monitoring Centre has the task of study and interpretation of large amounts of data regarding the different factors influencing the state of the coasts and the sea. Data on erosion, pollution, climate and environmental quality, once collected and processed, are organized and made available for consultation on site, via Web or at the Information Center.

From the foregoing it is evident that the regional structures of CAMP Italy, on the basis of their experience far beyond regional boundaries (national, European and international projects) are among the most advanced, at national level, in the issues related to integrated coastal zone management.

## 2.10 PARTICIPATION

Within the framework of processes related to the Integrated Coastal Zone Management and then the preparation of Feasibility Studies for each area, the situation is quite diverse.

For all the considered areas, the involvement of public research units (centers, universities etc..) for problem analysis and drafting of feasibility studies, has been generally observed. This has led to a better understanding of the natural, social and economic status of each area and, consequently, to a more careful preparation of the actions to be pursued. The involvement of other administrations (regional, provincial, municipal) has been different in different regions. In Areas 3 and 4, it has been significant and led to very positive results. In Area 2, among the parties locally involved in the definition of the ICZM guidelines, there were periodical opportunities to meet and to share opinions and strategies. In the light of this experience it is believed that the project CAMP-Italy may fall into this process.

In other areas (1 and 5) these actions, in relation to the Project CAMP Italy, were only sketched, partly because there had been an earlier involvement of local people in previous projects and programs. However, in all areas involved in CAMP Italy there is the clear intention to continue and to strengthen the participation activities.

With regard to other stakeholders (associations, NGOs, ordinary citizens), participation and sharing activities have been launched and reached an adequate level in areas 3-4 and partly 2, while it is one of the goals to be achieved in areas 1 and 5.

Obviously, all this has to take into account the socio-economic realities of the different areas. In some areas the "use" of the coastline has been established for long time and this implies that some beliefs or "habits" are deeply embedded in local cultures, causing often a partial view of the issues involved. As a consequence, in some areas there is an objective difficulty in "accepting" certain requirements related to the protection and restoration of the natural environment. The guidelines were discussed with the directors of coastal provinces and municipalities, the trade associations, the NGOs and even with ordinary citizens. There was essentially a sharing of decisions that led to the definition of the Guidelines. It is however planned that in the subsequent phases of the project all necessary synergies for a better sharing of decisions will be established.

## 2.11 INVENTORIES OF PROJECTS CARRIED OUT IN THE COASTAL AREA OF REGIONS INVOLVED IN THE PROJECT CAMP ITALY

An exhaustive list of all the projects that may be related, directly or indirectly, to areas of competence of the integrated coastal zone management issue, although of difficult preparation, would always be susceptible of critics. However, interventions that are believed to have found a greater connection with the complex subject of integrated coastal management have been collected, for each reference area, in the following tables.

**AREA 1 (Liguria Toscany)**

| | PROJECT | ISSUE(S) |
|---|---|---|
| COMPLETED | Beachmed | Characterization of the erosion process. Promotion of publicawareness. |
| | Mare Pulito Integrato | Recovering and clearing activities of seabeds |
| | Pulizia specchi acquei costieri | Recovering and clearing activities of coastal and marine waters |
| | Portale Ambiente | Integrated platform for the consultation of environmental data |
| | Cartografia biocenosi costiere | Data collectionactivities |
| | Programma DOCUP 2000-2006 | Measure 2.5 Management of the Coastal Heritage |

| | PROJECT | ISSUE(S) |
|---|---|---|
| CURRENT | Riqualificazione paesistica ambientale connessa alle opere di demolizione dello "scheletrone | Landscape |
| | GIONHA – Governance and Integrated Observation of marine Natural Habitat | Biological Studies and monitoring |
| | Odissea | Feasibility Study on the use of alternative energies |
| | Piano di monitoraggio ambiente marino e costiero | Data collection of marine-coastal environmental quality |
| | SICOAST | Geografic Information System |
| | RESMAR | |
| | COREM | |
| | TPE | |

| | PROJECT | ISSUE(S) |
|---|---|---|
| PLANNED | Implemetazione Rete Natura 2000 SIC MARINI | |
| | P.E.R.L.A. | Project for the acces, the use and the safety of coastal areas in border Regions |
| | MAR (RESEAU POUR L"ENVIRONNEMENT DANS L"ESPACE MARITIME) | Cross-border Cooperation Italy-France |

| AREA 2 (Emilia Romagna) |
|---|

| | PROJECT | ISSUE(S) |
|---|---|---|
| COMPLETED | Linee Guida per la gestione integrata delle zone costiere | Regional strategy for the protection and governance of coastal areas. Institutional building actions |
| | Beachmed-e | |
| | | |
| | PlanCoast | |
| | Corsi di formazione GIZC | |
| | Caratterizzazione sedimenti litoranei | Analyses of coastalsands |
| | Istituzione ZTB | Protection of biodiversity and restocking of fish |
| | INTERREG IIIB CADSES PLANCOAST | Elaboration of studies and recommendations on the planning of coastal and marine areas |
| | INTERREG IIIC BEACHMED-e | Identification of regulatory and organizational tools for the definition, regulation and management of coastal protection |
| | INTERREG IIIB CADSEALAND | Coastal erosion and the complex interactions between the "river basins and coastal environment |

| | | |
|---|---|---|
| | Tavolo BLU Adriatico<br>( ADRI.FISH - FISHLOG -CONNECT -ADRI.BLU - KORIN ) | Sustainable management of fisheries and fishery resources of the Adriatic Sea |
| | I "PROGETTONI" DI RIPASCIMENTO | Securing of critical stretches of the coast |

| | PROJECT | ISSUE(S) |
|---|---|---|
| CURRENT | Coastance | Common strategy for regional action against the "erosion and coastal effects of climate change for sustainable planning design in the Mediterranean |
| | MICORE | Implementation of probabilistic maps of the "morphological impact of extreme sea and weather events and to developing a tool for forecasting and warning system to support mitigation and protection strategies |
| | Programma Azioni Sperimentali GIZC | |
| | MED COASTANCE | Management and maintance Management and maintenance of beach sediment |
| | ARPA DAPHNE | Monitoring in the marine and coastal environment |
| | SHAPE | Governance |
| | COAST BEST | Marine-coastalsediments |

| | | |
|---|---|---|
| | SED MANAGEMENT | Application of technologies for the characterization, treatment and management of marine sediments contaminated by micropollutants |
| | MAREMED | Integrated Maritime Policy |
| | SEA - MED | Maritime transport of dangerous goods |

| | **PROJECT** | **ISSUE(S)** |
|---|---|---|
| **PLANNED** | IMAGE | Elaboration of integrated coastal zone management of coastal areas and maritime spatial planning. |

| AREE 3 e 4 ( Sardinia) |
|---|

| COMPLETED/ CURRENT/ PLANNED | PROJECT | ISSUE(S) |
|---|---|---|
| | APQ (Accordi di programma quadro) | Severals interventions in terms of defending the soil; urban areas, cultural heritage, water resources and mobility. |
| | INTERREG IIIA | |
| | POR Sardegna | |

| AREE 5 ( Toscany - Lazio) |
|---|

| COMPLETED | PROJECT | ISSUE(S) |
|---|---|---|
| | Beachmed (Interreg IIIB-Medocc) | |
| | e Beachmed-e (Interreg IIIC) | |
| | Gestione Integrata della Fascia Costiera (LR 1/2001) | |
| | Difesa e Ricostituzione del litorale di Tarquinia tra Porto Clementino e la Foce del Marta | Beachesrestoration |
| | Studio Ambientale della piattaforma continentale (Montalto di Castro) | Characterization of dredging sites |
| | Caratterizzazione sedimentologica dei depositi (Zona A2/Montalto di Castro) | Sedimentologicalinvestigations |

| | PROJECT | ISSUE(S) |
|---|---|---|
| CURRENT | CO.ME.BIS (Life Natura 2006) | Measures designed to protect different types of sensitive coastal and marine ecosystems |
| | COASTANCE (Programma MED) | Development of innovative techniques for the assessment of coastal risk |
| | Programma di Lavoro Centro Monitoraggio GIZC (Det. n. B3354 29/09/2008) | Analysis of the criticisms of coastal zone. |
| | Programma di Lavoro Centro Monitoraggio GIZC (Det. n. B3354 29/09/2008) | Remapping and characterization of Posidonia beds |
| | Programma di Lavoro Centro Monitoraggio GIZC | Detailed survey of the coastal bathymetry; reconstruction of offshore meteomarine climate. |
| | Foce Fiume Ombrone e<br>Fiume Albegna | Check survey on the sands¸ Consolidation actions of beaches |
| | Località Macchiatonda - Capalbio | Protected beach nourishment and dune systems restoration. |

| | PROJECT | ISSUE(S) |
|---|---|---|
| PLANNED | COAST-Change | Monitoring of the coastal areas for the prevention of risks of climate change |
| | SUNBEAM: "SUstainability Network of Beach Establishments And ecoMarking" | Sustainable management of touristic activities |

| | | |
|---|---|---|
| | MAREMED | Coastal areas adaptation toclimate changes |
| | P.E.R.L.A. (ProgEttopeR L'Accessibilità, la fruibilità e la sicurezza della fascia costiera delle regioni transfrontaliere) | Cross-bordercooperation |
| | RES – MAR (RESEAU POUR L"ENVIRONNEMENT DANS L"ESPACE MARITIME) | |

## 2.12 FRAMEWORK PROJECT CAMP ITALY

The global structure of the project has been established following the instructions specified in the manual for implementation of CAMP projects.

The Feasibility Study was prepared by a working group which was attended by : MATTM (General Directorate for the Protection of Nature), Regional Representatives, the National Consultant, appointed by MATTM. Technical support was provided by the Team of the GIACOMED project and the Regional Experts

Tables with the participation of the PAP / RAC.

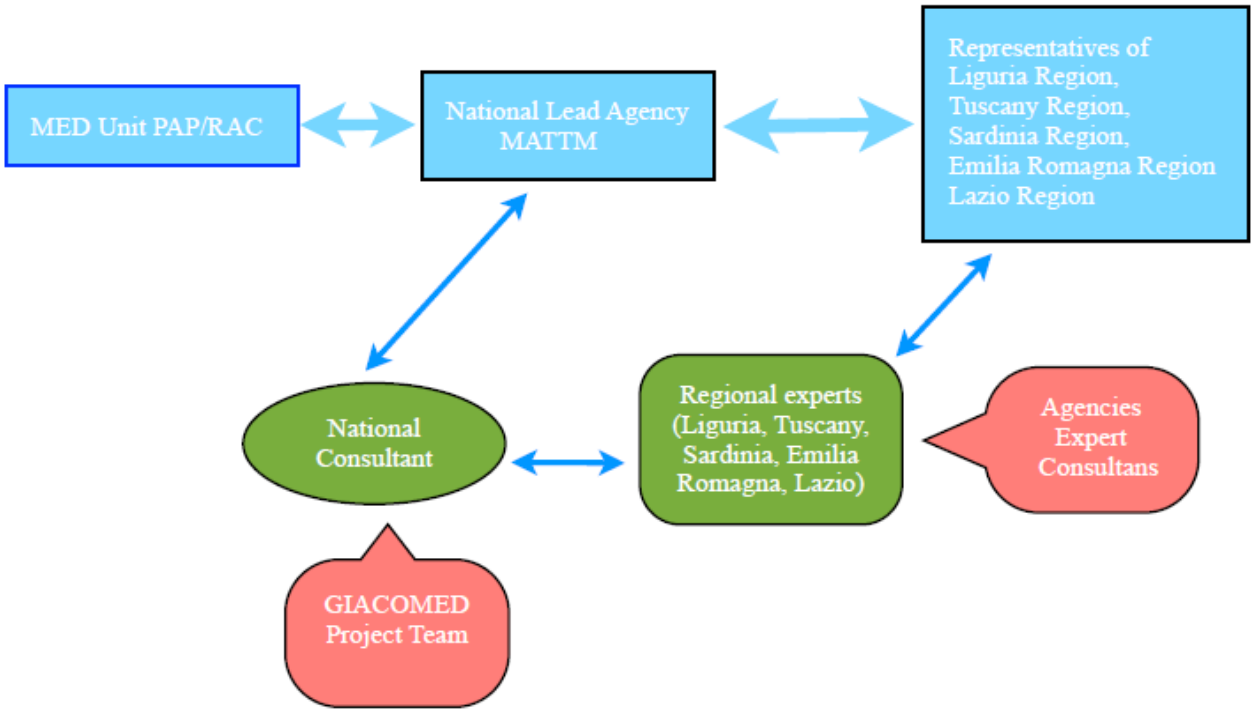


Figure 2

For the implementation of the CAMP Italy project, a central decision-making structure will be created, consisting of:

- Steering Committee, comprising representatives of the PAP-RAC, the Ministry of Environment and Protection of Land and Sea (MATTM), the regions Emilia Romagna, Lazio, Liguria, Sardinia and Tuscany;
- a General Project Coordinator, appointed by the Steering Committee and supported by
- the Regional Project Coordinators team, appointed by each region and approved by the Steering Committee.

The activity of the General Project Coordinator will be supported by:

- the College of Regional Project Coordinators,
- the Technical Coordination Office.

The central operative structure of CAMP Italy

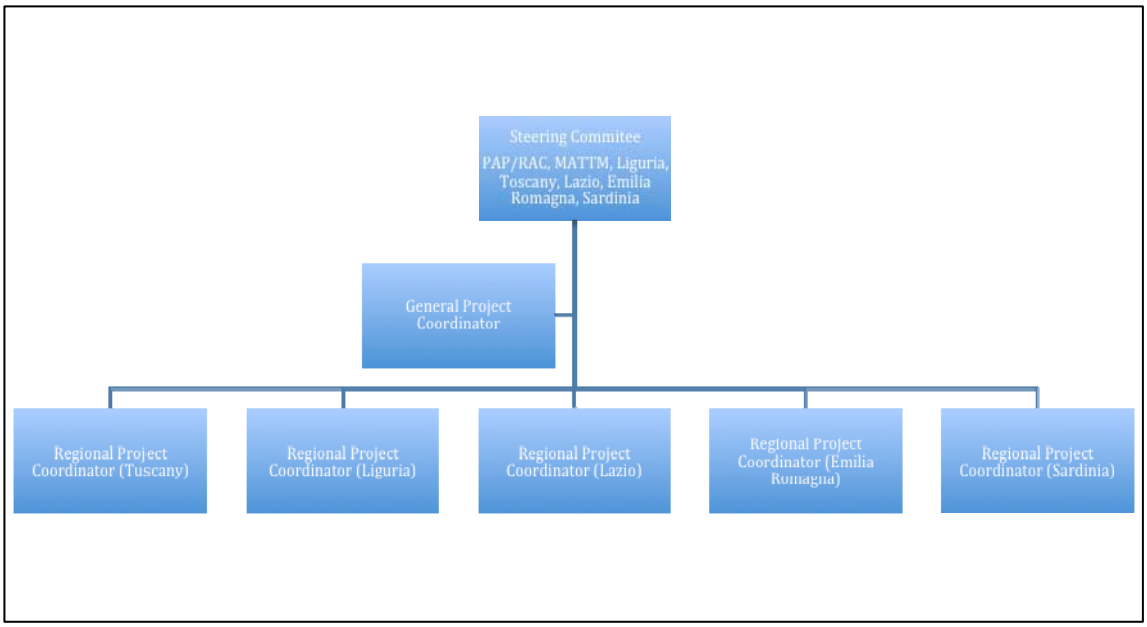


Figure 3

The Technical Coordination and Technical Regional Offices.

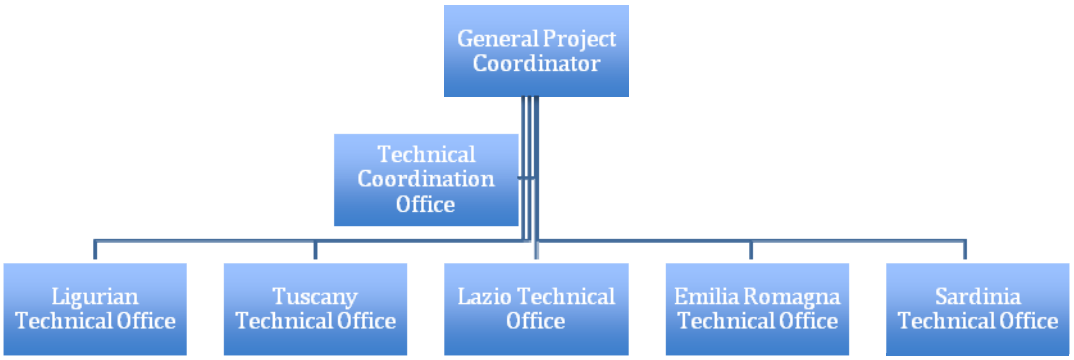


Figure 4

TheTechnical Coordination Office consists of staff from the MATTM (2 units of technical-scientific personnel, 1 unit of technical-administrative personnel, 1 technician) and 1 unit of technical and scientific personnel for each region involved, for a total of 9 units.

The headquarters of the Technical Coordination Office will be at the Ministry of Environment and Protection of Land and Sea and will provide the collection and processing of data and documentation that will be produced within the project.

TheTechnical Regional Offices (one for each region) wiill be activated at regional level and largely using the existing technical and administrative structures to support the regional coordinators.

### 2.12.1 THE OBJECTIVES OF THE CAMP PROGRAMME

The general objectives of the CAMP Programmes are:

a) To develop strategies and procedures at national and local level for sustainable development, environmental protection, rational use of coastal and marine resources as input for the formulation of strategies for sustainable development Mediterranean.

b) To identify, adapt and test, in a real operational context, methodologies, tools and practices of sustainable coastal development.

c) To contribute to upgrade the human resources working at national and local institutions.

d) To ensure a wide use, at national and regional level, of experience gained by the program and its individual projects, and create the conditions for the follow-up.

### 2.12.2 THE OBJECTIVES CONTAINED IN THE PROPOSAL OF CAMP ITALY

The objectives of CAMP Italy were identified according to the procedure described below.

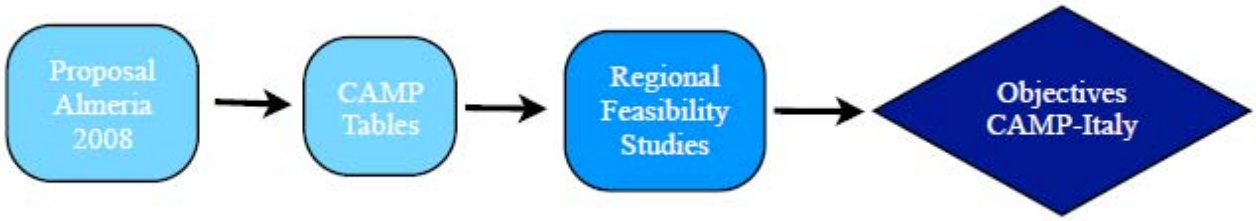


*Figure 5*

The proposal for the CAMP Italy, presented and approved in Almeria in January 2008, contained a first indication of the strategic objectives of CAMP Italy, defined according to a first analysis of the coastal regions.

Specifically, the proposal provided:

1) a strategic objective consisting of testing the integrated management of the coastal area (both implementing the ICZM Protocol and the EU ICZM Recommendation 2002) and, in particular, actions aiming at (1) reduction of the critical aspects (coastal erosion, loss of biodiversity, pollution), (2) sustainable management of natural resources, (3) conservation of natural habitats and biodiversity.

2) Seven complementary objectives with activities specifically targeted to a particular sector:

a) the sea (such as management of the mining of sand from the seabed, of fish farms, etc.);

b) the protection and enhancement of the archaeological, architectural and natural landscape;

c) the diversification of the touristic offer (new offers focused on specific environmental and landscape aspects);

d) environmental restoration;

e) recovery and preservation of the coastal and marine environment at the river mouths;

f) description and representation of the territory and its resources, identifying values, opportunities and critical issues, reasons for the proposed choices and evaluating expected effects;

g) definition of evolutionary scenarios which intervention policies must address.

### 2.12.3 THE SPECIFIC OBJECTIVES THAT EMERGED FROM THE SHARED CAMP TABLE

Before the start of the FS, three formal meetings between the MATTM and the involved regions have been held. During these meetings some specific goals for the CAMP Italy emerged, also thanks to opinion exchanges with representatives of the PAP / RAC. These goals are:

1) Spatial planning of land and water;

2) Evaluation of natural hazards and risks in the coastal area;

3) Implementation of the contents of the ICZM Protocol in the framework of EUinstruments (ICZM Recommendation, Marine Strategy Framework Directive, Blue Book, the EU Marine Spatial Planning (MSP) and Integrated Maritime Policy (IMP)etc.), with specific reference to the definition of the coastal zone, the area to which the Protocol applies (Article 3, ICZM Protocol), and the definition of the coastal setback line (Article 8, ICZM Protocol);

Additional activities, related to the following issues, have been discussed:

a) The environment-human-induced hazard and, above all, pollution;

b) Some pilot activities for the implementation of both articles 10 and 9 of the ICZM Protocol. The former deals with the identification and protection of "specific coastal ecosystems" and the latter is related to economic activities.

c) Some pilot activities dealing with climate changes. Consider the activities of the European Commission DG Environment regarding the definition of a strategy for adaptation to climate change and, in particular, the documents produced in support of the White Paper: "Adapting to climate change: Towards a European framework for action".

### 2.12.4 RESULTING OBJECTIVES FROM REGIONAL ANALYSES

From the analysis phase of the current Feasibility Study, as shown in chapters 1 and 2, it arises that the examined areas are affected by a variety of problems:

- absence of effective means for coordination among different structures that, at different levels, operate for coastal zone management;
- significant pressures and impacts arising particularly from climate, geology, coastal dynamics, urbanization, agriculture and animal husbandry, industry, tourism;

The identified conflicts are between the following uses of the coastal zone:

- Tourism and conservation of habitats and species
- Agriculture and conservation of habitats and species
- Urbanization and conservation of habitats and species
- Urbanization and coastal defence
- Fishing and conservation of habitats and species
- Coastal defence and port.

The analysis of the actions proposed by the regions implies that these actions, with the necessary simplifications, can be ascribed to the following thematic areas:

- Erosion Management
- Adaptation to Climate Change
- "Set-back"
- Maritime Spatial Planning
- Biodiversity protection - Habitat creation / restoration
- Carrying capacity
- Fishing
- Conflict resolution
- Sustainable tourism
- Participation
- Redevelopment of abandoned industrial areas.

If each thematic area is combined with the related number of actions, it is possible to draw the following graph which provides an overview of the total issues proposed by the regions.

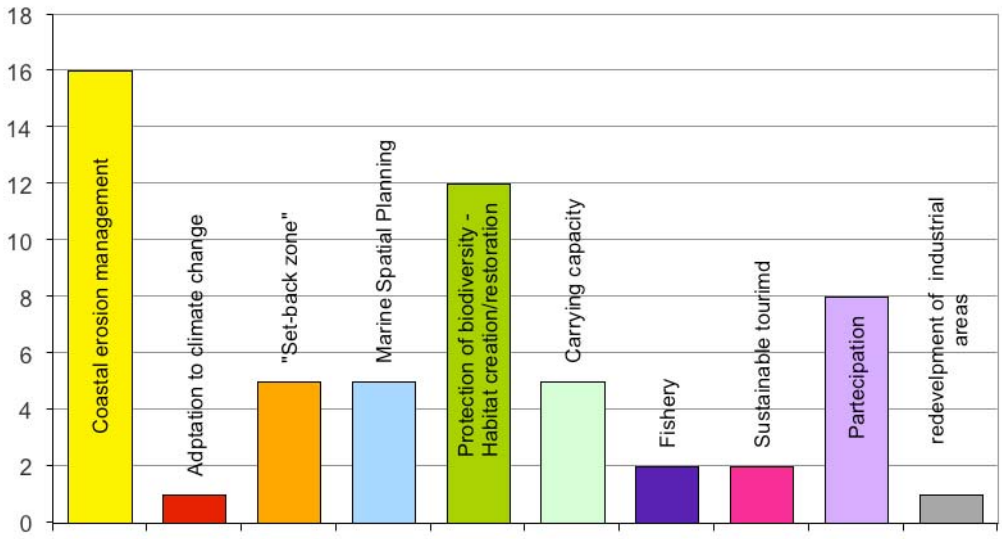


Figure 6

On the basis of the above considerations, according to the new requests from MATTM that take

into account the evolving strategy for sustainable development (i.e. Syracuse Charter), and moreover to supplement what is contained in the original proposal, the CAMP table has defined the following specific

objectives for the CAMP Italy

- Application of tools and methodologies for terrestrial and maritime spatial planning, through the coordination of programming, planning and regulating tools to improve the coordination capacities among different structures involved in coastal zone management (governance for coastal area ) and both vertical (network of subjects) and horizontal (industry sectors) integration;
- Protection, preservation and restoration of coastal and marine habitats. Maintenance of the flow of ecosystem services through the reduction and control of human pressures and development of adaptation to the effects of climate change;
- Verification of the sustainability of socio-economic activities which stress the coastal area through application of the ecosystem and the economic evaluation of ecosystem services (PES, TEEB, etc..); in particular tourism, fishing, coastal defence.

The achievement of these specific objectives has to be reached in the context of the ICZM Protocol provisions, so that CAMP Italy may represent, for the considered thematic areas, an example of regional application of the protocol itself. Therefore, a further general objective of CAMP Italy will be:

Testing at national / regional scale the application of the ICZM Protocol

In addition to these activities, CAMP ITALY includes some horizontal actions considered as functional for a CAMP project:

- Project coordination / monitoring; integration of results;
- Capacity-building;
- Collection and data management;
- Program for results dissemination

# 3. THE ACTIONS

To achieve the specific objectives set out in paragraph 2.12, the project will provide for some essential actions of CAMP projects, related to the operation of the entire project (horizontal actions) and specific actions that distinguish the CAMP Italy.

## 3.1 THE HORIZONTAL ACTIONS

The horizontal actions of the project are those actions, expressly provided for by UNEP / MAP, which characterize a CAMP project. They are thus "minimal" actions that must follow the directives of the MAP.

In the following paragraphs, the actions responding to the functions for which the CAMP Project has been realized, are outlined and described.

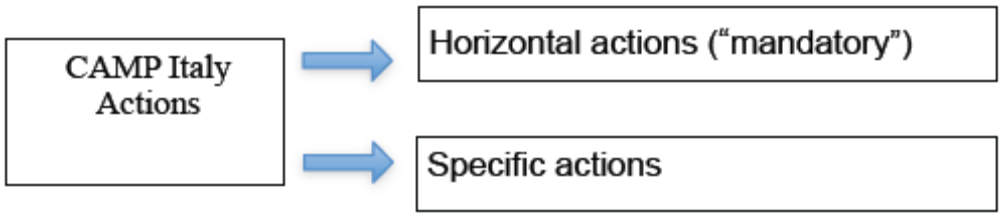


Figure 7

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| Objectives | To ensure the coordination and integration of all the phases and actions of the CAMP Italy Project as scheduled by the chronogram.<br><br>To perform an activity of internal audit according to the methodological guidance provided for in the UNEP operating manual within the MAP - PAP / RAC.<br><br>To provide an update on the implementation of the project, which will also represent a valuable support to decision making. |
| Geographic area | Entire area of CAMP Italy |
| Methodology | The Steering Committee, as a separate body that overlooks and steers the CAMP Italy project, composed of representatives of the involved regions, of the MATTM and of the MAP-PAP/RAC, nominates a General Project Coordinator and creates a Technical Coordination Office for the CAMP Italy.<br><br>The General Project Coordinator is responsible for:<br>- the coordination among national administrations (MATTM, regions, municipalities, ....) and between them and the MAP;<br>- the support in the formulation and implementation of activities pertaining to the "National Team Leaders" and "MAP Team Leader" (guidance and assistance to the actions of their competence - presentation of their results);<br>- the general activities of supervision, development of feedback and input;<br>- the integration, processing and presentation of the project status reports ("progress reports") and the results of the project ("Project results");<br>- the communication to the Steering Committee of the achieved progresses;<br>- the dissemination of the project results.<br><br>The Technical Coordination Office for the CAMP Italy will consist of a working group of experts, specifically employed for this project, so as to ensure the proper functioning of the Technical Office, and will have the following responsibilities:<br>- assitingthe General Project Coordinator in carrying out its activity;<br>- management of all the follow-up;<br>- communication (brochures, seminars, marketing, etc..)<br>- creating and updating the project pages;<br>- collection of all sorts of data from stakeholders and transmission to those responsible for of the "Collection and Data Management" action.<br><br>A strategic (ongoing) assessment will also be implemented in order to examine the progress of the project with respect to the priorities indicated in the individual projects, in accordance with the Steering Committee and the General Project Coordinator, aiming to identify critical elements in order to support remedial decisions.<br>In particular the elements to be monitored during the implementation of the project are:<br>- the actions taken within individual (working) activities;<br>- the produced outputs;<br>- the adherence to the chronogram;<br>- the financial costs of the individual projects;<br>- the corrective actions which might be proposed and implemented.<br><br>"Coast Day" events will be organized on a yearly basis to present CAMP as well as following actions. These events will play a major role in promoting and disseminating ICZM issues and in supporting capacity building at local level. |
| Acting entitie(s) | PAP/RAC, MATTM, interested Regions |
| Performing entity/es | All the consultants hired by the Steering Committee |

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| Parties involved in the action | All parties involved in the CAMP Italy Project |
| Output and expected results | Output:<br>General coordination;<br>Definition of the project's structure and of the institutional arrangements;<br>Coordination of the missions, mission reports<br>Inception Workshop and Inception Report;<br>Progress Report;<br>WEB Site of CAMP Italy;<br>Final Document of the project, follow-up proposals;<br>Final Presentation Conference and related reports;<br>Final report of the project and self-evaluation documents. |
| Estimated costs | Trip and meetings of the Steering Committee, travels of the General Coordinator and of the personnel of the Technical Coordination Office, organization of the Inception Conference and other potential events of the same type, maintenance of the web-site and of the network among the different sites, office and reporting costs 80- 100.000 euro |

### 3.1.2. CAPACITY BUILDING

| | |
|---|---|
| Objectives | Development of human resources: increased understanding, skills and access to information, knowledge and training to enable effective action.<br><br>Organizational Development: development of management structures, processes and procedures (public, private and community sectors). |
| Issue / problem addressed | Development of human resources on the issues of the ICZM and in particular on those addressed by the CAMP Italy;<br><br>Institutional organization and procedures for the ICZM |
| Geographic area | CAMP Italy areas |
| Methodology | Staff training addressed to personnel from the institutions involved in the CAMP Italy, will be performed on the following thematic:<br><br>- Principles of the ICZM (ICZM Protocol, etc.) and their application with respect to the thematic actions of CAMP Italy<br><br>- Interactions between ICZM and selected economic activities. |
| Acting entity/ies | MATTM, regional and government agencies either involved or not in the CAMP Italy Project (eg. municipalities, park authority, etc..) |
| Performing entity/ies | PAP-RAC, CP/RAC as responsible for implementation, external consultants under the guidance of the General Coordinator and the supervision of the Steering Committee. |
| Parties involved in the action | Staff of the MATTM, of regional and government agencies either involved or not in the CAMP Italy Project (eg. municipalities, park authority, etc..) |
| Output and expected results | Increased knowledge of the personnel from public, private institutions involved in ICZM on the principles, the main legal references and the methodological approach of ICZM; training and capacity building activities tailored to selected economic activities |
| Durability | In Phase III of Project |
| Estimated costs | 100,000 euro (2 training courses, 36 hours each, to be held at 2 different locations along the Adriatic and Tyrrhenian coasts) |

### 3.1.3. DATA COLLECTION AND MANAGEMENT

| | |
|---|---|
| Objectives | Data collection and management |
| Issue / problem addressed | Processing existing information |
| Geographic area | CAMP Italy Area |
| Methodology | Given the complex and continuous evolution of coastal zones, it becomes more and more important to make the necessary information for a correct management available at all levels of the pyramid: from the end-users to the decision makers to those that, at the central level, monitor the various activities, verify their consistency and credibility in relation to the National and European legislation, interact with other European and international partners and propose new strategies.<br>With the aim of harmonizing the Project effort with international actions focused to highlight the opportune descriptors of land and marine health, ecological objectives and related indicators considered in directives such as MSFD and WFD will be considered and their performance will be tested. As for the MSFD, economic and social analyses of the use of marine watersand of the cost of degradation of the marine environment play a very relevant role, and they can beperformed only by taking into account the ICZM rationale.<br>In the Italian case of the Integrated Coastal Zone Management, the presence of several well-established geographic information systems (including those aimed at MSFD and WFD) and regional databases allows to easily retrieve the available information, that will be pre-processed in order to support specific data analysis procedures and to develop tools for better understanding and managing land-sea interactions. The general aim of these activities will be to support decision making, providing effective and user-friendly tools for managing complex scenarios in themost effective way and to predict possible environmental transformations that may happen as a consequence of the managing activity itself.<br>The Protocol on Integrated Coastal Zone Management, providing for the collection of updated information on the resources, activities, institutions, legislation and planning and / or management tools that may affect the coastal zone, aims to promote the execution of a real "Mediterranean coastal zone network". Therefore all the actions of CAMP Italy, according to the Formulation and Implementation Manual of CAMP projects, must be accompanied by the creation of a project information system, in order to facilitate the establishment of appropriate national catalogs of data and to support analysis and assessment tools such as, for instance, Decision Support Systems (DSSs).<br>The development of indicators specifically aimed at ICZM will be also considered as a possible outcome of the CAMP data analyses. |
| Acting entity/ies | PAP-RAC,MATTM, involved Regions |
| Performing entity/ies | External consultant specialized in the creation and management of databases and GIS with the aid of a unit of technical-scientific personnel working at the Headquarters. |

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| Parties involved in the action | PAP-RAC, BP/RAC, CP/RAC, MED POL, SPA/RAC, as appropriate, MATTM, involved Regions |
| Output and expected results | Project database (including the GIS).<br>Maps, according to the requirements of the CAMP Italy Project for dissemination |
| Durability | The MATTM will ensure the preservation and public access to the database for the duration of CAMP Italy. |
| Estimated costs | 60,000 euro (12 months of an external consultant, hardware & software) |

### 3.1.4. INSTITUTIONAL COORDINATION AND PUBLIC PARTICIPATION

| | |
|---|---|
| Title | Institutional Coordination and Public Participation |
| Objectives | To ensure a full and transparent dissemination/information about the project (objectives, methodology and results), to receive criticism and build consensus from the public, economic and social partnership and stakeholders.<br>To stimulate and collect alternatives proposals in order to: (i) mitigate the impacts, (ii) resolve conflicts, (iii) define measures and interventions.<br>To contribute: (i) the public, private community education regarding the principles and objectives of the ICZM Protocol, and (ii) the promotion of awareness regarding the benefits of the ICZM.<br>To ensure active involvement of stakeholders, institutions and general public in the implementation of CAMP (Article 14 of the Protocol) |
| Thematic/issues addressed | To ensure appropriate public and institutional participation is an important and necessary element for the implementation of initiatives and actions designed to promote sustainable economic and social development. This is especially true in the field of the ICZM, where the flow of inputs and "bottom-up" initiatives is a top priority in order to create suited conditions for sharing the benefits and limitations. |
| Geographic area | CAMP Italy Areas |
| Methodology | Acoordinator, with reference to the objectives, and in harmony with the acting entities, proposes, implements and coordinates a program of participation through a strategy to:<br>- informing the public through events dedicated to provide citizens of the different coastal municipalities with the fundamental principles and objective of CAMP Italy;<br>- involving the public by focus group dedicated to the actual involvement of stakeholders in the analysis and discussion of CAMP Italy results and outputs;<br>- stimulating and promoting the structuring and functioning of Partnerships of two or more organizations: (i) between local authorities and multi-disciplinary academic experts; (ii) among homogenous entities (i.e. fishermen, tourist operators, islands populations, etc.) co-operating as a unit to influence developments for their common good, perform effective lobbying as an organization that works at the political, public official levels, improve exchange of experiences and ideas, enhance abilities to develop projects;<br>- verifying how to facilitate public participation, to CAMP Italy in particular and to ICZM process in general, through new communication technologies: es. (mobile data collection).<br><br>Results from the Project will be also presented and discussed by contributing to specific events such as "Coast Day". |
| Acting entity/ies | PAP-RAC, MATTM, Regions |

| | |
|---|---|
| Performing entity/ies | Technical Coordination Office (see action "Project coordination, integration and dissemination of the results") |
| Parties involved in the action | PAP-RAC, BP/RAC, CP/RAC, MED POL, SPA/RAC,as appropriate, MATTM, Regions, provinces, municipalities, public, economic and social partnership, NGOs, stakeholders. |
| Output and expected results | Output: Inception Workshop and Final Presentation Conference; the following products will be realized : (i) dedicated publications (brochures, posters, booklets), (ii) generic press and media releases, (iii) tools (eg. website) to inform and collect instances continuously (press releases, web page), (iv) internal reports of the project, (v) reports for the public, events (open meetings, technical meetings, final event);<br>Results: (i) significant contribution to the quality, effectiveness and sustainability of the project, (ii) active involvement of institutions, stakeholders and the public, (iii) promotion and support to the formalization of partnerships among the potential beneficiaries of the ICZM. |
| Estimated costs | 150.000 euro (As mentioned earlier in Chapters 3 and 4, due to its specific national and local character, funds for the implementation of the participatory programme have to be provided as counterpart contribution). |

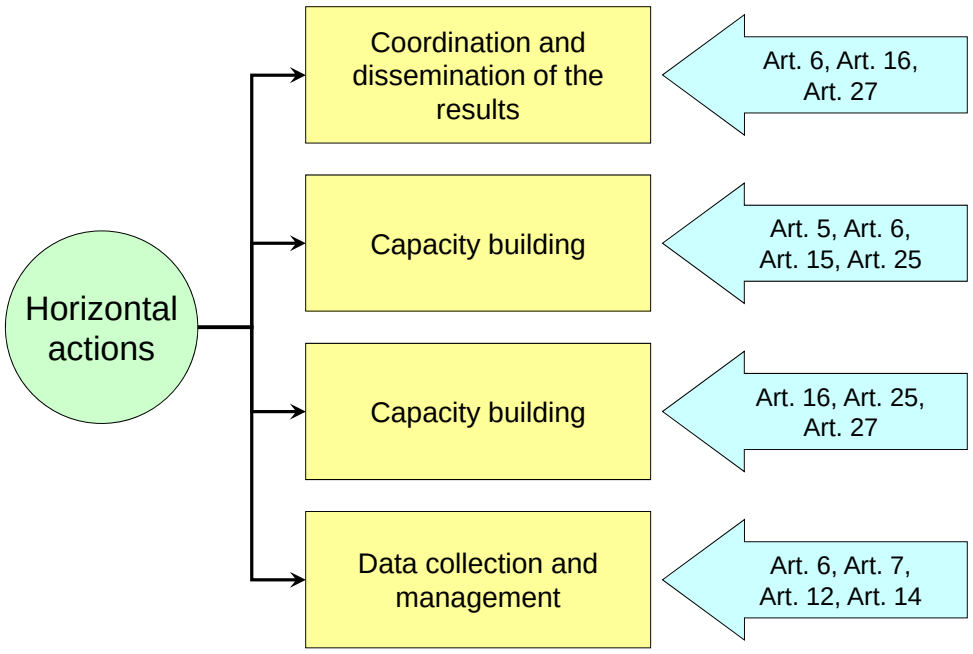


Figure 8 – The horizontal actions of CAMP Italy and the main reference articles of the ICZM Protocol.

The Coastal Zone is the connection between terrestrial and marine areas, the transition from dynamic processes (landmasses) to terminal processes (ocean basins) where time can be very long.

In such border area, characterized by fragile equilibrium, new and more intense processes have taken place, related to human activities and meeting a with a varied and diverse natural environment. As pointed out above, in the strategy of CAMP Italy Project, the most important factor is the variety of types of coastal areas of the 5 selected regions. Such variety is not just about the physical environment (morphology, geomorphology, geology, etc..) nor about the diversity of biological communities hosted by these environments, but also the different aspects of economics and sociology, which, depending on the history of the different areas, gave rise to a different impact of the various human activities (agriculture, industry, tourism,....).

The predominance of one or more of these connotations and, besides, the different times of human settlements along the coasts, have produced a series of situations where the natural environment and human activities have often produced completely different landscapes. In some cases man has maintained a close relationship with the ecosystem in which he had settled, adapting and conforming to the natural environment; in other cases, especially in the most recent decades, human settlements have deeply altered the natural system, often without a thorough knowledge of the ecosystem itself and its rules, thus producing a non-positive cascade of natural phenomena, with negative effects also on the economy.

Therefore, while investigating similar issues in the integrated management of the coastal zone, the project will face the challenge of completely different scenarios. As a consequence, the possible solutions could not be common to the different areas but might even indicate completely opposite directions, even though the methods and criteria will be the same. It was thus necessary to group the activities belonging to the integrated management of the coastal zone into different fields.

For example, the management of phenomena such as the loss of coastline by erosion may fall within the issues of land use planning, protection of biodiversity, or, even, socio-economic protection of a sandy beach. It should be noted that some of these actions may lie outside the competencies of State and of the MATTM.

The ICZM Protocol and the 2002 European Union Recommendation, however, pointed out that the management should use an ecosystem approach, hence the responsibility of the MATTM.

Accordingly, the action fields of CAMP Italy project are grouped, in relation to the specific objectives, into the following fields:

**Objective 1**. Improve the coordination capacities among different structures involved in coastal zone management (governance for coastal area) and both vertical (network of subjects) and horizontal (industry sectors) integration.

**Action 1**. Planning of marine and terrestrial coastal areas.

**Objective 2**. Maintenance of the ecosystem service flow through the reduction and control of human pressures and development of adaptation to the effects of climate change.

**Action 2**. Protection, preservation and restoration of coastal and marine habitats.

**Objective 3**. Verification of the sustainability of socio-economic activities which stress the coastal area through application of the ecosystem and the economic evaluation of ecosystem services (PES, TEEB, etc..); in particular tourism, fishing, coastal defence.

**Action 3**. Sustainability of socio-economic stress on the coastal zone (in particular tourism, fishery, structures for coastal defense).

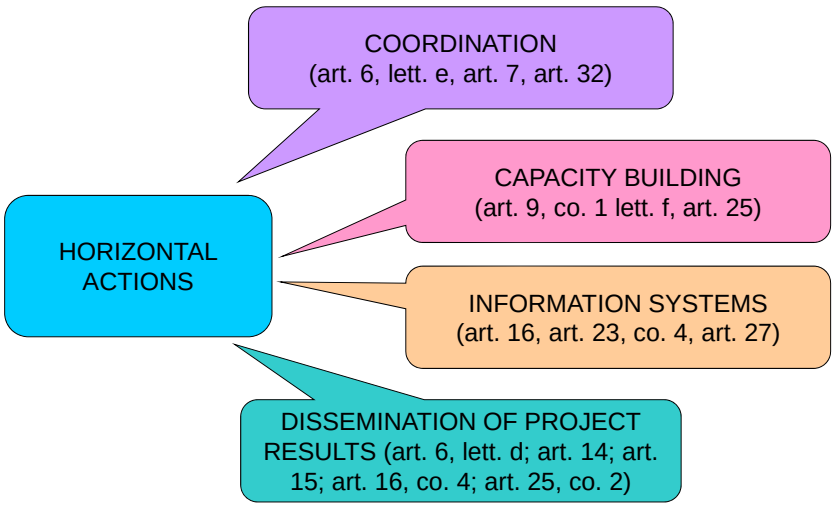


Figure 9 – The specific actions of CAMP Italy and the main reference articles of the ICZM Protocol

### 3.2.1 PLANNING OF MARINE AND TERRESTRIAL COASTAL AREAS.

The marine spatial planning should be based on the specificities of each region or sub-region. It is a process that involves: data collection, stakeholder consultation, developing a plan following the participation modes and ensuring its subsequent implementation, enforcement, evaluation and review.

Its goal is to balance sectional interests and to achieve a sustainable use of marine resources in accordance with the EU strategy of sustainable development: a stable planning that promotes investment in fields such as, among others: the development of offshore energy, shipping and maritime transport, port development, the exploitation of oil and gas and aquaculture.

The Recommendation on the implementation of the Integrated Coastal Zone Management (ICZM) and the ICZM Protocol are part of the international and EU instruments having an impact on the marine spatial planning: United Nations Convention on the Law of the Sea (UNCLOS); Protocol at the London Convention (2006), the "Carta di Siracusa" on Biological Diversity, the Framework Directive on Marine Strategy, the Framework Directive on water policy, applied to coastal and transitional waters including management plans of river basins, the Habitat Directive and the Wild Bird Directive (NATURA 2000), the Directive on Strategic Environmental Assessment, the Common Fisheries Policy (CFP) and the EU Commission Communication on Offshore Wind Energy.

The sustainable management of the marine regions relies on the health of their ecosystems. According to the EU Integrated Marine Policy, the ecosystem approach is one of the general principles of maritime spatial planning (MSP).

Two aspects are still to be considered:

1) even though the land-based activities can have a direct impact on the marine regions, the MSP only involves the management of maritime activities and those that take place in coastal waters. Depending on regional conditions, the MSP will cover a Geographic area of greater or lesser extent.

2) The MSP operates in three dimensions, involving activities occurring on: a) the seabed, b) the water column, and c) the surface. This allows using the same space for different purposes. Time also should also be considered as a fourth dimension, as the compatibility of uses and the management needs of a particular maritime region might vary over time.

Therefore the role of the Coastal Zone in the Marine Spatial Planning and the Land Spatial

Planning is clear at this point. But in order to tackle this role, some aspects, highlighted by the Madrid Protocol, need further study:

-Definition of the coastal zone, and the geographic extent of application (ex Art3 of the ICZM Protocol)

-Definition of buffer zone or setback line (ex Article 8).

The definition of the physical, biological, social and economic boundaries of this zone will clarify the input and output processes that link marine and terrestrial areas.

Defining the boundaries of the Coastal Zone (Article 3) and the set-back line (Article 8), applied to the multiple aspects of the selected coastal areas, involve both positive and negative actions for the sustainable development of the study area.

In fact, human settlements, besides representing a loss for a particular littoral system, could also be extremely harmful for an entire coastal region in case of sea level rise, as a result of climate change and natural disasters (floods or tsunamis) (Article 22-23). These aspects will also allow to plan any possible withdrawals from the coast and the transfer of some industrial settlements (factories and power plants), indicating the priority in these actions (Article 9). Similarly, the natural vocation of a given coastal area will be compared with the needs for a sustainable use of the open sea.

Therefore, any action aimed at protecting and restoring the physical environment must be supported by a real feedback within the integrated management, assessing both the costs and benefits in an appropriate timeframe, and its potential impact on the environment, the landscape and the cultural heritage (Articles 11 and 13).

The set back line proposed by the Protocol involves an area that has a strong national economic value but, at the same time, due to natural phenomena also associated with the anthropogenic impact, suffers strong pressures which affect its physical nature and associated ecosystems. Defining a set back line for human activities, without contrasting the natural impact (climate change), might even produce a rapid erosion of the littoral and hence the need to establish a new set-back line landwards, having the same initial problems as the previous one.

In this context, the project will provide the basic tools for a proper management of the coastal region and the surrounding areas. A tool among these is the proper planning of the availability of material resources (quarries on land and at sea) in order to restore the coastal sediment balance and the restoration of certain practices related to human activities. The action will thus focus on issues related to the physical maintenance of the area delimited by the set back line towards the action of natural processes, including climate change, (Art. 22-23) and biodiversity preservation (influence of direct and indirect human activities on the organisms and their surrounding environments) with an emphasis on the complexity of the whole system (see in this respect the framework of the actions proposed by individual regions).

• Implementation of ICZM Protocol and its impact on land and marine spatial planning.

| | |
|---|---|
| Title | Land and marine spatial planning |
| Objective(s) | The objectives of the action are to verify the validity of the definition of the coastal zone on the long-term, and its suitability to at least a significant part of the several socio-economic and natural cases occurring along the coast. This will help effectively identify coastal areas for the implementation of plans and programs for sustainable development: an essential support for the optimization of the uses of the sea and the coordination of actions of public administrations and stakeholders. Proper identification of the marine space occupied by the coastal zone will allow to address issues related to the marine spatial planning, a complex, integrated and participatory process. A comprehensive approach to these issues, analyzing the ecosystem, social, economic and cultural aspects and enabling a comprehensive understanding of the phenomena, will lead to consider the sea as a living space, similarly to land, and to create a method of analysis and planning of marine waters, so as to limit the negative externalities and to promote the sustainable development also through the application of the principles of ICZM.<br>Potential impact on the environment, the landscape and the cultural heritageof any action aimed at protecting and restoring the physical environment. |
| Tematic/issueaddressed | The application of the wide range of principles and objectives, widely shared by the International Communities (EU, UNEP) is often hampered by the generic extent of certain statements.<br>The spatial definition of marine and coastal areas is not explicitly stated or intuitively inferred from documents such as the ICZM Recommendation, the Marine Strategy Framework Directive, the Blue Book, the Roadmap for maritime spatial planning.<br>The ICZM Protocol, signed at the end of 2008, introduces for the first time some significant definitions of the coastal zone in Article 3 (Geographic) and protection and non-building zones in Article 8 (protection and sustainable use of the coastal zone).<br>The process of Protocol building, however, has highlighted great difficulties in reaching an agreement on these definitions which, due to their delicacy and immediate influence on the processes of implementation of the Protocol, require further investigation and testing to resolve conflicts on the uses of marine space which are detrimental to production efficiency and environmental quality.<br>For example, defining a buffer zone, starting 100 meters from the highest sea level in winter, may in some cases be not enough for the protection of the coastal environment. In contrast, a geomorphological and ecosystem approach, which takes into account the physical characteristics of the area, the existing pressures on it, as well as the natural evolutionary dynamics, could be adopted. On the other hand this limit may be inadequate in the presence of areas that are already subject to tourist recreational use, because these areas are already licensed for use for mobile shading equipment or lack of a wide available beach space because of the erosion.<br>An adjustment of the line delimiting the coastal state property is necessary where morphological changes of the shore line occurred over the years, leading to conditions of overlap between private property and areas belonging to the maritime domain.<br>It is therefore necessary to define 'the coastal zone' for ICZM in the light of the ICZM Protocol, art 3; on this view, it should be taken into account the different aspects of it, in terms of: (i) distance from the seashore line (sea side/land side), (ii) geomorphologic area under influence of the sea, (iii) competent authority/ies. |
| Geographic area | Regional waters and coastal areas. |

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| Methodology | This action will be developed through several stages. Territorial scope and governance context will be defined with reference to problems, pressures and drivers of planning land and marine spaces.Interdisciplinary scientific studies on the issues of coastal zones and adjacent seas will include the production of representations of the land /sea interface, shared by experts from various sectors as a way of exchange within working Groups. Then practical mechanisms will be established for the implementation of ICZM process: coordination and cross-sectoral involvement of stakeholders, preparing communication strategy, proposing the potential scenarios related to the several opportunities of organization of the terrestrial and marine territory, adaptable to different conditions, to help implement the processes of long-lasting and long-term sustainable development and capable of understanding and process heterogeneous factors in a complex and integrated way. The last stage will be dedicated to structuring the more efficient strategies for the implementation of the necessary legal and economic instruments to support the whole process.<br><br>This methodological approach will facilitate the implementation of the ICZM Protocol and the regulation of the uses of land and marine spaces and of the environmental protection of coastal environment. This will promote sustainable development and the participation of all stakeholders in the processes. |
| **Acting entity/ies** | CAMP-Italy regions, local administrations |
| **Performing entity/ies** | MATTM, PAP / RAC, local authorities, socio-economic and environmental stakeholders, maritime and local entities, generic users of the coastal system |
| Output and expectedresults | A detailed Diagnostic Report on the state and its possible future trends of the integration of marine and land part of the coastal zones investigated.<br>An operative document including the analysis of the alternative scenarios favored by the integration of land and marine spatial planning.<br>Appropriate guidelines for the awareness raising, partnerships organization, financing strategies and investments engaging.<br><br>An operational definition of coastal zone and protection zone, which responds to complexity criteria, as the result of the integration among the various sectorial variable, flexibles and adaptable contributions. This proposition will be supported by:<br><br>- creation of thematic maps related to all the uses of the sea and the coast;<br><br>- creation of incompatibility maps (given by the intersection of thematic maps);<br><br>- creation of possible scenarios;<br><br>- formulation of a hypothesis of flexible zonation (in relation to a system of different natural, economic, cultural variables:)<br><br>-identification and test of the actions needed to counter and / or mitigate the effects of natural and anthropogenic pressure on the land-sea interface. |
| Priority | |

| | |
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| Durability | The results of the action will be:<br>- positively used by the public administration to improve the effectiveness of government actions and planning;<br>- made-operative through the implementation of regulatory and planning instruments;<br>- supportive to the construction of a method of maritime and terrestrial spatial planning.<br>The regional public bodies will develop and improve the method, in order to provide a valuable tool for the management and control of territorial changes and transformations. |

Pilot actions will be activated on some specific issues of the ICZM and of Marine and Land Spatial Planning to verify some of the most common problems and/or provide specific examples in the area.

| Number | Geographic area | Region | Proposed action | objectives | TOTAL cost (Regional contribution) in euro |
|---|---|---|---|---|---|
| 3.2.1.1 | Ligurian sub-area: the marine and terrestrial environment from the Promontory of Portofino to the eastern border of Liguria. | LIGURIA | Reduction of coastal risk through the identification of the shore belt affected by sedimentary processes | To mark the shore area where morphological and sedimentary processes occur, as induced by waves. To maintain and preserve the dynamic structure of the shoreline in view of its inherent ability to adapt to changes due to extreme events and to human impacts, also considering the impact on coastal habitats. To incorporate the concept of coastal and environmental risk within the short and long-term coastal planning. | 350.000<br>(210.000) |

| | | | | | |
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| 3.2.1.2 | Shoreline between Ansedonia and Ladispoli | LAZIO/TUSCANY | Risk of flooding and erosion along the coasts of Ansedonia and Ladispoli: analysis of existing interventions and models of sustainable planning. | To develop the analysis of flooding and erosion risk for a careful analysis of investment for the safety of the most vulnerable areas, before considering investments for economic development. The existing interventions will be examined and the effects at the level of perception from the stakeholders evaluated. | 182.000<br>(69.000 Lazio,<br>40.000 Tuscany) |
| 3.2.1.3 | North Sardinia<br>Shoreline of Porto Conte | SARDINIA | Definition of the guidelines for functional efforts to contrast coastal erosion and for the recovery of the beaches of Porto Conte (Alghero) | To improve the knowledge of local authorities and design engineers on coastal dynamics and the ICZM approach.<br>Specific objectives:<br>- To define general guidelines from a specific application to the coastal territory of Alghero<br>- To ensure a multidisciplinary and inter-institutional approach<br>- To produce an extremely practical document which can be applied to allCAMP and Sardinia municipalities | 40.000<br>(25.000 euro) |

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| 3.2.1.4 | North and West Sardinia | SARDINIA | Problem analysis and regional definition of the needs for prevention and mitigation of the processes of coastal erosion, in line with the principles and criteria for the integrated management of coastal areas | To identify and assess the main factors that govern the behavior and trends of coastal marine system, in order to control the present or potential phenomena of coastline erosion, according to the principles of the integrated management of coastal areas. The analysis stems from the need to locate a methodology to manage the prediction and prevention of coastal erosion in critical areas related to CAMP.<br><br>Specific objectives are:<br><br>- to characterize the two CAMP areas on a regional scale, in order to obtain a spatial recognition of physiographic units of the coastal area and to identify and describe the parameters for their identification;<br><br>- To define quality indicators, which represent the evolutionary dynamics of the CAMP marine - coastal areas and, to identify, through a descriptive evaluation, the different levels of susceptibility in relation to process of coastal erosion and retreat of the shoreline;<br><br>- To identify the fundamental needs for the environmental management of present or potential coastal erosion and to indicate the gaps in the knowledge of understanding natural or induced coastal phenomena and their evolution. | Human resources within and outside the Sardinian Coastal Conservatory |

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| 3.2.1.5 | The middle basin of the Magra river and its tributary, the Vara River, with particular attention to the artificial lakes formed by the dam of S. Margherita, the beaches at the mouth of the Magra River, some gravel and pebble beaches on the coast of the province of La Spezia. | LIGURIA/TUSCANY | Reuse of sediment accumulated in the artificial reservoirs | Check of the implementation of the Protocol on the reuse of alluvial sediments, extracted from the Magra-Vara river system, including those accumulated in the artificial reservoirs, for the nourishment of the relevant coasts. | 250.000<br>(150.000 Tuscany) |
| 3.2.1.6 | Territorial waters facing the Emilia Romagna Region and coastal areas of the Region | EMILIA ROMAGNA | Regulations for the removal of sand and material from marine quarries | To provide the guidelines, at the national level, for the research, exploitation and authorization to the use of sedimentary deposits above and below the seabed, within and beyond the boundary of territorial waters. The guidelines must also include a clear statement of the functions of State and Regions and should involve the participating regions and related ministries. | 30.000<br>(18.000) |
| 3.2.1.7 | Territorial waters facing Tuscany and Lazio regions and their coastal areas. | TUSCANY/LAZIO | Maritime Spatial Planning for the compatibility among different uses of marine and coastal areas and their seabed | This action seeks to enable inter-regional agreements to plan and regulate the sustainable use of coastal marine areas in the territorial waters between Montalto di Castro and Ansedonia in order to reconcile the needs of the main stakeholders. | 301.000<br>(100.000 Tuscany, 81.000 Lazio) |

**SWOT ANALYSIS**

| | STRENGTHS | WEAKNESSES | OPPORTUNITIES | RISKS |
|---|---|---|---|---|
| 3.2.1.1 Coastal risk reduction through the identification of the littoral zone affected by sedimentary processes | Good knowledge of the dynamics of the shoreline through the availability of historical data and maps related to the coastal area. Rules and technical criteria have already been adopted at regional level to ensure a functioning unit at the municipal level. Existence of suited a professional community to fulfill the objective | The high workload in terms of hours / man | Goals shared by the stakeholders (mainly public) | Deficiency of appropriate preparation and training of local technicians Conflicts among different users of the beach Possible conflicts at the different levels of planning in the area |
| 3.2.1.2 Risk of flooding and erosion along the coasts of Ansedonia and Ladispoli: analysis of the existing interventions and models of sustainable planning. | Good knowledge of coastal dynamics, good skills in the design of defense structures | Excessive human settlement of the coastal area sustained by an increasingly excessive coastal defense | Possibility of improving management policies for coastal erosion and coastal development | Loss of important assets, including natural ones |
| 3.2.1.3 Definition of the guidelines for functional efforts to contrast coastal erosion and for the recovery of the beaches of Porto Conte (Alghero) | | | | |

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| 3.2.1.4<br>Problem analysis and regional definition of the needs for prevention and mitigation of the processes of coastal erosion, in line with the principles and criteria for the integrated management of coastal areas | | | | |
| 3.2.1.5<br>Reuse of sediment accumulated in reservoirs | Excellent knowledge of watersheds and potential inputs of sediment.<br>Knowledge of the textural characteristics of the materials available and of materials suitable for beach nourishment. Good coordination between the local authorities involved (Regions, Basin Authority, Mountain Communities, Provinces, Municipalities) | Complex authorization procedures<br>Competences are not centralized | Goals shared by authorities and involved stakeholders<br>Joint solution of two problems (increased duration of artificial reservoirs and coastal sediment balance) | Possible recovery of unsuitable materials that are not to be used |
| 3.2.1.6<br>Rules for the removal of sand and material from marine quarries | Availability of large volumes of sand;<br>Cost per m3 of inert lower than other sources (quarries in particular);<br>Limited impact on the benthic ecosystem and usually with quick recovery;<br>Particle size and good quality material with low levels of pollutants;<br>Lack of landscape impacts from the quarry;<br>No vehicular traffic on the road for the transport of aggregates. | Complexity in finding suitable vessels (dredger vessels);<br>Inconclusive nourishment interventions (general condition);<br>High-cost interventions in particular due to the cost of the dredger vessel.<br>Specific laws inadequate on this theme. | To enhance and use material and sand in port areas (port mouths);<br>To emphasize and exploit sandy material in the accumulation areas;<br>Further studies on the environmental impacts in the areas of sampling<br>To establish protocols for programs of monitoring and control;<br>To improve the existing legislation. | Impact on the benthic ecosystem of sampling areas;<br>Impact on the benthic ecosystem in areas of accumulation. |
| 3.2.1.7<br>Maritime Spatial Planning for the compatibility among different uses of marine and coastal areas and their seabed | Saving economic resources<br>Planning the use of natural resources<br>Inclusion in the contexts of land and maritime planning | Complex monitoring<br>High costs for field surveys<br>Administrative complexity | Optimization of the investigation methods<br>Regulation on the use of underwater resources<br>Opportunities for economic development<br>Restoring coastal habitats | Possibility of current conflicts on the use of common resources<br>Interference on marine habitats |

### 3.2.2 PROTECTION, PRESERVATION AND RESTORATION OF COASTAL AND MARINE HABITATS.

In relation to the activities of ecosystem protection, preservation and defense, the project will keep an approach that takes into account and integrate this activity with other activities or will represent a positive feedback from other actions.

For instance, the preservation and restoration of the coastal sedimentary prism, if planned properly, will lead to the reappearance of certain communities in the surf zone of the submerged beach. The presence of these new communities and the activity of their protection and safeguard also includes education and cultural upgrade of the commercial activities operating in this area through license.

It is also clear that any action aiming to safeguard the environment surrounding the beach (dunes, coastal lagoons, Posidonia meadows, etc..) will have a positive effect only if the beach itself will be preserved and protected.

In this sense, some of the actions proposed by the regions as pilot actions play this significant role. In the analysis of these issues, the effects of climate change, including the different scenarios proposed by the Fourth Report of the ICCP, should be considered.

The coastal area is in fact one of the areas most at risk, with the disappearance of some of the most vulnerable habitats and biodiversity loss in both brackish and terrestrial environments. With the aim of contributing to the highlighting of gaps in availability/quality of the data and information needed at the regional level, the implementation of this action will be strongly referred to the Ecological Objectives 1 (Biodiversity), 2 (Non-indigenous species), 4 (Marine food webs), and 6 (Sea-floor integrity) and their related indicators (as approved by the Contracting Parties at their 17th Ordinary meeting, held in Paris in February 2012).

• Conservation of marine and coastal biodiversity

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| Title | Conservation of marine and coastal biodiversity with special reference to the preservation of fragile habitats |
| Objective(s) | Coastal areas should be subject to effective conservation criteria such as potential breeding and nursery areas. These areas are significantly affected by human impacts at different levels and are threatened by climate changes. It is therefore necessary to either mitigate the pressures through plans of safeguard and environmental restoration, and to draw scenarios that can be generated by the expected sea level rise in coastal areas |
| Tematic/issueaddressed | Conservation of marine biodiversity in coastal and transition zones. According to the IUCN (International Union for the Conservation of Nature), many populations of some species in the world have fallen or will fall by 80% within three generations. This is the last step before these animals, now living in the wild, are declared extinct. |

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| Geographic area | Areas close to the river mouths, waters in front of the Italian Regions and their coastal areas, including some inland wetlands and lagoons. |
| Methodology | Ecological objectives and related indicators constitute the main reference for this action; in particular those dealing with landscape/habitat fragmentation, change of landscape type and change of land-use and with biodiversity.<br><br>Analysis of the health status of different zones in the CAMP Italy areas, based on the data from the various ministerial and regional databases.<br><br>Identification of risk factors, including climate change and evaluation of the procedures needed to reduce the impacts.<br><br>These activities will then be followed by the implementation of pilot actions suggested by some of the regions with the aim of assessing what has been highlighted by the previous phase. |
| **Acting entity/ies** | SPA/RAC, CP/RAC, PAP/RAC, Regions of CAMP- Italy, local administrations |
| **Performing entity/ies** | Managing bodies, whole communities, future generations, users of protected areas, local entities, local economic operators.<br><br>Local authorities, socio-economic and environmental stakeholders, maritime entities, various users of the sea |
| Output and expectedresults | In summary, the output may include:<br><br>- The proposed establishment of new Biological Protection Zones;<br><br>- The re-naturalization of smal river mouths and degraded coastal dunes, the preservation and enhancement of the well-preserved ones;<br><br>- To allow only the small-scale fisheries that operates with selective means of capture;<br><br>- The renaturalization and hydraulic recovery of lagoon areas;<br><br>- The promotion of environmental education programs.<br><br>Among the expected results:<br><br>- A higher protection of marine and coastal biodiversity;<br><br>- A higher care of maritime operators to the preservation of habitats;<br><br>- Designing the protocols and procedures that can be used in the future for other Italian and Mediterranean coastal areas.<br><br>- Research projects for the study of biodiversity loss of the native species. |
| Priority | |
| Durability | The action involves the implementation of interventions driven by the concept of environmental sustainability and thus long-lasting and with long-term perspectives. At the same time the outputs include actions promoting the sustainable growth of traditional activities and the creation of new economic activities and small local economies exherting low pressure on the natural environment. |

Pilot actions will be activated to verify some of the most common problems and / or provide specific examples in the area.

| Number | Geographic area | Region | Proposed intervention | Objectives | Cost |
|---|---|---|---|---|---|
| 3.2.2.1 | Ligurian sub-area: the marine and terrestrial environment from the Promontory of Portofino to the eastern border of Liguria. | LIGURIA | Protection and enhancement of coastal and marine habitats. | To protect biodiversity and coastal-marine habitat from the impacts resulting from interventions on the coast and from the activities on the seabed, on high coast, beaches, river mouths. To re-establish the pioneer vegetation of the beaches, considering the dynamics of the natural functioning of the marine and land areas, in an integrated and jointed way | 150.000 (90.000 Liguria Region) |
| 3.2.2.2 | Gulf of Lacona (Elba Island) and coastal areas of the Emilia Romagna Region (Natural Park of the Po Delta, the provinces of Ferrara and Ravenna) | TUSCANY/EMILIA ROMAGNA | Operational protocol for the re-establishment and consolidation of the (natural or reconstructed) dune belts | Restoration and conservation of the dune system (beach of Lacona (Elba), FoceBevano, other sites in the coastal area of Ferrara and / or Ravenna, area of the Park of the Po Delta)<br>Development of a protocol for the re-establishment and consolidation of dune belts.<br>Conservation of wildlife and plant biodiversity, applied to the peculiar species that inhabit the unique dune environment. | 61.334 (20.000 Tuscany Region;16.800 Emilia Romagna Region) |
| 3.2.2.3 | Areas close to river mouths, with particular reference to those adjacent to the Park of the Po Delta.<br>Italian waters in front of the Emilia-Romagna Region and coastal areas, including some inland wetlands and lagoons. | EMILIA ROMAGNA | Conservation of marine and coastal biodiversity with special reference to the conservation of minor species | Promotion of biodiversity. To increase awareness of biodiversity loss, but showing how this can be slowed down and promoting positive actions. | 150.000 (90.000 Emilia Romagna Region) |

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| 3.2.2.4 | CAMP-Italy Areas in Sardinia | SARDINIA | Implementation of management tools through the production of works for the sustainable use of the beaches and the safeguard of the environmental elements | Protection and restoration of structural and functional natural environmental resources (sandy beaches) which are at risk e or already degraded. | 700.000 (450.000 Sardinia Region) |
| 3.2.2.5 | Natural Reserve of Saline of Tarquinia (terrestrial area), falling in the municipality of Tarquinia (area of the northern coast of Lazio) and oasis of Burano in the municipality of Capalbio (area of the southern coast of Tuscany) | TUSCANY/LAZIO | Management Model for the protection of marine-coastal areas of environmental interest (Natural Reserve of Saline di Tarquinia, oasis of Burano) | Formulation of management activities aimed at the protection and sustainable development of areas of particular value along the shores of Tuscany and Lazio, which are exposed to natural and human hazards. | 317.000 (150.000 Lazio Region; 40.000 Tuscany Region) |

**SWOT ANALYSIS**

| | STRENGTHS | WEAKNESSES | OPPORTUNITIES | RISKS |
|---|---|---|---|---|
| 3.2.2.1<br>Protection and enhancement of coastal and marine habitats. | High knowledge of the features and functionality of marine ecosystems through the availability of historical data and related maps.<br>Rules and technical criteria already adopted at the regional level for the protection of marine habitats<br>Existence of a suited professional community to fulfill the objective | High workload in terms of hours / man | Shared objectives by the stakeholders<br>Support of environmental NGOs existing network of collaboration between scientific institutions and groupings of professionals | Lack of appropriate training of local technicians.<br>Conflicts among different users of the beach.<br>Possible conflicts among the various levels of planning. |

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| 3.2.2.2<br>Operational protocol for the re-establishment and consolidation of the dune belts (natural or reconstructed) | Project already shared by relevant authorities and supported by information and involvement of citizenship and economic operators<br>Start of a long-lasting program for the conservation of the dunes<br>Compatibility with a touristic use of the area<br>Ability to complete the project in time shares and with separate financial resources<br>Beaches with already existing dune systems;<br>Geographic areas already included in the Regional Park of the Po Delta;<br>Community recommendations on the defense of dune habitats<br>Demand from tourists (nature tourism) and NGOs;<br>Established techniques of environmental engineering. | Long time for the implementation and the first results, as a function of resource availability,resulting in possible loss of interest the by involved parties.<br>Several interests in the possible uses of the beaches (beach tourism, ports, etc.).<br>Inadequacy of planning tools (municipalities).<br>Insufficientfinancialresources. | Involvement of different entities (Park, the local committee, environmental groups, businesses, local authorities) and sharing of the objectives<br>Enhancing a better offer to the tourists<br>Development of touristic linked to nature;<br>Defense against erosion and the spread of salt into the pine woods behind;<br>Conservation of biodiversity and endangered habitats. | Reduction of solid inputs<br>Increase of the artificial intervention<br>Climate change (eustacy, extreme weather events);<br>Lack of or insufficient supervision;<br>Increase of erosion processes;<br>Threats of flooding caused by phenomena of "high water". |

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| 3.2.2.3<br>Conservation of marine and coastal biodiversity with special reference to the conservation of minor species | Restore / maintain fish stocks and species of commercial interest;<br>Community recommendations for the defense of marine habitats;<br>Community recommendations on the protection of nesting birds; | Conflict with fisheries and aquaculture;<br>Need to provide for structural actions (defense works, ports, docks, infrastructures, etc..)<br>Need to perform nourishment work of vanishing beaches | To keep the systemic features of spawning and nursery;<br>Revival of recreational fishing with selective capture systems;<br>Re-naturalization of river mouths. | Discharge of pollutants (coastal settlements, riverine inputs);<br>Input of excessive loads of substances with eutrophication effects;<br>Release of oil and organotins from vessels;<br>Heavy vessel collisions (hydrocarbons, hazardous substances);<br>Excessive fishing stress;<br>Illegal fishery;<br>Introduction of alien species. |
| 3.2.2.4<br>Implementation of management tools through the production of works for the sustainable use of the beaches and the safeguard of the environmental elements | Overall sharing of the general principles and criteria for integrated coastal management at the political level.<br>Recognition, at different institutional levels, of the high environmental and landscape value of the beaches.<br>Recognition of the beaches as an important economic resource for the development of regional tourism.<br>Need of local governments to adapt their tools for urban planning.<br>Tools for the enhancement and management of coastal landscape assets | No specific management tools for the sustainable use of the beaches.<br>High fragmentation of the reference standard for planning and management of the beaches.<br>Fragmentation of institutional responsibilities regarding the management of maritime property.<br>Poor sharing of management policy between public and private interests.<br>Local erosion is not directly attributable to causes internal to the system. | Large number of beaches.<br>High environmental value of beaches and sandy coastal systems.<br>High usability and accessibility of sandy beaches.<br>Beach ecosystem are highly pristine or poorly compromised.<br>Beaches exert high tourist attraction.<br>Degradation of the beaches is potentially reversible. | High economic interests of tour operators in the available accommodations.<br>High density of state-owned concessions for tourism recreation on the beach systems.<br>Pressures of permanent local infrastructures behind the beaches<br>Local presence of permanent structures on the beach |

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| 3.2.2.5<br>Management Model for the protection of marine-coastal areas of environmental interest (Natural Reserve of Saline di Tarquinia, oasis of Burano) | Saving economic resources<br>Planning the use of natural resources<br>Protection of biodiversity<br>Defense of sensitive habitats<br>Inclusion in contexts of territorial planning | Administrative complexity<br>Difficulties in implementing<br>Complex assessment of the effects<br>High costs | Enhancement of natural areas.<br>Employment opportunities.<br>Promotion of quality tourism.<br>Transferability of results. | Failure or partial implementation<br>Failure or partial effectiveness of the management |

The calibration of economic activities compatible with the environment in an area such as the Mediterranean coastal area is a particularly important choice, given that marine tourism is a major economic resource of the countries bordering the basin. The term calibration is not used here by chance. In some areas, the socio-economic choices of the past were in fact directed towards the economic industrial exploitation of the coast: this choice had a negative effect in the development of the Country, not only in terms of environmental damage but also of economic damage once the industry, moved elsewhere, left issues of reclamation and drainage behind. Therefore, the need to calibrate economic activities compatible with the environment, also using some of these industrial facilities, assigned to a different use, with positive economic feedback, is one of the potential provided by an integrated management.

In a country such Italy and given the new provisions on works on the state property, which can potentially assign public building or factories to the regional and local government, the assessment of such potential uses is an important tool for the economic development in a specific area.

The same is true for certain offshore structures which, properly adapted, could be the basis for the development of new touristic economic activities.

The new use might be related to the creation of new residence or refreshment places, or might represent the nucleus of a series of exhibition or entertainment-type activities, designed to increase significantly the cultural offer which characterizes the modern tourism; or, in the case of offshore structures, these can be preferential sites for the observation of - marine and not only - animal and plant species, who live in the surrounding area or, over time, have colonized the different components of the structures themselves.

In this sense, the project could produce a series of practical solutions to such situations, which are common in the Mediterranean area. A similar argument applies not only to redefine the use of those facilities, but also to the creation and regulation of tourist activities such as recreational fishing in protected areas or activities such as bird watching and similar. These activities will complement a series of communication tools which have the aim to increase the awareness of tour operators and final end-users through special campaigns.

Among the other economic activities, assets should be mainly address to support the local economy (read "tourism"), including fishery and/or breeding, especially for certain species that suffered from overfishing in the past.In fact, this action would highlight clear local strategic priorities to guide the integration of fishery and tourism activities in the local ICZM, representing this effort a necessary step to define and facilitate the overall key role of these two activities in

the next ICZM strategy at National level.

However, some of the proposed activities have already been financed and started, thus assuring their sustainability in the future and as investment proposals in the post-CAMP.

*Development and enhancement of new forms of sustainable tourism in protected and non-protected natural area 5.

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| Title | Development and enhancement of new sustainable forms of key economic activities on the coast: fishery/aquaculture and tourism in protected and non-protected natural areas. |
| Objective(s) | In protected areas, the landscape fragmentation produces a series of relict natural areas surrounded by a more or less varied natural environment. Since it is not possible to preserve the natural areas without considering the existing human activities, it is essential to design and create new forms and possibilities of eco-tourism, in order to spread more and more the respect for and the enjoyment of natural heritage. The respect and the knowledge of nature acquires greater value and is more effective when the user is involved in a "palpable" way. It becomes important to create land /sea paths, informative laboratories, where the tourist is accompanied to the discover of such varied environments.This action will also verify the possible forms of integrating fishery with the other human activities, with strong reference to productive diversification and added values opportunities for this economic sector. |
| **Thematic/issues addressed** | The current policy of protection, through specific constraints and reducing the causes of degradation, is not always effective. The improvement of compromised or vulnerable natural areas, including the recovery - where possible- and the reconstruction of valuable natural features are increasingly important.<br><br>Environmental tourism and education should be central and widely used activities to connect the different parts of the offer of the natural system, in order to produce such restoration. The presence of a vast and varied public participation will favor, moreover, the demand for products and services that should be labeled as eco-friendly.<br><br>Moreover, the territorial approach, promoted by the reform of the Common Fisheries Policy (CFP), represent a precious opportunity to encourage the adoption of ICZM at local level by mobilizing local stakeholders from all sectors (public, private and civil society) to work together to design and implement integrated development strategies with a strong reference to the key role of fishery in the communities. |
| **Geographic area** | Territorial waters in front of the Regions and their coastal areas. |

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| **Methodology** | The whole mechanism, triggered as sustainable tourism, allows the creation of natural-cultural trails, able to increase the economic potential of the environments.<br><br>For both the two activities (fishery and tourism) information and data will be collected and analyzed with reference to the Ecological Objectives 3 (Harvest of commercially exploited fish and shellfish) and 9 (Pollution) and related indicators (as approved by the Contracting Parties at their 17th Ordinary meeting, held in Paris in February 2012). |
| **Acting entity/ies** | CAMP-Italy Regions, local authorities and the economic operators in the different areas |
| **Performing entity/ies** | Administrations responsible for the territorial managemenr and Research Institutions. Local communities, business makers, local entrepreneurs, benefiting from the sea. |
| **Output and expectedresults** | Possible output: the reuse of industrial infrastructure for ecotourism purposes, practices and guidelines for the dissemination on environmental issues, the creation of land-sea routes, the realization of informative laboratories, the publication of brochures to disseminate environmental information (text and video-documentaries).<br><br>Expected results:<br>• Protection of sensitive habitats<br>• Conservation of biodiversity<br>• Stimulation of an eco-friendly tourism<br>• Promotion of the necessary connections between seaside tourism and natural tourism<br>• Exploitation of typical local natural products<br>• Guidelines to promote economic diversification (tourism, food, renewable energy) in Fishery sector<br>• Best practices for encourage and facilitate local partnership of fishermen and other local actors<br><br>Already some activities have been financed and started, which would serve as a guarantee for their sustainability in the future and as investment proposals in the post-CAMP. |
| **Priority** | |

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| **Durability** | According to the fundamental rules of sustainability, the proposed action considers the possibility of introducing new functions in the territory, through which accomplishing the purposes of maintenance and improvement of environmental quality and creating new uses of land resources.<br><br>This includes a coordinated effort between public and third parties, proposing the creation of a regional network of businesses that can create an offer based on local products and traditional activities. |

## PILOT ACTIONS

Pilot actions will be activated on some specific issues of the ICZM and of Marine and Land Spatial Planning to verify some of the most common problems and/or provide specific examples in the area.

| Number | Geographic area | Region | Proposed action | Objectives | Costs € |
|---|---|---|---|---|---|
| 3.2.3.1 | Territorial waters in front of the Emilia-Romagna Region and coastal areas | EMILIA ROMAGNA | Development and exploitation of new forms of sustainable tourism in protected natural areas | 1) Stimulation of naturalistic and eco-friendly tourism;<br>2) Promotion of the necessary connections between seaside and naturalistic tourism;<br>3) Exploitation of niche products and local products and relounch of Trade Exhibitions.<br>4) Creation of land-sea paths and informational workshops | 50.000 (30.000 Emilia Romagna Region) |
| 3.2.3.2 | Territorial waters in front of the Emilia-Romagna Region and coastal areas | EMILIA ROMAGNA | Education and Communication to sustainability | The attention of institutions and entities in charge to the issue of environmental responsibility has determined the assessment of a wide range of variables for a correct assessment of the impact of their actions on the local, economic and social environmental context in which they operate. This involves the promotion and support of the continuous and timely communication with all stakeholders, through new or already used methodologies. | 32.000 (19.200 Emilia Romagna Region) |

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| 3.2.3.3 | Asinara Island | SARDINIA | Assessment of the Tourism Carrying Capacity of Asinara Island | To establish a system of support to decisions and evaluation of measures to develop tourism on the island, in order to pursue the best use of resources and to achieve levels of management of excellence based on the consideration of environmental carrying capacity in the choices of tourism type.<br>Specifically: to build a framework of knowledge based on a system of relevant indicators, to identify thresholds of sustainability in the use of individual, environmental, socio-economic and settlement-infrastructure resource (in terms of source-target), to determine the conditions to estimate the cumulative effects generated by such scenarios (system point of view); defining sustainable criteria for intervention in the planning / design (address to project and decision point of view), to build the criteria for the evaluation of programs and projects in all its phases and to monitor the effectiveness of actions based on their enhancement effects on the environment (evaluative point of view), active participation and encouragement of a stable collaborative basis among all actors, both form institutions and not and variously involved in the management of the Asinara island, to share knowledge, and to find rules and management tools (in terms of governance). | 125.000 (Sardinia Region 75.000) |

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| 3.2.3.4 | West Sardinia | SARDINIA | Enhancement of architectural heritage for the creation of the first eco-hostel in the coastal area for sustainable local development (Buggerru site) | To carry out the restoration and reuse of historic public-owned estates, including the need to build the requirements for environmental excellence of tourist facilities.<br>The specific objectives are the following. To apply, in the conversion of existing structures, eco-sustainability criteria in order to achieve a reduced environmental impact, to make tourist accommodations a site to actively fulfill purposes of conservation, research, and dissemination of culture and coastal marine environment. To promote a model of cultural and environmental tourism, expanding the range of experiences already offered by the National Park To build the bases for a seasonal adjustment of touristic use.<br>To design activities and tourist services that increase the level of interaction of the community with the protection of the coastal landscape and environmental components, in order to build the first relational system which knows and protects their value. To start an innovative institutional experience as a laboratory for sustainable tourism activities; to contribute to the operational concept (currently only law) of "coastal conservation area", as an area of operation of the Conservatory of the coasts; to mobilize, through the public call of procedures for the assignment of real estates, private operators in the field of tourist accommodation and services, all geared to solutions to environmental sustainability, as well as the conservation of cultural heritage sites and historical memory. | (Sardinia Region 2.400.000 ) |

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| 3.2.3.5 | West Sardinia | SARDINIA | Projects: G.I.R.A. - Integrated fishery resources<br>Action: Models of integrated management and sustainable fishing of the sea urchin Paracentrotuslividus and other species in a CAMP area of West Sardinia. | To create a Model of Integrated Management of the sea urchin P. lividus resource, based on Stock Assessment in an experimental area, i.e. an area that is protected under the control of biological science. This model will be a necessary tool for the calculation of fishing quotas to be transferred to local operators for a sustainable and lasting exploitation. The intangible aim is to provide the operators with a "fisher = farmer" mindset, i.e. looking at the environment as a heritage to "cultivate" and protect, with the adoption of a good fishing practice.<br>Specific objectives<br>-Elaboration of a manual "Guidelines for the management of fishing and management of sea urchin";<br>-Creation of a system or model for rewarding the good practice of sustainable fishing of sea urchins through a "Guarantee and certification of sustainable product";<br>- Staff training to the acquisition of self-management of resources;<br>-Awareness of the principle of "nobody's thing is everybody's thing" (res nullius res omniumest). Only with this in mind, some key resources of the coastal area may be preserved in a sustainable perspective, that is, allowing also the economic livelihood of the maritime operators. The aim is that cultural operators of the sea idealize the "fisher = farmer" figure, i.e an operator which looks at the environment as a wealth to "grow" and protect through the adoption of good fishing practices. | 160.000 (Sardinia Region 100.000) |

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| 3.2.3.6 | North Sardinia | SARDINIA | Action for the recovery of the lobster (Homarusgammarus) for a sustainable fishing in an area of Northern Sardinia (NORTH CAMP area - Sardinia) | General objective<br>The recovery of the stock and the increase in highly depleted areas both through an increase in biomass with the input and full protection of the area, and through the spillover of specimens to commercial fishing areas and the search for innovative management policies involving new regulations of the fishery as well as the adoption of measures that could lead to the increase of the stock.<br>Specific objectives<br>- Increased productivity of the lobster, in terms of both increase in the mean weight of the catch, and increase in the total number, given by the action of recovery and protection.<br>- Influence of the recovery (in terms of increased biomass) on the areas surrounding the zone of protection<br>- Awareness of the industry in order to achieve forms of voluntary agreement through the implementation of sustainable fishing practices<br>- Visibility to the activities through a diverse and multi-level process of awareness in the experimental CAMP area.<br>- Consultation with trade associations, provincial, competent regional agencies and consultation of scientific research institutions.<br>- Introduction of complementary activities, characterized by the development of tourist recreational fishery as well as educational explorations | 160.000 (Sardinia Region 100.000) |

| | | | | | |
|---|---|---|---|---|---|
| 3.2.3.7 | West Sardinia | | Innovative methods to increase the production of the common octopus (Octopus vulgaris) and for the enhancement of biodiversity in the coastal CAMP area of Western Sardinia | The aim is to make a test in an area west of the West Camp by combining research and fishery, in order to propose a new management strategy of common octopus, complementing the existing legislation. A key point is whether the introduction of artificial dens may be offer suited shelters to juveniles and / or to spawning adults during the period of laying and embryonic development, in order to foster and enhance the reproductive success of species.<br>Specific objectives<br>-Presentation and dissemination of the results, directly deriving from the performed activities, through seminars, conferences, publications;<br>-Management proposal for an increased octopus production in the studied area;<br>-Increased biological and ethological knowledge on the species, which is necessary for its protection;<br>-Check of the utility of the closure of some areas to fishery and of the 'introduction of artificial dens for the protection of reproductive potential;<br>-Information on the dispersion range of the octopus Octopus vulgaris for future programs on the recovery of the species;<br>-Awareness of the operators towards the environment and an eco-sustainable fishery.<br>-Combination of the needs of small-scale fishery, scientific and educational tourism | 160.000 (Sardinia Region 100.000) |

**SWOT ANALISYS**

| | STRENGTHS | WEAKNESSES | OPPORTUNITIES | RISKS |
|---|---|---|---|---|
| Action 3.2.3.1 Development and exploitation of new forms of sustainable tourism in protected natural areas | Increase in eco-tourism demand;<br>Presence of the Po Delta Regional Park;<br>Widespread presence of SCI and ZPS;<br>Presence of ZTB (Biological Protected Areas) in marine areas;<br>Established excellence in the field of environmental education (Cervia Environment, Cooperative Atlantis, etc.).. | Consolidated predominance of seaside tourism with a higher economic return;<br>Residence infrastructures and shelters inadequate. | Connection between naturalistic tourism and beach use;<br>Seasonal adjustment of attendance;<br>Exploitation of niche products;<br>Relaunch of thematic exhibitions;<br>Sightseeing tours (new jobs);<br>Relaunch of touristic fishing-related activities;<br>New dive sites (Paguro II). | Insufficient safeguard measures and consequent loss of environmental values;<br>Inadequate routine maintenance and repairs to the lagoon. |
| Action 3.2.3.2 Education andCommunication to sustainability | Transfer of qualified information on adverse events;<br>Theme of environmental responsibility;<br>Dissemination of environmental issues;<br>Transmission of environmentally friendly behavior;<br>Visibility at times of peak season. | Heterogeneity of the listeners;<br>Complexity of the issues to be reported;<br>Distortion by the mass media;<br>Lack of knowledge of "minor species" and threatened species;<br>Difficulties in the disseminatiion of information | Connection between naturalistic tourism and beach use;<br>Seasonal adjustment of attendance;<br>Creation of a Web Journal<br>Promotion and organization of popular events, conferences and seminars. | Insufficient knowledge of the tourist on the possible unwanted phenomena;<br>Possible distortion in communication. |

| | | | | |
|---|---|---|---|---|
| 3.2.3.3<br>Assessment of Tourism Carrying Capacity of Asinara Island | High environmental value in terms of geology, vegetation and wildlife.<br>Mediterranean climate supports the use of environmental goods for most of the calendar year.<br>Presence of forms of protection, safeguard and monitoring of marine and coastal systems.<br>Test with forms of integrated management of coastal zone already developed. | Concentration of tourism activities in summer<br>Partial integration with the human and economic activities related to tourism season.<br>Monitoring systems with no common protocols and shared at regional level.<br>Monitoring systems poorly oriented to statistical analysis of time series | The environmental, socio-economic and Geographic diversity facilitate the construction of models of integrated management, exportable and adaptable to other areas.<br>New opportunities and management development with the transfer of state-owned beach concessions from Sardinia Region to Local Authorities.<br>International exchange of experiences. | Increasing congestion of the coastal zone.<br>Progressive depletion of the quality of destinations.<br><br>Progressive increase in the number of accommodation places.<br>Loss of structural and functional continuity of the ecosystems and genetic weakening of the most vulnerable species<br>Dispersion of indirect effects generated by the tourism industry in favor of productive complementary sectors. |
| 3.2.3.4<br>Enhancement of architectural heritage for the creation of the first eco-hostel in the coastal area for sustainable local development (Buggerru site) | Environmental, cultural and identity values of the territorial context.<br>Presence of significant tourist flow.<br>Widespread presence of centers of competence. | Fragmentation of the productive structure.<br>Inadequate infrastructure system.<br>Urban dispersion. | Established trend in tourism demand.<br>Progressive change in consumption patterns.<br>Increasing development and diffusion of ICT and Alternative Energy | Strong competitive pressures in the Mediterranean.<br>Rising energy costs<br>Ineffectiveness of public financial instruments. |

| | | | | |
|---|---|---|---|---|
| 3.2.3.5<br>3.2.3.6<br>3.2.3.7<br>Integrated management of fishery resources | Coherence with the strategies of maritime spatial planning and regulatory provisions relating to the operational implementation of the fishing districts (Art. 3 of Law n. 5 04/14/2006).<br>Need to develop new businesses in the area, with environmental sustainability and socio-economic status.<br>Need to locally encourage the development of the entire chain.<br>Need to boost development in an industry in crisis. | Poor organization of the economic operators in the sector.<br>Poor regulatory compliance with industry regulations.<br>Fishing techniques traditionally established. | Presence seaside areas of high ecological value.<br>Need for the integration of tourism activities within the traditional economic activities such as fishing.<br>Need to define innovative and environmentally friendly models applicable in protected areas (Natura 2000 Sites, MPA, etc.) and with high fragility. | Impoverishment of fish stocks.<br>Difficulties of the industry in implementing innovative ways of fishing<br>Lack of awareness and training of the operators concerned.<br>High welfare of traders by public institutions. |

The criteria that were used to define the list of priorities are based on various sources and on the dialogue between the PAP/RAC and the CAMP Italy Table.

The main references used to meet the definition of these criteria and, in some cases, the criteria themselves, are reported here:

1) the Operating Manual produced by the PAP/RAC, which indicates the criteria used for selecting projects for the CAMP (which consequently also apply to the individual project activities);

2) the proposal, submitted in Almeria (Spain) in January 2008, during the COP 15, which identified the complementary goals of the project;

3) the selection criteria, specific for the CAMP Italy Project, following the meeting of the representatives of the PAP / RAC with the Ministry of the Environment (Rome, December 4th, 2008);

4) Decision IG.20/2 on the adoption of the Action Plan for the implementation of the ICZMProtocol for theMediterranean (2012-2019), and Decision IG.20/4 "Implementing MAP ecosystem approach roadmap: MediterraneanEcological and Operational Objectives, Indicators and Timetable forimplementing the ecosystem approach roadmap", adopted bythe Contracting Parties at their 17th Ordinary meeting, held in Paris in February 2012.

These criteria, included the selection of actions, are able to:

• provide for a durability of the results achieved by the project; the actions will indicate when and by whom the output will be used and how these will be maintained after the end of the project. It should also be explained how the results will be supported (also financially) over time;

• address issues in common to all the selected sub-areas; the specific (not horizontal) actions will focus on issues / problems of all sub-areas of the CAMP Italy project, with no mandatory intervention, but always providing for mechanisms for the transferability of outputs and results to all sub-areas where the intervention is not made;

• provide for the transferability of the results to other Italian coastal areas; although the proposed actions will be implemented by referring to the specific characteristics of the territory of the interested region(s), they will have to face more general issues (thus occurring in other areas of the Italian coast);

• test the application of the provisions of the ICZM Protocol; priority actions are those that will test the application of the ICZM Protocol or otherwise favour its implementation or demonstrate its benefits at the local level, primarily in the sub-areas included in the project;

• involve all the stakeholders: the actions include procedures that allow an implementation of the integrated management of coastal zones among the different levels of government (Ministries, Regions, local bodies) and ensure adequate participation of the various stakeholders (local authorities and the concerned public bodies, economic operators, NGOs, social actors and concerned citizens);

• involve the private sector not only from a financial point of view, but also in sharing the objectives and the implementation arrangements (optional). It is in fact required that: (I) the involved individuals perform an activity that does not conflict with the principles and objectives of the ICZM Protocol, and (ii) they express the will to join the principles and objectives of the ICZM Protocol, beyond the duration of the specific action;

• fall within the area of expertise of the MAP (and not just the PAP / RAC);

• provide for a link between specific actions: the specific activities of one Region must be somehow connected with the activities of other regions.

• provide for the coordination among the Regions:

CAMP Italy is a "multi-area" project: the definition of structures and procedures for the coordination among the Regions, for an Integrated Management of the Coastal Zone, is an overriding activity of the project (MATTM - PAP / RAC).

In addition, other criteria are provided for:

• mandatory capacity building: capacity building, which in the Operating Manual of the PAP / RAC is not explicitly included among the mandatory functional activities, but which is present in almost all CAMP projects, should be considered as a required functional activity of the CAMP Italy Project.

• common activities: in the CAMP Italy Project, no more than five / six activities per area are performed (besides the activities which are functional to the project, reported as "horizontal activities") and, among these, three at least should be common to all sites. In particular, joint activities should include:

• spatial planning of land and sea;

• natural hazards and risks in the coastal area;

• the implementation of the contents of the ICZM Protocol within the Community instruments in the field (ICZM Recommendation, Framework Directive on the Marine Strategy, Blue Book, etc..), with specific reference to the definition of: the coastal zone and of the geographic extent of application (ex Article 3 of the ICZM Protocol), and to the definition of buffer zone or setback line (ex Article 8 of the ICZM Protocol).

4) the MATTM proposals for the CAMP Italy project.

According to the MATTM proposal, the CAMP Table decided to consider, for the selection of actions, also:

• the "Carta di Siracusa" on Biodiversity, signed on April 24th, 2009 within the Environment G8, which contains some strategic elements that can constitute a reference for the definition of the objectives of the CAMP Italy Project, its activities and a list of priorities.

• human-induced environmental risk and especially pollution;

• some pilot activities for the implementation of both Art. 10 of the ICZM Protocol concerning the identification of peculiar coastal ecosystems, and Article 9, related to specific types of economic activities;

• some pilot activities in the field of climate change, with the activity of the DG Environment of the European Commission as a reference, aimed at defining a strategy for adaptation to climate change (see "Adaptation to climate change: Towards a European framework for action").

### 3.3.1 SELECTION CRITERIA FOR THE PRIORITY OF PILOT PROJECTS

According to all the above sources, the proposed actions must meet the following priorities:

1. provide for a durability of the results achieved by the project

2. address issues common to all the selected sub-areas

3. provide for the transferability of the results to other Italian coastal entities

4. test the application of the provisions of the ICZM Protocol

5. provide for the involvement of all the stakeholders

6. involve the private sector not only from a financial point of view, but also in the sharing of objectives and implementation arrangements (optional)

7. fall within the competence of the MAP (and not just the PAP / RAC)

8. provide for coordination among the Regions

9. be an example of application of the TEEB.

10. conform to more than one specific objective of the CAMP

11. contribute to the clear definition of the National Strategy for the ICZM.

Horizontal coordination activities will be common to the whole area of intervention. In particular, they provide for an improvement in the exchange of information from the structures operating in different departments and dealing with assessments of environmental impact studies, impact and management decisions regarding especially the marine waters. The analysis of the mechanisms adopted by the various structures involved must be critically reviewed in the light of the current difficulties of interaction among individuals with different skills and backgrounds and, thus, must promote new measures of consultation within the different specific operational features of the Regions.

The specific activities have the aim of proposing a land and marine spatial planning.

Pilot actions will be activated on some specific issues of the ICZM and of Marine and Land Spatial Planning to verify some of the most common problems and/or provide specific examples in the area.

**Area 1**

Regarding the Liguria area, as already noted in paragraph 3.2, the actions, closely linked and interdependent, will lead to the development of four patterns of coastal plans (Plan for the Protection of the Marine and Coastal Environment) depending on the grouping of the 10 coastal physiographic units of the study area into 4 fields.

Among its contents and feedbacks in terms of output are the development of regulatory regimes focused on:

- the maintenance of the dissipative properties of wave energy by the beach (rules associated with the delimitation of the set-back line);

- the maintenance of longitudinal sediment transport along the beaches;

- the presence of boat traffic in waters hosting Posidonia meadows;

- the preservation of coast segments of high natural value;

- areas which are prone to risk of coastal landslide;

- the restoration and preservation of the psammophile flora and the vegetation of coastal dunes

- the preservation of habitats which are typical of estuarine areas.

The standards rules, once developed, will also apply to other physiographic units of Liguria, while proceeding to the implementation of the Plan. Besides is the identification, for each coastal area, of the engineering measures, serving as binding guidelines in the design of actions for the protection against marine erosion, as well as actions aimed at safeguarding the Posidonia meadows from the impacts associated with illegal trawling and the adjustment of mooring systems.

Regarding the Tuscany area, as for the specific outputs of each project, please refer to the information in the appropriate project boards. In general terms, the CAMP project aims to achieve different results listed below for all three areas.

- Vertical coordination among central and local administrations;

- horizontal coordination activities within each regional administration;

- guidelines for the establishment of new procedures for EIA of coastal defense structures following the points discussed above;

- guidelines for the preparation of the assessment of environmental impact of coastal defense structures and selection of the sustainable solution;

- activation of mechanisms of dissemination and public participation about the conflicts between uses and resources and among different uses (negotiated participation), to be implemented on a municipal scale.

**Area 2**

The outputs produced by the project will be suited to the needs of the existing issues and of the actions proposed and reported on the forms related to the selected zone of the CAMP project in FS.

Apart from the already existing institutional arrangements (Agenda 21, planning and infrastructure construction over the municipal hall and, EIA and SEA, etc..) and those related to emergency situations (rehabilitation, beach nourishment, land reclamation, etc..), the attention to specific outputs will be mostly focused on specific issues, particularly those that may be effectively checked through the fulfilment of satisfactory results in the development of the proposed actions:

-Maritime Spatial Planning;

-implementation of the ICZM Protocol;

-conservation of marine biodiversity;

-operational protocol for the restoration and consolidation of the natural or reconstructed dune belts;

-development and exploitation of protected natural areas as new forms of sustainable tourism;

-communication to stakeholders on the environment.

**Area 3-4**

In general terms, the CAMP project aims to achieve different results:

-management models and carrying capacity of the beaches;

-management models and carrying capacity of tourist accommodation sites;

-tools for the integrated management of tourism;

-interventions for the restoration of coastal ecosystems such as dunes and wetlands, cliffs and headlands;

-measures for the removal and/or re-location of existing infrastructures;

-environmental restoration of the marine-coastal ecosystems at risk;

-interventions to regulate the fishing pressure on valuable species and to restore their populations.

**Area 5**

As for the specific output for each project the CAMP project aims to achieve different results:

-vertical coordination among central and local governments;

-horizontal coordination within each administration;

-guidelines for the definition of new EIA procedures for coastal defense following the points discussed above;

-guidelines for the preparation of the assessment of the environmental impact of coastal defense structures and selection of the sustainable solution;

-activation of mechanisms of dissemination and public participation about the conflicts between uses and resources and uses (negotiated participation), to be implemented on a municipal scale.

Horizontal actions developed for each area of CAMP ITALY show a common denominator: the need to develop new planning and governance tools, as a support for regional policies on the issues of integrated management of coastal areas. Although horizontal actions are translated into specific activities at the local level, because of local issues to be solved and already developed within each administration, it is certainly possible and desirable to integrate the common objectives highlighted by the various feasibility studies.

In the participating regions, the transferability of the results, as answers to common problems, can be ensured through a mechanism of sharing and dissemination of activities and solutions devised by the Steering Committee: periodic meetings, scheduled as a function of a chronogram for the gradual progress of actions and hosted in turn by the participating regions, will ensure an adequate and effective monitoring of activities and the opportunity of a continuous dialogue on the methods used in addressing common themes, although according to different points of view, and on the achieved results. A comparison of institutional and scientific experts will allow mutual enrichment and exchange of experiences as a reference point for the adjustment and improvement of measures already adopted in the past by the regions.

Despite differences in structural, soil, geographic, oceanographic, land use and economic resources that characterize the different sub-regions of the CAMP project, many problems are common to all areas.

The process of integration of common goals must be developed through discussions among the parties, in light of the achievements obtained through the performed analysis and the identified priorities. The definition of the transversal objectives must occur within a renewed culture of coastal environments on which regular meetings can be developed, including moments of communication and sharing among the various entities acting in the area (indicated in the feasibility studies) and economic, cultural, environmental stakeholders.

The structure of the CAMP project in Emilia-Romagna is aimed at achieving a high level of integration among the proposed actions which, despite their functional autonomy, as a whole constitute a unified strategy of intervention to achieve the common goal of sustainable development of the marine-coastal belt.

The whole structure of the project meets the following integration criteria:

- Horizontal, among the different administration sectors, with expertise on planning and management of the marine-coastal belt;

- Vertical, among institutions at different administrative levels, according to a multi-level governance approach;

- among sectional policies of development and government of the maritime space and coastal areas.

The main elements of integration of the CAMP project, which can be evaluated from the organization and content point of view, are the following:

- the adoption of a cooperative approach among the different vertical levels of government in the development and sharing of best practices, through the implementation of project experiences on the integrated management of coastal resources;

- the co-responsibility of different public and private stakeholders, directly involved in implementing the measures and actions and affected by the impact of the CAMP project;

- the application of the principles and criteria laid out by the ICZM Protocol, with the real possibility of using them in the procedures, tools and device management instruments thanks to the functions and institutional competence assigned to the Agency of the Coastal Conservatory ;

- the integration among the interests of public management of the resources and the needs of economic valorization of private operators;

- the organic and systemic creation of actions, identified as a necessary precondition for the pursuit of integration among actions themselves.

Concerning the actions provided for by the CAMP project, the major integration points among them are summarized below.

- Definition of models of load capacity for a sustainable use of the main marine-coastal resources (beach system, fish resources, landscape assets, etc..). The actions that achieve the goal are: models of management and carrying capacity of the beaches, models of management and carrying capacity of tourist accommodation sites, tools for the integrated management of tourism.

- Definition of procedures for public-private cooperation for a sharing of responsibilities in the management of the resources. The actions that achieve the goal are: tools for the integrated management of tourism, models of management and carrying capacity of the beaches, redevelopment and recovery of coastal ecosystems such as dunes and wetlands.

- Definition of territorial and planning requirements for interventions in coastal areas of high environmental sensitivity. The actions that achieve the goal are: actions of removal and/or re-location of existing infrastructures, redevelopment and environmental restoration of the marine-coastal ecosystems at risk.

- Promotion of tangible and intangible actions aimed at increasing the adaptability of the coast to spontaneous or induced trends, such as those induced by climate change. The actions that achieve the goal are: redevelopment and recovery of coastal ecosystems such as dunes, wetlands, cliffs and headlands; actions of removal and/or re-location of existing infrastructures;

- Definition of models of conservation and protection of systems with high environmental integrity, difficult to find in the Mediterranean area, aimed at exploring innovative and compatible ways of enhancement and use. The actions that achieve the goal are: models of management and carrying capacity of the beaches, redevelopment and recovery of coastal ecosystems such as dunes, wetlands, cliffs and headlands.

Actions promoting awareness and capacity building are considered as cross-cutting themes and tools to support the achievement of objectives and are thus identified as operational methods within the proposed actions.

The success of the project depends on the coordination of actions of the involved regions. The ICZM center of the Lazio Region and the Environment and Coast protection Section of Tuscany Region, respectively, will take care of the onshore and offshore project activities, but will jointly prepare the modifications to the regional legislation for the management of the quarries of interregional interest. The success of the project will be measured primarily by the ability to coordinate the activities for the involvement of all stakeholders (fishing, bathing, sailing, etc..), in order to include their concerns at an early stage of the EIA process of dredging and beach nourishment activities, and to avoid a fictitious interlocutory stage coming after the whole decision process. It is basically a change from the current procedural phase and above all a change of direction with respect to the usual top-down planning.

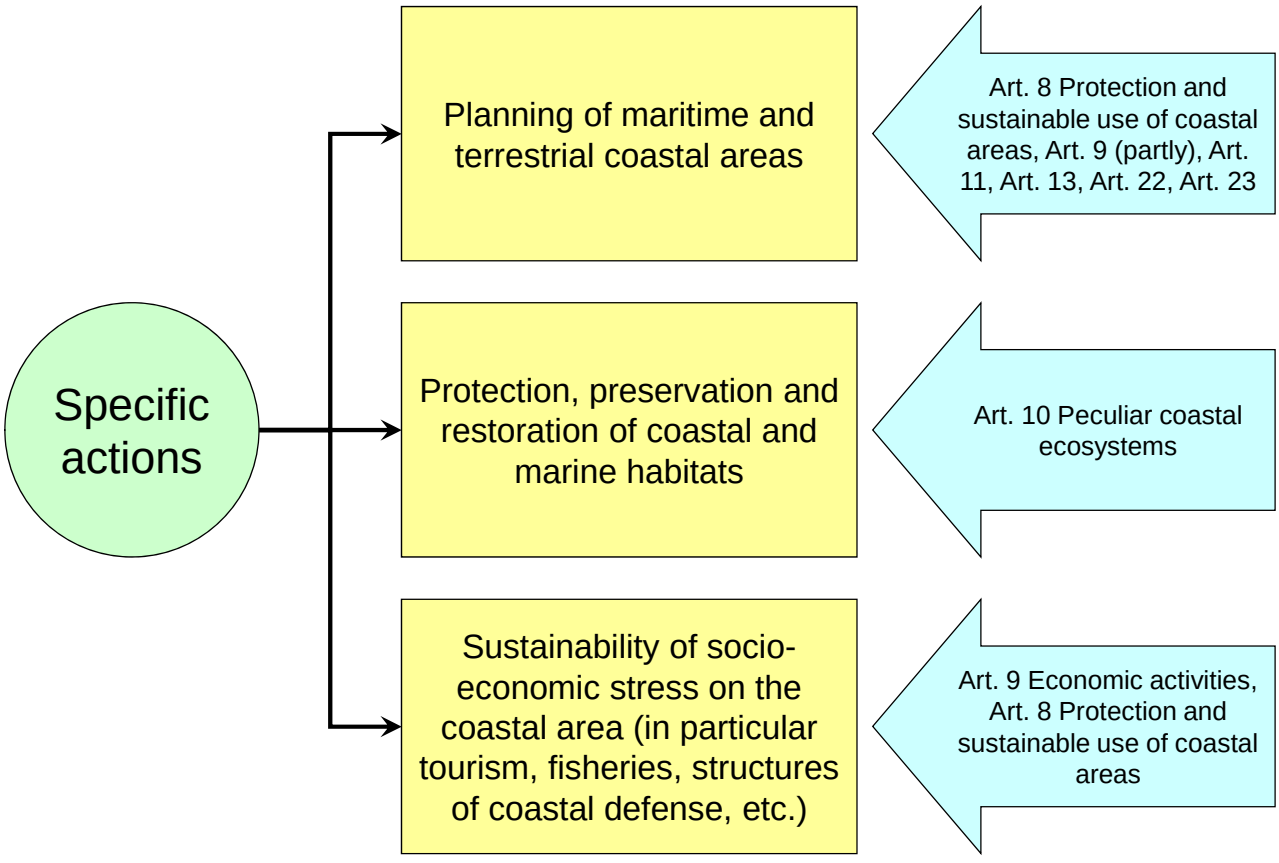


Figure 10

# 4 JUSTIFICATION OF THE CAMP ITALY PROJECT

## 4.1 RELEVANCE OF THE AREAS SELECTED IN THE CAMP ITALY PROJECT AND INSTITUTIONAL CONTRIBUTION AT THE REGIONAL LEVEL

As already pointed out, the CAMP Italy project aims to provide a meaningful picture of the integrated coastal zone management in Italy, not only by identifying areas representative of the whole national situation, but also by promoting, in some of these areas, an agreed governance among the small administrative realities, the individual regions and the central administration. Hence the choice of Liguria, Tuscany and Lazio regions, encompassing a very different natural and socio-economic realities, but having problems related to the management of coast stretches where the administrative boundary does not correspond to the border morphology.

Often management actions are carried out at the local level, involving effects due to the operation on the coastal ecosystem (ie movement of water masses), adversely affecting the coastal area of the neighboring region.

Therefore two or more administrative units, differently organized but with similar socio-economic problems, work together on, for example, the phenomena of conurbation, covering the Liguria and Tuscany regions, or the need to be able to plan, in accordance with the central authority, the use of underwater caves for the removal of sand used for beach nourishment (Tuscany and Lazio regions).

The development of the CAMP Italy project will undoubtedly promote the relations among the coastal regions involved (Liguria, Tuscany and Lazio), improving the existing network, and strengthening communication and arrangements for the exchange of experiences on not common issues. In particular, the regional administrations, with a different internal organization related to the integrated coastal zone management, have the opportunity to meet and exchange views on different approaches.

The other two regions (Emilia Romagna and Sardinia) have distinct characteristics.

The first, characterized by a coastline full of tourist resorts and interested in an appropriate way to govern a sustainable development of this activity, represents an area where the government of the coastline has long been well established and have developed all the tools ( cognitive, monitoring, planning and legislative) necessary for a sustainable management. The area selected by the CAMP Italy project in Emilia -Romagna encompasses environmental values and human activities of significant socio-economic importance. The proposed area is already inserted into the Po Delta Regional Park where a set of people and trades base their jobs on the sea and the coast wealth. The Region has developed projects on Integrated Coastal Zone Management: a project for the definition of the ICZM guidelines and a program of experimental actions sponsored by the

Po Delta Park in 2005. Participation in the CAMP Italy project will allow the Emilia-Romagna region to enhance institutional capacity and strengthen the governance system, continuing the path started in 2005 with the formation of the ICZM strategy.

Sardinia, an isolated coastal system, offers the opportunity for spatial planning and sustainable development of coastal areas not yet affected by the presence of important human activities. The region has also developed tools for understanding and monitoring (Regional Conservatory of the Coast) which are capable of responding appropriately to different instances from different sectors and local governments.

The Regional Conservatory of the Coast of Sardinia has specific functions related to the coordination of initiatives for integrated management of coastal zones carried out by Regional Administration, Local Authorities and the administrations of protected areas and Natura 2000 sites and, in addition, to the promotion and dissemination of issues related to environmental protection, landscape and sustainable development in coastal areas.

The ability to analyze issues and to program the management along with possible solutions, offers a great opportunity for growth in regional institutions, thanks to the fact that, in CAMP Italy, different regional choices can be examined and compared and, through an effective coordination, management plans providing the best solutions can be reached. At the same time, through the actions taken by each individual region, it will be possible to obtain and evaluate the results which will enable the other regions to adopt and / or modify, according to their own needs, the project's solutions.

One objective of the CAMP Italy project is to encourage the implementation of national strategies for integrated coastal zone management. In accordance with the Protocol on Integrated Coastal Zone Management in the Mediterranean, the involvement of a large number of regions will be a driving force for the participation of other coastal regions in the early stages of consultation and sharing strategy.

Specifically, the CAMP Italy project helps to integrate, standardize, share and implement tools and procedures aimed at adapting the territorial planning, with implications for the management of coastal resources and assets.

The elements that constitute points of strength are:

-diversity and representativeness of the values and criticality (environmental, cultural and socio-economic) compared to the national context and the Mediterranean basin;

- territorial diversity expressed in terms of environmental, cultural and socio-economic aspects as a prerequisite for a high degree of intensity and complexity of multi-dimensional relationships;

- The spatial dimension of the preferential area as the context for the trial of the action;

- The flow of information and sharing of the project guidelines among CAMP stakeholders;

- The adoption of "bottom up" and "Step by Step" strategies;

- The promotion of project initiatives that consolidate some experiences of inter-institutional coordination already in place.

Through the CAMP Italy actions the institutions involved will benefit of:

(I) an additional tool for the protection of coastal ecosystems, a leverage tool in case of conflict resolution;

(II) the opportunity to learn new methodologies with reference to the inter-level planning and the strengthening of inter-institutional coordination;

(III) the start of a processes of cataloging, analysis and optimization of integrated coastal areas, by case studies and best practices that could then spread and result in conservation policies and management;

(IV) becoming part of an international community and then having the opportunity of learning and professional growth and improvement of policies for safeguarding and management.

The nature and complexity of the CAMP-Italy project show the spirit of thecentral administration and regions involved.

The Integrated Coastal Zone Management for a country with a natural complex environment and during the application of a new administrative organization of the territory (the passage to local governments of the direct responsibility in land use planning and management of some components of Public Domain) is particularly delicate because, at times, the latest has marked moments of slowdown in the adoption and application of new provisions of the European Union and National Admnistration. Therefore the opportunity, for the CAMP Italy project, to test some of the salient aspects of ICZM in a diversified natural ecosystems, representing a number of management issues and falling under the administrative responsibility of more subjects (from local to central), is to address some of the key themes in the new vision of land-sea governance: protection of biodiversity, maritime spatial planning, marine ecosystem and coastal area management. The project, in fact, makes particular reference to sections 3, 8, 9 and 10 of the Madrid Protocol, in course of implementation and enforcement. Similarly, the reference to the risks that the coastal zone will face as a result of climate change and a response, not always suitable, to the preservation of the coasts, adversely affected by anthropic pressure in Italy as in other European countries, point out the global problem represented by the delicate band that marks the border between land and ocean areas. Given the breadth and importance addressed by the CAMP Italy project and the contemporary progress in the drafting of the National ICZM Strategy, it is clear that the findings of the project will be significant and important documents with consequences involving the whole national territory. This is particularly true in relation to the selection of a complex and diverse coastline, representative of all the national realities, and for the different administration of the involved regions (regions with special or ordinary statute) and, finally, because the project has to be carried out during the period when certain powers are transferred from the central state to the regional and local governments.

The strength for the National strategy of Integrated Coastal Zone Management is undoubtedly a strong presence of regional representatives, directly involved in the feasibility study. The regional contribution is substantial because the regions are holders of the information necessary for framing and understanding pressures, impacts and phenomena that insist on the coast and constitute an essential element for enabling consistent and effective policies.

Moreover, the CAMP project will be significant for the establishment of a national strategy if, already during its development, more inclusive and diverse administrativestructures will be involved, not only at the level of the Ministry of Environment but also by sharing others Ministerial departments in the Maritime Spatial Planning.

Several regions have launched, in the past, programs and projects for the integrated coastal zone management. The achieved results show that indispensable elements for the ICZM are:

-the establishment of a central consultative institutional structure.

-the definition of guidelines for the regions.

-the proposed legislation on coastal management.

-the proposed national programs that regions should share and adopt in their plans and programs for coastal development.

-the definition of measures for the monitoring and supervision of regional plans.

These points are the starting element of the National Strategy, the basis that the regional management strategies must comply with.

It is believed that the results and actions mentioned in the project can be exported to other territories of Italy with similar geomorphological conformations. The pressures and problems analyzed in the CAMP Italy project area can be traced to a common management model. It will be therefore useful and interesting to check the application and, above all, to weigh the results also (but not only) over a range of achieved cost-benefits.

The interregional nature of the CAMP Italy project, with the analysis and study of a complex nature, rich of diverse coastal landscapes, of important cultural heritages (subaerial and underwater archaeological heritage), of a vast compendium of ancient traditions of equilibrium between mankind and the marine ecosystem, of social and economic values (commercial ports and fishing, tourism) is the most significant aspect that can be shared in the whole Mediterranean basin. The CAMP Italy project will contribute to the growth and development of the integrated coastal zone management in the Mediterranean Sea if will produce results, shared through the international organizations, useful not only for the countries who have a comparable social and economic history, but especially for those countries which today are going to realize their economic and social development, even through the sustainable use of the coastal area.

The geography of Italy and of some of its regions make the CAMP Italy project one of the paths of particular significance for knowledge, debate and sharing. In the Adriatic Sea a proper management of the coastal area, included in the field of a maritime spatial planning, forcibly shared in a small basin, will emphasize the conservation of natural features, the biodiversity protection, the sustainable use of natural resources, according to the European and international legislation for the protection of marine ecosystems. Some of the proposed actions are designed in this perspective. Others will pay particular attention to the future of the whole basin. The creation of new MPAs and their integration into the economic dynamics of the host country must be respectful of the natural heritage, through new forms of tourism. The heritage has to be preserved but also to made known as much as possible not only to the coastal people, but also to the millions of tourists who choose the Mediterranean Sea as the ideal place for their holidays. In this sense, one of the important aspects of the CAMP Italy project is to design and propose new forms of tourism which, in addition to the physical benefit offered by marine waters and the sun, will also offer a growing awareness of the individual against nature and landscape.

The CAMP Italy project presents a peculiar new character compared to other experiences already gained in the Mediterranean: the presence of multiple areas, some of which are interregional and include the presence of marine coastal SCIs; the need for a common response to consequences arising from the effects of climate change (current and future: the risk of flooding by rising sea level, the beach and coast erosion, etc..); the harmonisation in the government of territories characterized, today, by different land-use planning tools. These elements, therefore, support the exportability of the project results to other Mediterranean coastal areas, their integration with existing policies and instruments at the regional level and therefore their significance even across borders.

For the first time the project is based on the proposition of ideas to be implemented in different areas (regions), regional adjacent territories, in order to strengthen existing mechanisms of

cooperation and to eliminate the weak aspects. The adopted measures of consultation and tools for collaboration will be proposed as a synthesis tool to create horizontal coordination between regional administrations.

In the present project the possibility to formulate new ways of cooperation between adjacent administrations is of significant interest to facilitate the sustainable use of the marine ecosystem among all the Mediterranean countries.

Among the various instruments of implementation of the maritime policy, the European Commission (COM 2008/791) believes the ICZM as a tool to define the Community principles (including the consistency of spatial planning on both sides of the border land / sea), and requires Member States to develop ICZM strategies also cooperating with neighboring countries.

The global problems resulting from human pressure on coastal systems and from threats related to climate change affects large areas bordering the Mediterranean. In the Mediterranean there are solid activities related to ICZM projects, but in most cases, they target a small area, rarely medium to large areas. It is believed that disseminating the results of the CAMP Italy project, implemented in several regions, could lead to a new culture of how to deal with the threats, in a perspective of responsible development.

As already highlighted in section 4.2, the institutional structure and nature of regional experts in participating in the CAMP project are significant.

The institutional capacity of regional administrations in the field of ICZM is quite high. This is evidenced by the large number of centers and agencies that operate in various fields related, more or less directly, to the active management of the coast for many years and able to interact with different institutional actors, even on an international scale, in the realization of projects of coastal management, as outlined in § 2.11. The scientific support, in some of the involved regions, is given directly to research institutions and universities (Lazio, Tuscany). In other cases, the region has set up dedicated facilities directly for the ICZM (Regional Agency of the Conservatory of the Sardinian coast) or research institutions capable of responding adequately to the demands of the regional government (Emilia Romagna).

The presence of this network of expertise at regional level and the constant reference to the central national administration (MATTM), make the positive potential of the CAMP Italy project.

| | Action | | Cost |
|---|---|---|---|
| Horizontalactions | 3.1.1 | € | 100 000 |
| | 3.1.2 | € | 100 000 |
| | 3.1.3 | € | 60 000 |
| | 3.1.4 | € | 150 000 |
| | **Total** | **€** | **410 000** |
| Specificaction 1 | 3.2.1.1 | € | 350 000 |
| | 3.2.1.2 | € | 182 000 |
| | 3.2.1.3 | € | 40 000 |
| | 3.2.1.4 | € | - |
| | 3.2.1.5 | € | 250 000 |
| | 3.2.1.6 | € | - |
| | 3.2.1.7 | € | 30 000 |
| | 3.2.1.8 | € | 301 000 |
| | **Total** | **€** | **1 153 000** |
| Specificaction 2 | 3.2.2.1 | € | - |
| | 3.2.2.2 | € | 150 000 |
| | 3.2.2.3 | € | 61 334 |
| | 3.2.2.4 | € | 150 000 |
| | 3.2.2.5 | € | 700 000 |
| | 3.2.2.6 | € | 317 000 |
| | **Total** | **€** | **1 378 334** |
| Specificaction 2 | 3.3.2.1 | € | 50 000 |
| | 3.3.2.2 | € | 32 000 |
| | 3.3.2.3 | € | 125 000 |
| | 3.3.2.4 | € | 2 400 000 |
| | 3.3.2.5 | € | 160 000 |
| | 3.3.2.6 | € | 160 000 |
| | 3.3.2.7 | € | 160 000 |
| | **Total** | **€** | **3 087 000** |
| **CAMP ItalyGrand Total** | | **€** | **6 028 334** |

The experiences gathered through the feasibility study show that:

-in the CAMP Italy project the implementation of a strong coordination to follow the proposed agenda is of crucial importance;

-past experiences of participation are very important for the development, implementation and monitoring of the project;

-the development of a collective consciousness of environmental and cultural values is a sine qua non condition to ensure the durability of the achieved results.

The CAMP Italy project provides for a central decision-making structure consisting of:

-Steering Committee, comprising representatives of the PAP-RAC, the Ministry of Environment and Protection of Land and Sea (MATTM), the Emilia Romagna, Lazio, Liguria, Sardinia and Tuscany regions;

- a General Project Coordinator, appointed by the Steering Committee and supported by

-the Regional Project Coordinators team, appointed by each region and approved by the Steering Committee.

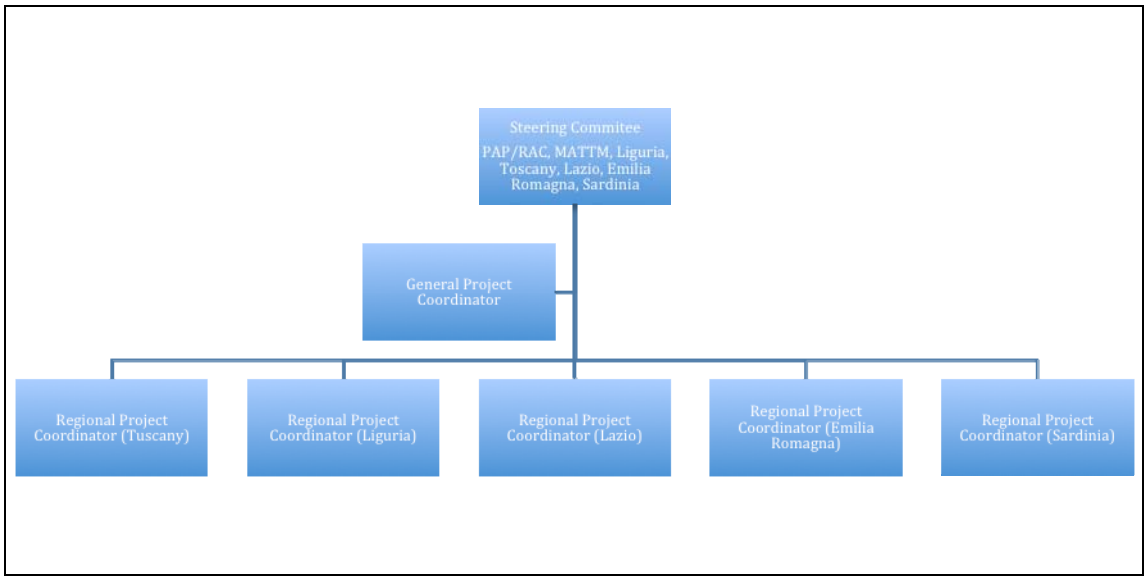


Figure 11

The activity of the General Project Coordinator will be supported by:

- the College of Regional Project Coordinators,

- the Technical Coordination Office.

The Technical Coordination Office consists of staff from the MATTM (2 units of technical-scientific personnel, 1 unit of technical-administrative personnel, 1 technician) and 1 unit of technical and scientific personnel for each region involved, for a total of 9 units.

The headquarters of the Technical Coordination Office will be at the Ministry of Environment and Protection of Land and Sea and will provide the collection and processing of data and documentation that will be produced within the project.

Technical Regional Offices (one for each region) will be activated at regional level and largely using the existing technical and administrative structures to support the regional coordinators.

The connection among the headquarters and the regional offices will be primarily via the web.

Technical Regional Offices.

In the involved regions the following centres, coordinated by regional coordinators, will operate as Technical Regional Offices:

In the Liguria region the Technical Regional Office will be composed of personnel of the Department of Coastal Area Ecosystem of Liguria region, a structure that, because of its technical and scientific skills, handles issues concerning the protection and monitoring of coastal areas, and, in recent years, has drawn all the technical criteria adopted at regional level on the defense by erosion and the protection of the coastal environment. An inter-departmental co-ordination with other regional structures, having the skills on related topics, and the involvement, in the process of implementation of pilot projects, of the local communities, will be appointed.

For the Emilia-Romagna region, scientific and technical support will be given to the Foundation of Cesenatico Marine Research Centre as the reference body on the regional study and monitoring of the North-western Adriatic Sea. The working group will consist of engineers belonging to the Regional Administration and from different sectors (water protection, coastal defense, Geological Survey, tourism, fisheries, land use planning...), to the involved territorial local authorities, to the industry associations and NGOs in order to give life to a real exchange of opinions on the proposals and reach the shared decisions.

In the Sardinia region, the Technical Regional Office (by the activity of Regional Agency of the Conservatory of the Sardinian coast) will see the activity of three different committees:

-CAMP COORDINATION COMMITTEE OF SARDINIA, with the task of bringing together all the actors involved in the CAMP Sardinia project;

-INTER-AREA COMMITTEE, with the task of ensuring the exchange of experiences between the CAMP north area and CAMP north west area, to share methodologies and design strategies;

-ACTIONS COMMITTEE (one for each area), with the task to monitor the implementation of the project actions, assess the use of resources (financial and human), provide input and feedback in

project management.

The activity monitoring center (Tuscany and Lazio regions) that will be led by the head of ICZM in the Lazio Region, involving a working group of researchers, engineers, technicians belonging to the regional government of Lazio and Tuscany from different sectors (water protection, defense of coast, Geological Survey, tourism, fisheries, land use planning by territorially involved local authorities...), and stakeolders in order to create a real debate on issues and proposals to reach the shared proposals.

The technical and scientific expertise will be entrusted to a body of scientific research (University of Tuscia, DECOS).

## 4.7 TIME TABLE - TIME SCHEDULE

The CAMP - ITALY Project, will have a total duration of 24 months.

Regarding the actions, the project includes:

I phase

-Analysis, conducted with the cooperation of all the regions, MATTM, PAP / RAC, for an inventory and a critical discussion of the best practices and methodologies used in:

i) Planning of marine and terrestrial coastal areas,

ii) Protection, preservation and restoration of coastal and marine habitats,

iii) Sustainability of socio-economic activities impacting on the coastal area (tourism, fishery)

-Implementation of the procedures for the activation of the pilot actions.

The duration of the first phase cannot exceed 3 months.

II phase

According to the results of the analysis phase and after careful evaluation, the Steering Committee will indicate the topics to be further explored. At the beginning of this phase, pilot activities proposed by individual regions will start, with a maximum duration of 18 months for the implementation.

III phase

At the end of the different activities, a summary of the results of the two previous phases will take place and proposals for thematic strategies and/or plans of National action and/or new legislation, planning and/or management instruments will be developed and proposed, to achieve the general objectives of each theme. This activity cannot exceed 3 months.

The table shows the time sequence and duration of all activities, horizontal actions, specific and pilot actions.

| YEAR | I | II |
|---|---|---|
| Horizontal actions | | |
| 3.1.1 | | |
| 3.1.2 | | |
| 3.1.3 | | |
| 3.1.4 | | |
| Planning of marine and terrestrial coastal areas | | |
| 3.2.1.1 | | |
| 3.2.1.2 | | |
| 3.2.1.3 | | |
| 3.2.1.4 | | |
| 3.2.1.5 | | |
| 3.2.1.6 | | |
| 3.2.1.7 | | |
| 3.2.1.8 | | |
| Protection, preservation and restoration of coastal and marine habitats | | |
| 3.2.2.1 | | |
| 3.2.2.2 | | |
| 3.2.2.3 | | |
| 3.2.2.4 | | |

| | | | | |
|---|---|---|---|---|
| 3.2.2.5 | | | | |
| 3.2.2.6 | | | | |
| Sustainability of socio-economic activities impacting on the coastal area | | | | |
| 3.2.3.1 | | | | |
| 3.2.3.2 | | | | |
| 3.2.3.3 | | | | |
| 3.2.3.5 | | | | |
| 3.2.3.6 | | | | |
| 3.2.3.7 | | | | |
| STEERING COMMITTEE MEETING | | | | |
| EVALUATIONS | | | | |

Figure 1

At the regional and local level the results will be used to continue and / or modify activities and to plan future activities to be consistent with the achieved experience.

At central government level the achieved results by the CAMP Italy project will be used to promote initiatives and activities with other Italian coastal regions, in view of the National Plan for Integrated Coastal Zone Management.

The project's activities with respect to CAMP Italy in Liguria and Tuscany regions are based on principles of sustainability and durability that have inspired the coastal zone management activities of the two regions involved in these issues after the start of the administrative process of decentralization, according to Legislative Decree no. 112/98. The proposed actions are intended to define good management practices, pursuing a participatory approach.

The derived results will be sustained over time through the adjustment, changes and additions to the programming tools and planning of re-balancing of the coast, at various levels of government of the coastal territory.

The CAMP Italy Project in Emilia-Romagna intends to pursue, for long time, environmental sustainability and socio-economic strategies. The ultimate goal is to undertake a real territorial development of maritime and coastal areas that not restricted to the simple enhancement but will lay the foundations of growth on biodiversity, conservation and protection of the maritime environment, coastal economies, with a low impact on environment, but high economic and cultural value.

Everything is in continuity with a process that began in 2002 with the preparation of the ICZM regional guidelines and, subsequently, developed through investments that the Region has produced for testing pilot projects also with the participation of the Region in several international projects.

To ensure the durability of the proposed route, the Region has promoted the implementation of its policies of coastal management (ICZM) in the annual planning level.

Local process, forming the necessary skills to internal government, is, already, initiated in order to make their addresses concretely effective and lasting.

With regard to the durability of the projects at local level in the Sardinia region to see descriptions of individual actions, in the section on procedures to be implemented to ensure the long-term effects.

The project activities for the Lazio and Tuscany regions are highly sustainable in the light of the

established coastal management activities (in particular of coastal erosion and impacts on sensitive areas) that the Lazio and Tuscany regions carried on for many years.

The supplementary measures for environmental improvement will be included in the management plans of protected areas and will be built over time, depending on the availability and urgency of the arising economic problem. The output of the proposed project will be used by agencies in the formulation of urban plans and the management of large areas and bodies of protected areas under study in this project.

The activities related to offshore marine caves will allow to develop a plan to manage, without conflict between regional governments and trade associations (tourism and fishing industry in particular) the exploitation of marine caves, and thus to ensure the availability, in time, of sand suitable for beach nourishment, ensuring the full support of beach activities.

**THE FOLLOW-UP PERIOD OF THE CAMP ITALY PROJECT WILL LAST 2 YEARS, DURING WHICH ITALY WILL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE PROPOSALS MADE AND ADOPTED DURING THE PROJECT. THE FOLLOW-UP OF THE CAMP PROJECT WILL BE MADE EASIER BY THE CONCURRENT ACTIVITIES THAT WILL BE CARRIED OUT IN THE LIGHT OF THE MARINE STRATEGY FRAMEWORK DIRECTIVE, WHICH WILL THEREFORE PLAY A MAJOR ROLE IN FOSTERING THE DURABILITY OF THE CAMP ITALY PROJECT RESULTS.**

**Annex 1 – Cartography**

**Figures of Chapters**

**Chapter 2.2.**


Figure 2.2.1.1 Geographical features of the area: limits (red point), administrative limit of municipalities (red polygons), bathymetry (blue lines)

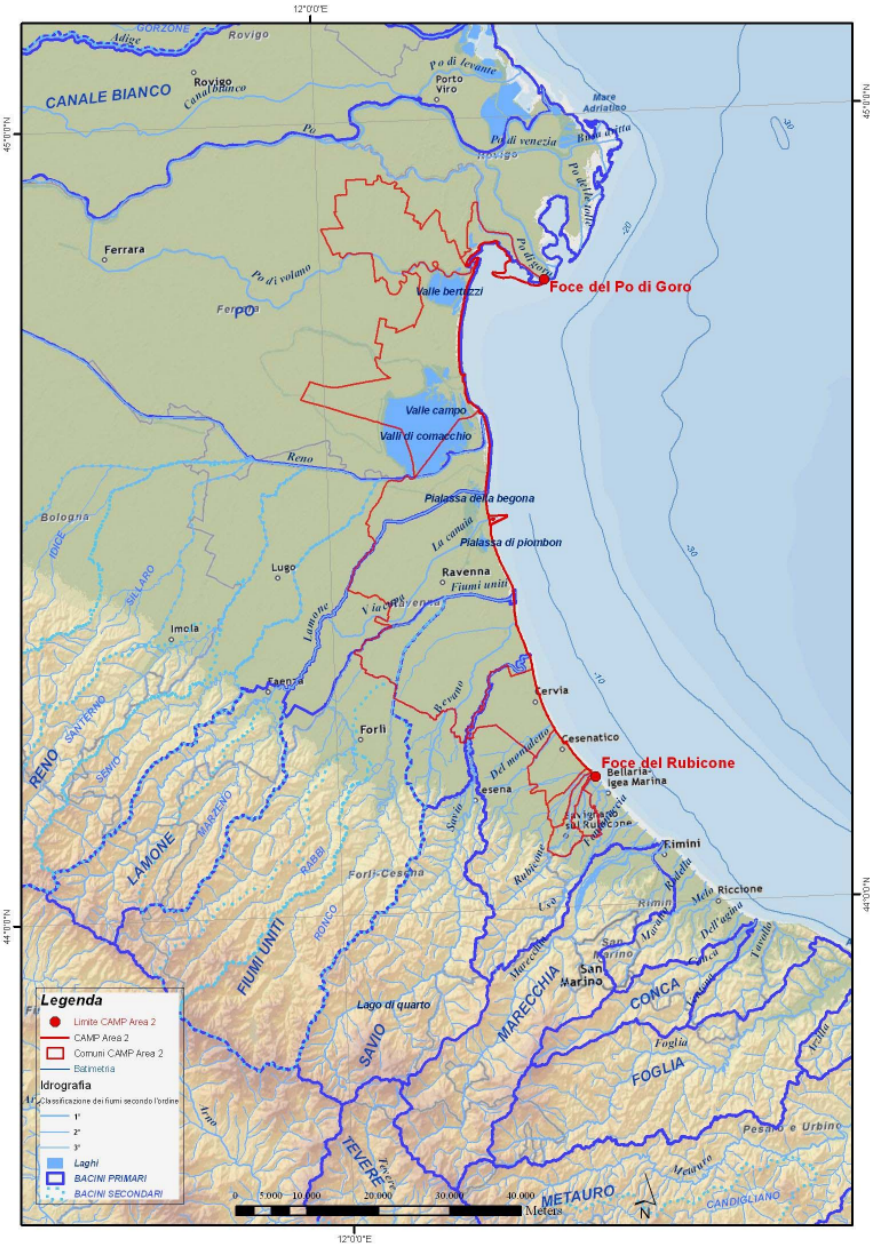


Figure 2.2.2.1 Geographical features of the area: limit (red point), administrative limit of municipalities (red polygons), bathymetry (blue lines)

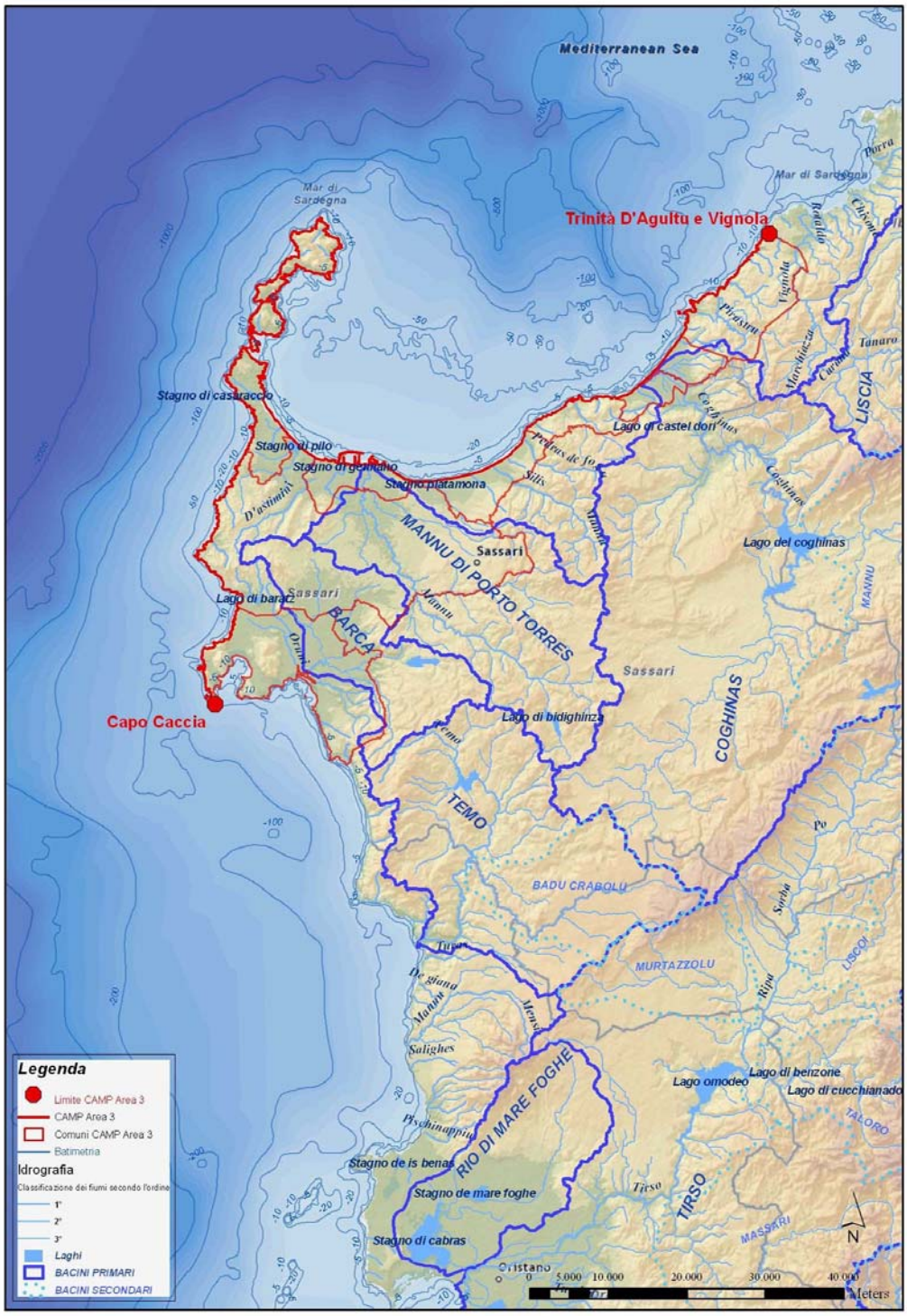


Figure 2.2.3.1 Geographical features of the area: limit (red point), administrative limit of municipalities (red polygons), bathymetry (blue lines)


Figure 2.2.4.1 Geographical features of the area: limit (red point), administrative limit of municipalities (red polygons), bathymetry (blue lines)

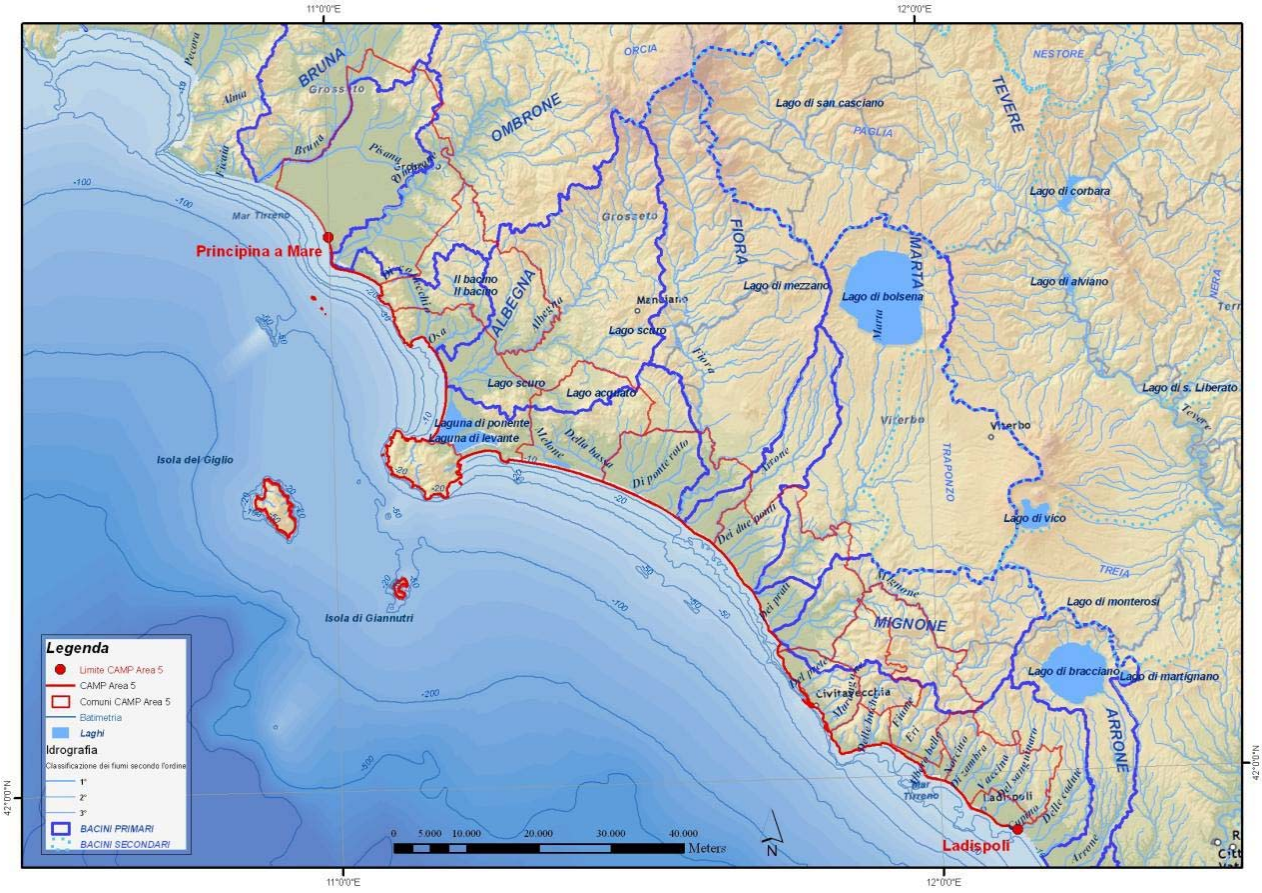


Figure 2.2.5.1 Geographical features of the area: limit (red point), administrative limit of municipalities (red polygons), bathymetry (blue lines)

**Chapter 2.3**

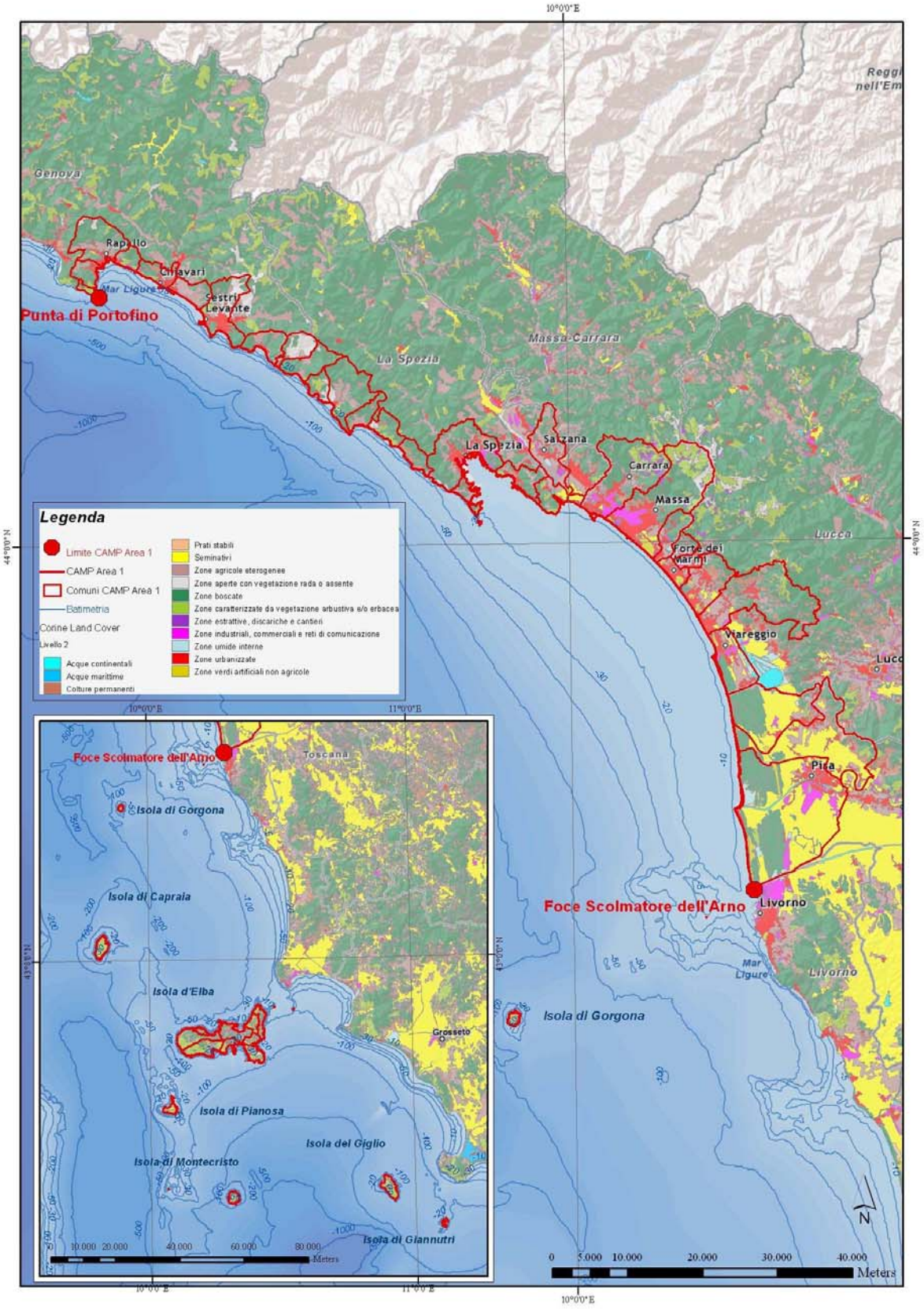


Fig. 2.3.1.1. Land use in Area 1 (Corine Land Cover)

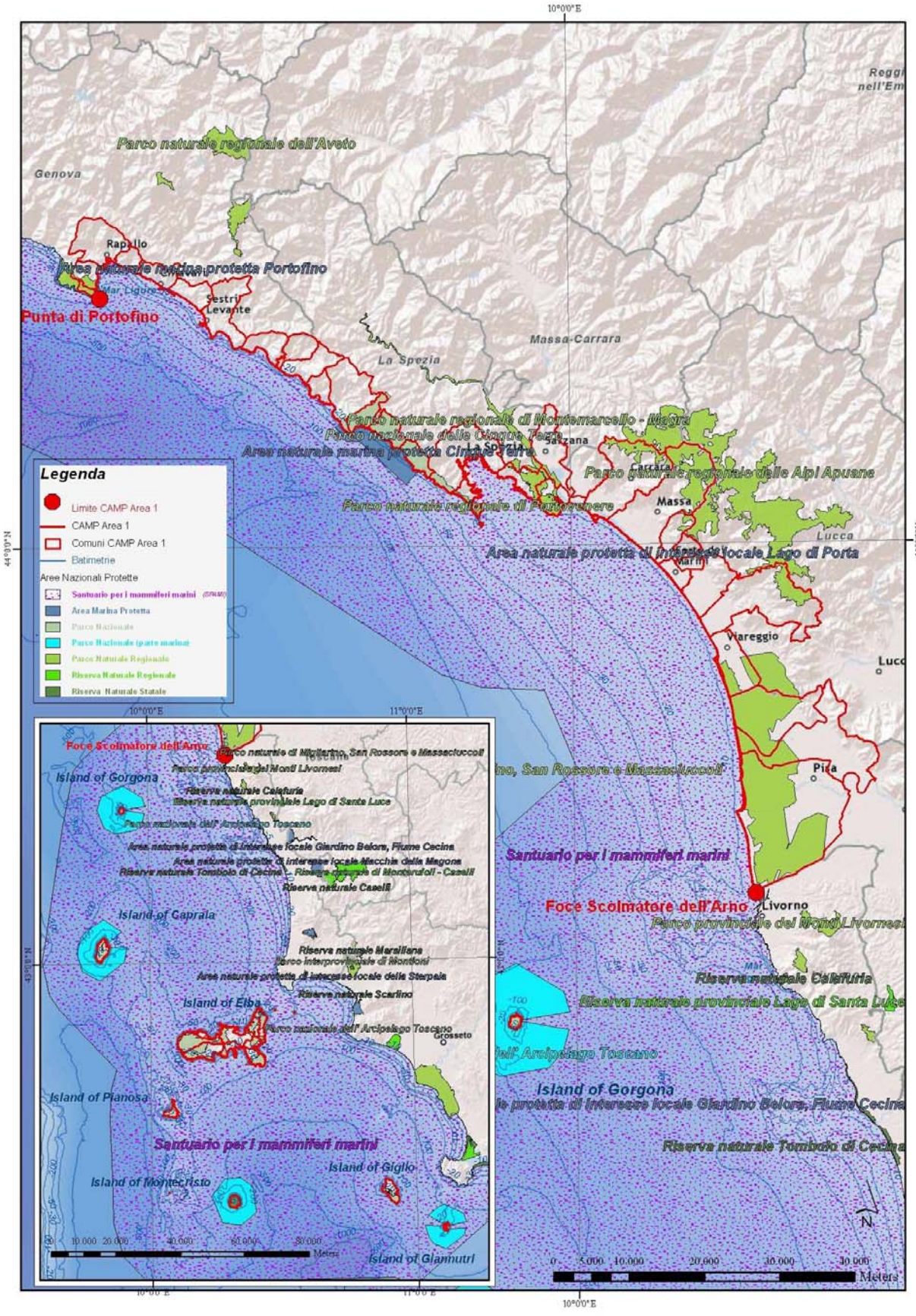


Fig. 2.3.1.2.The protected areas ( not including NATURA 2000)

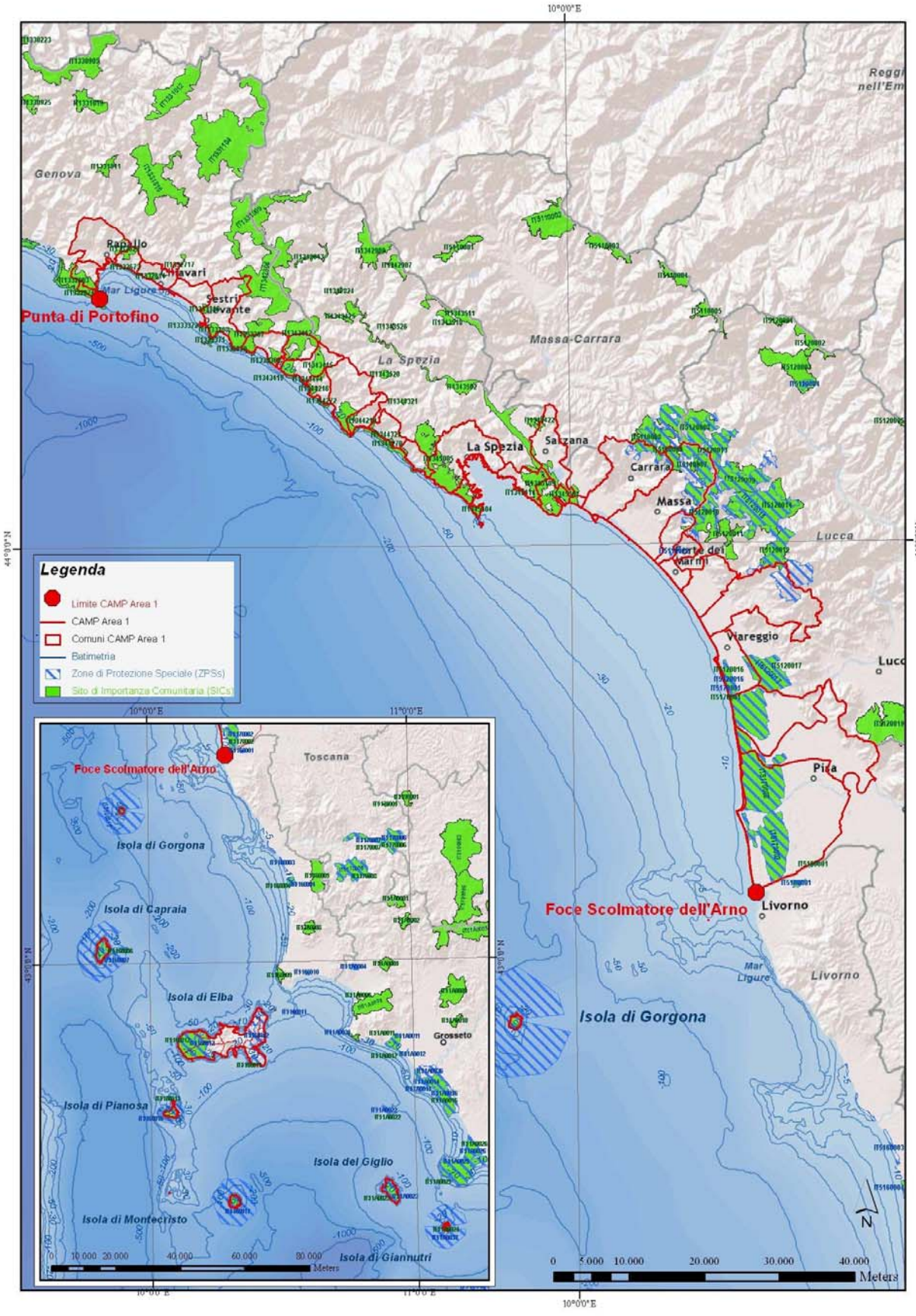


Fig. 2.3.1.3. The Natura 2000 areas

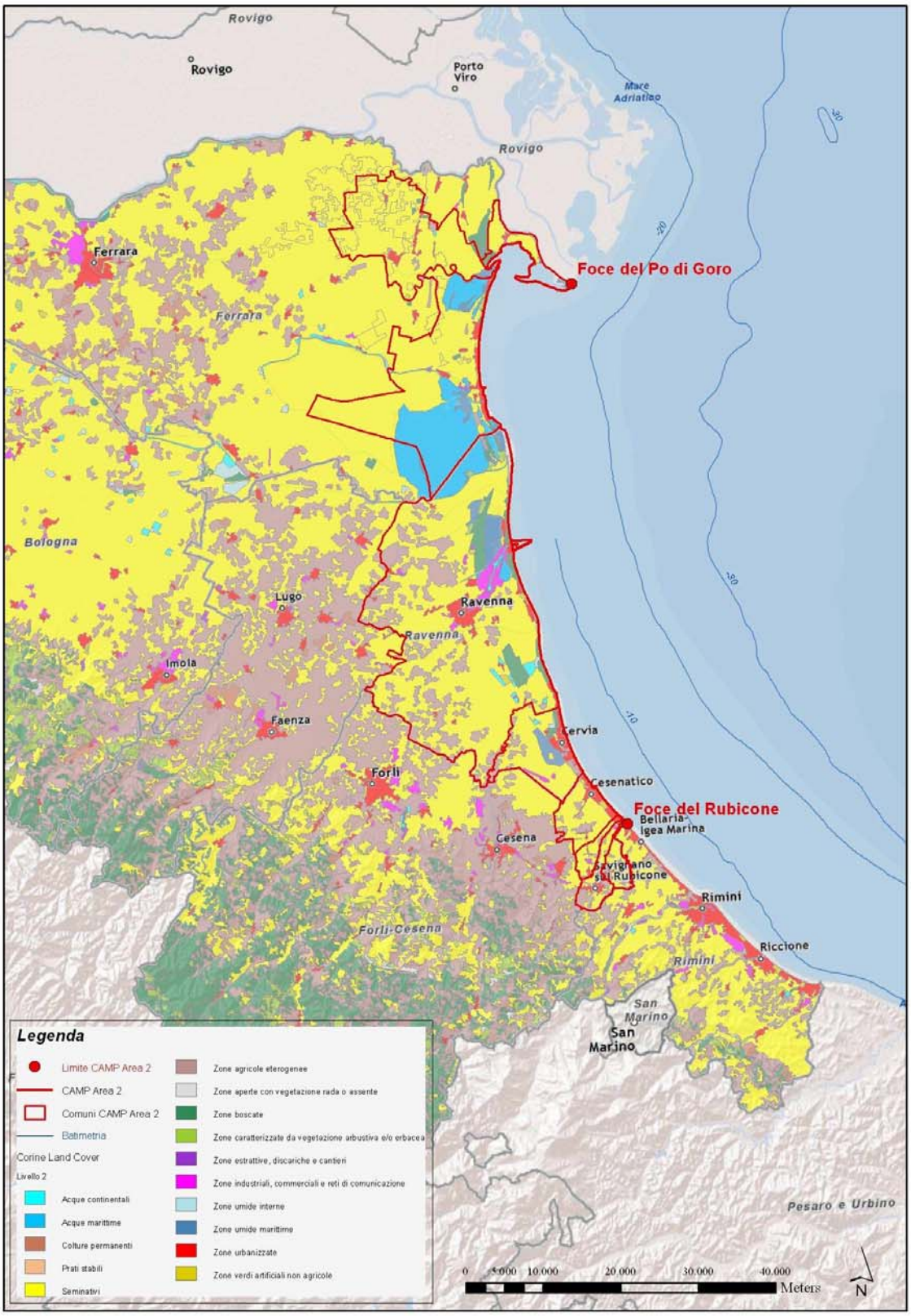


Fig. 2.3.2.1. Land use in Area 2 (Corine Land Cover)

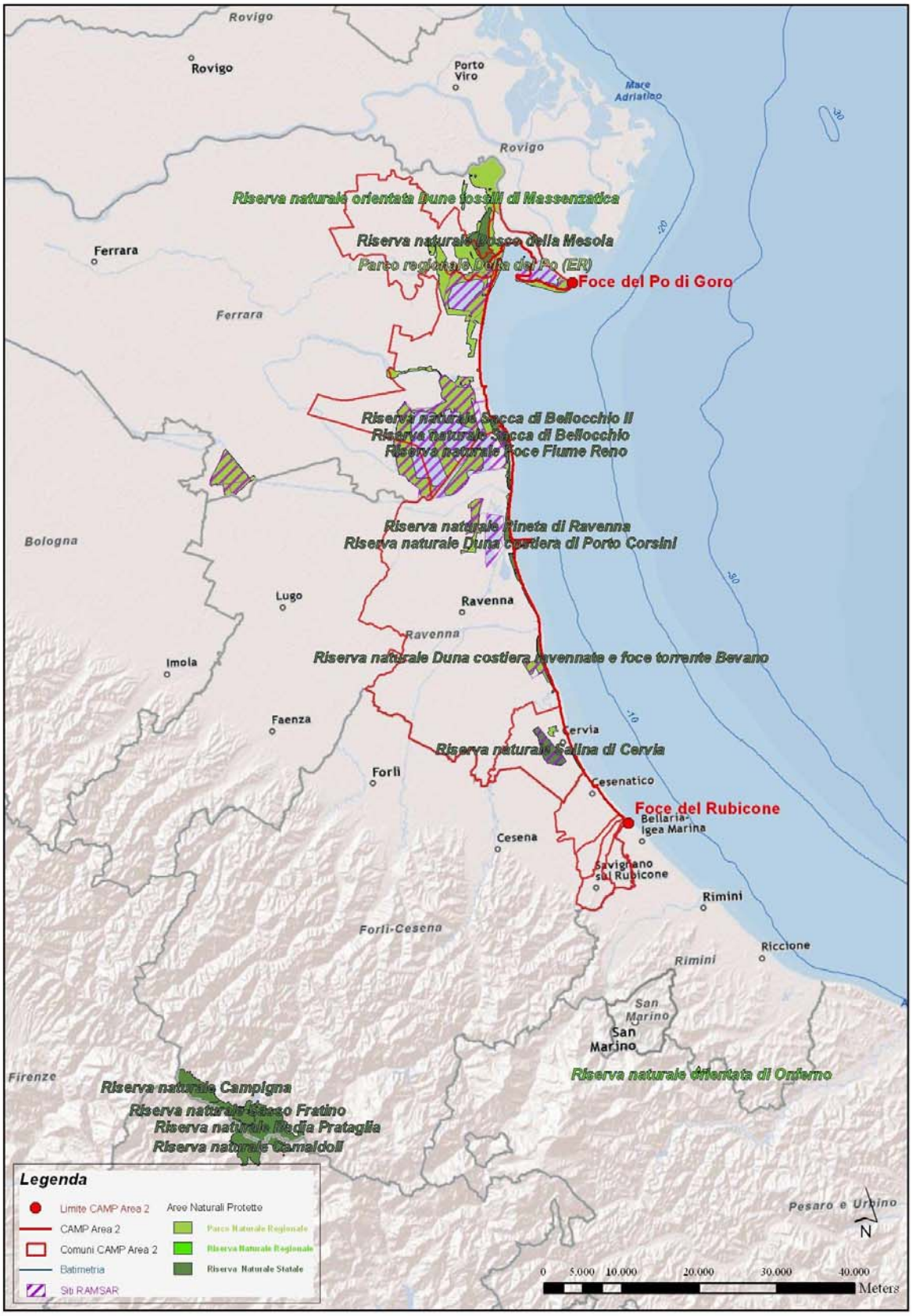


Fig. 2.3.2.2.The protected areas ( not including NATURA 2000)

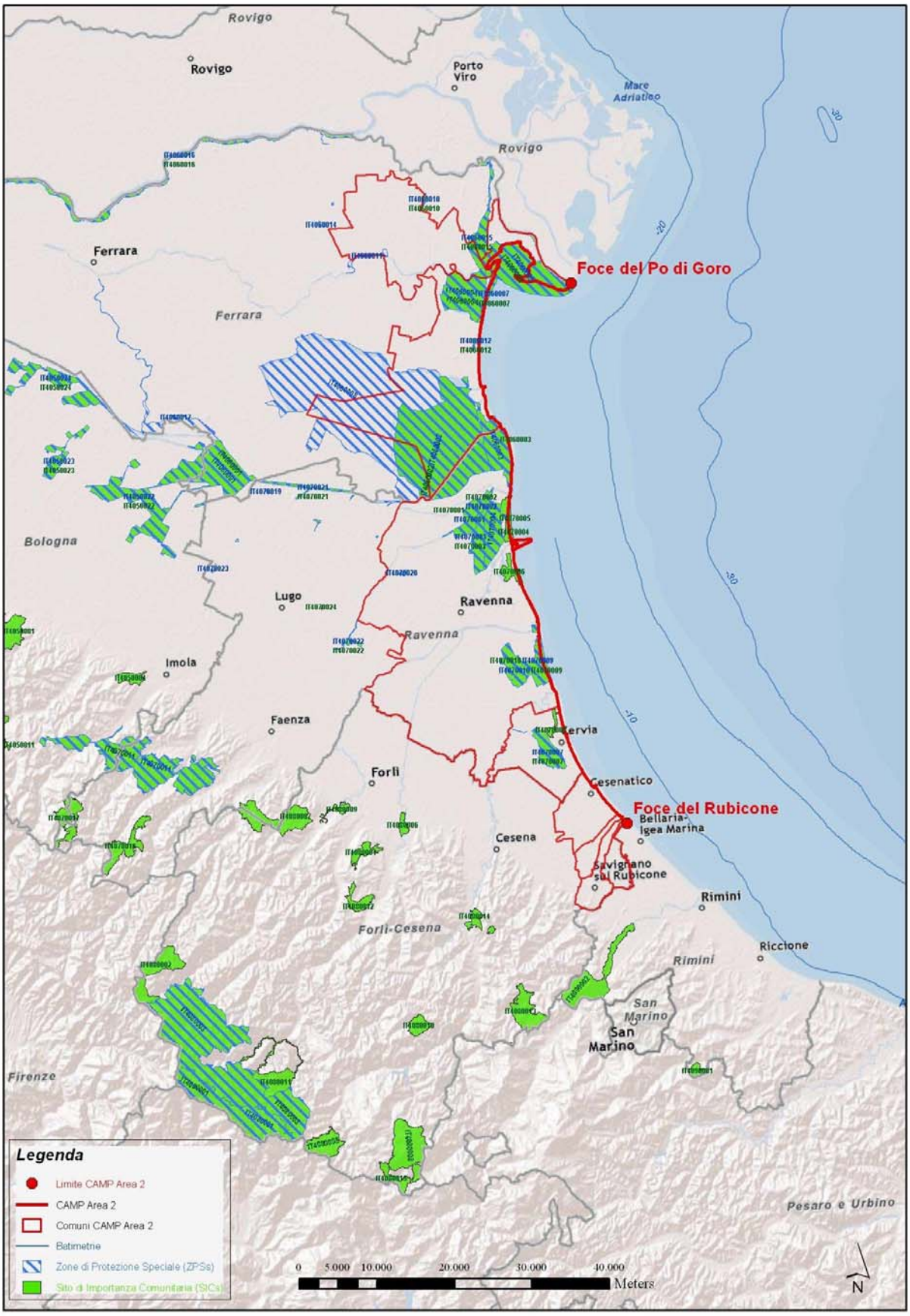


Fig. 2.3.2.3. The Natura 2000 areas

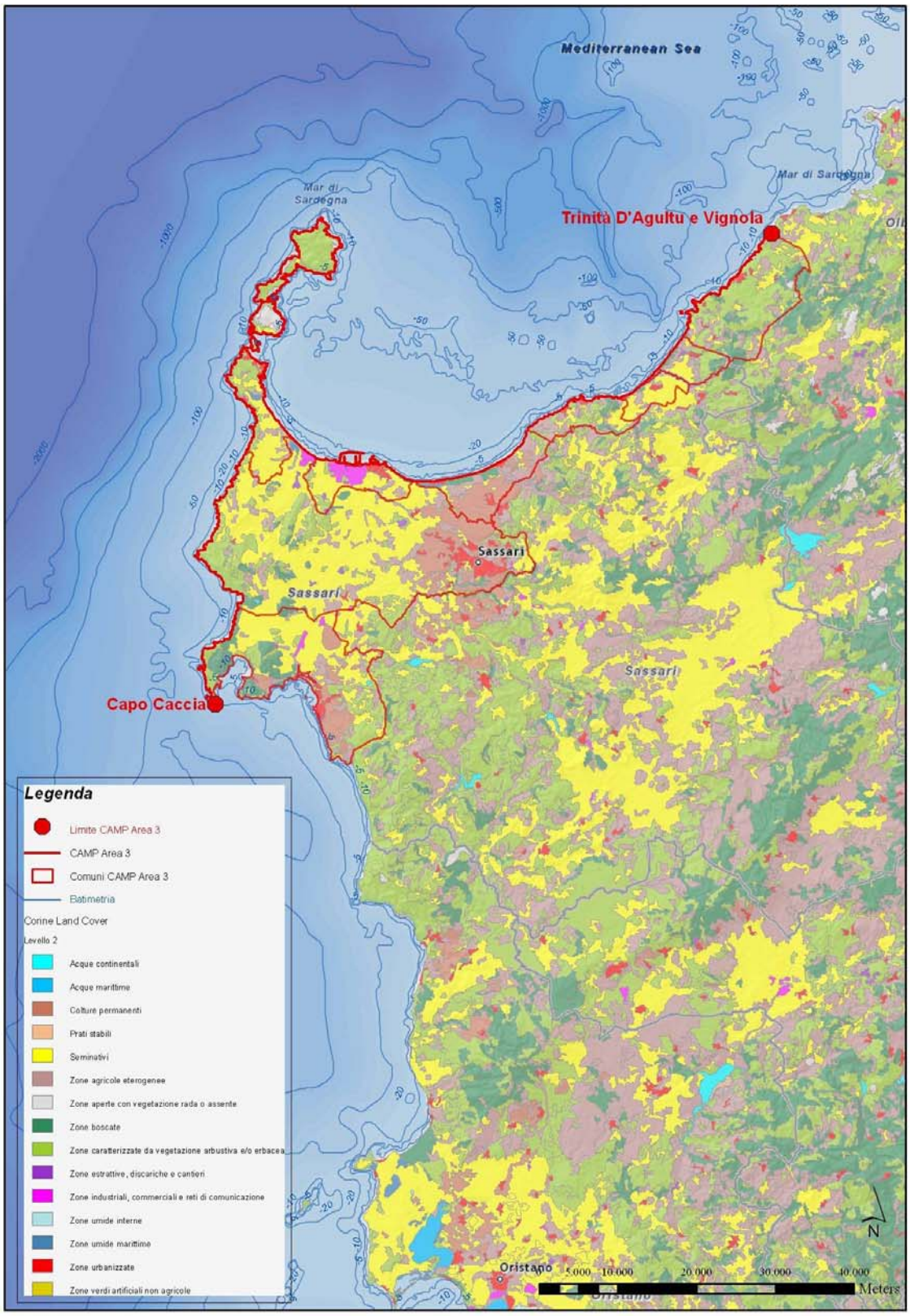


Fig. 2.3.3.1. Land use in Area 3 (Corine Land Cover)

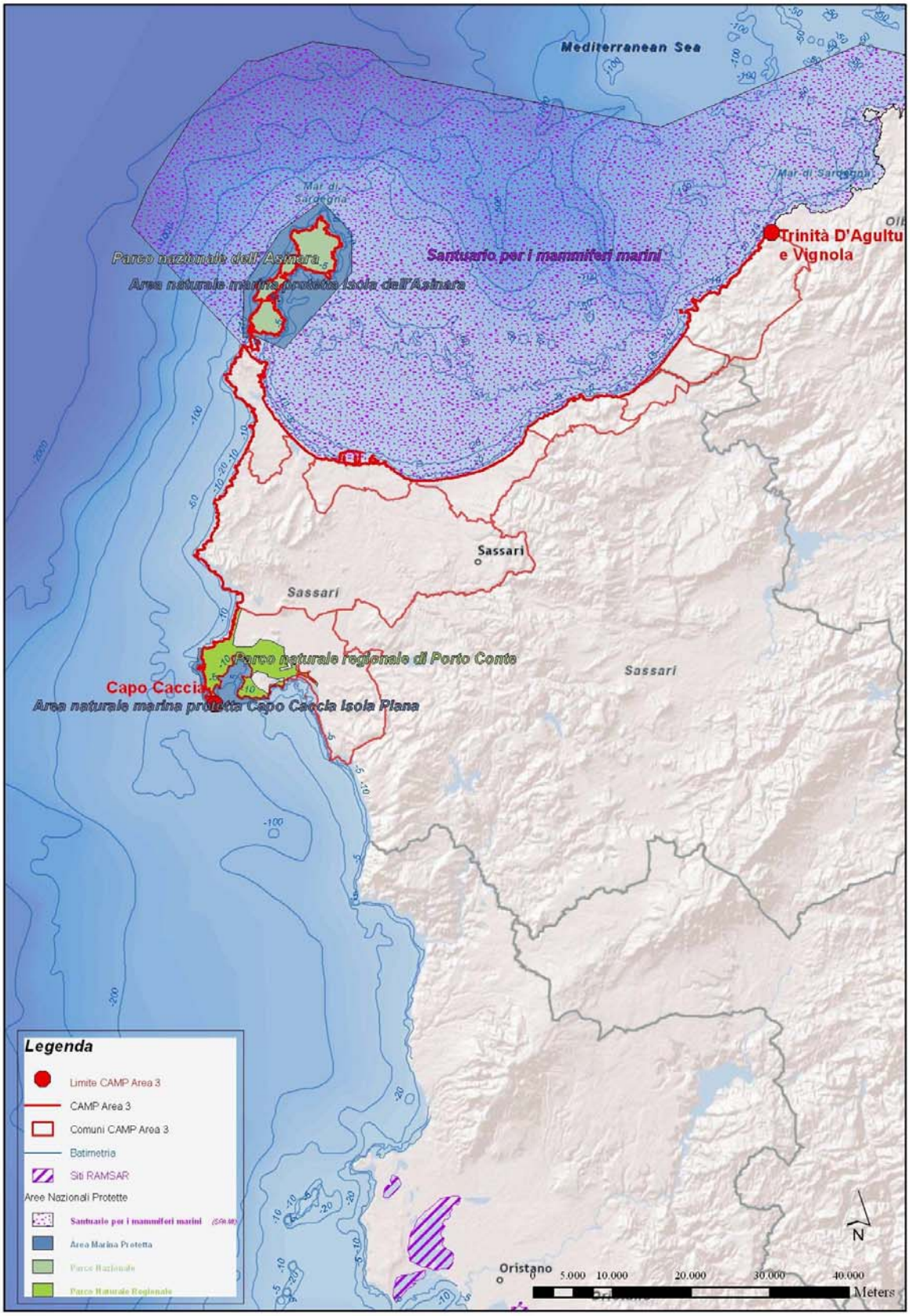


Fig. 2.3.3.2.The protected areas ( not including NATURA 2000)

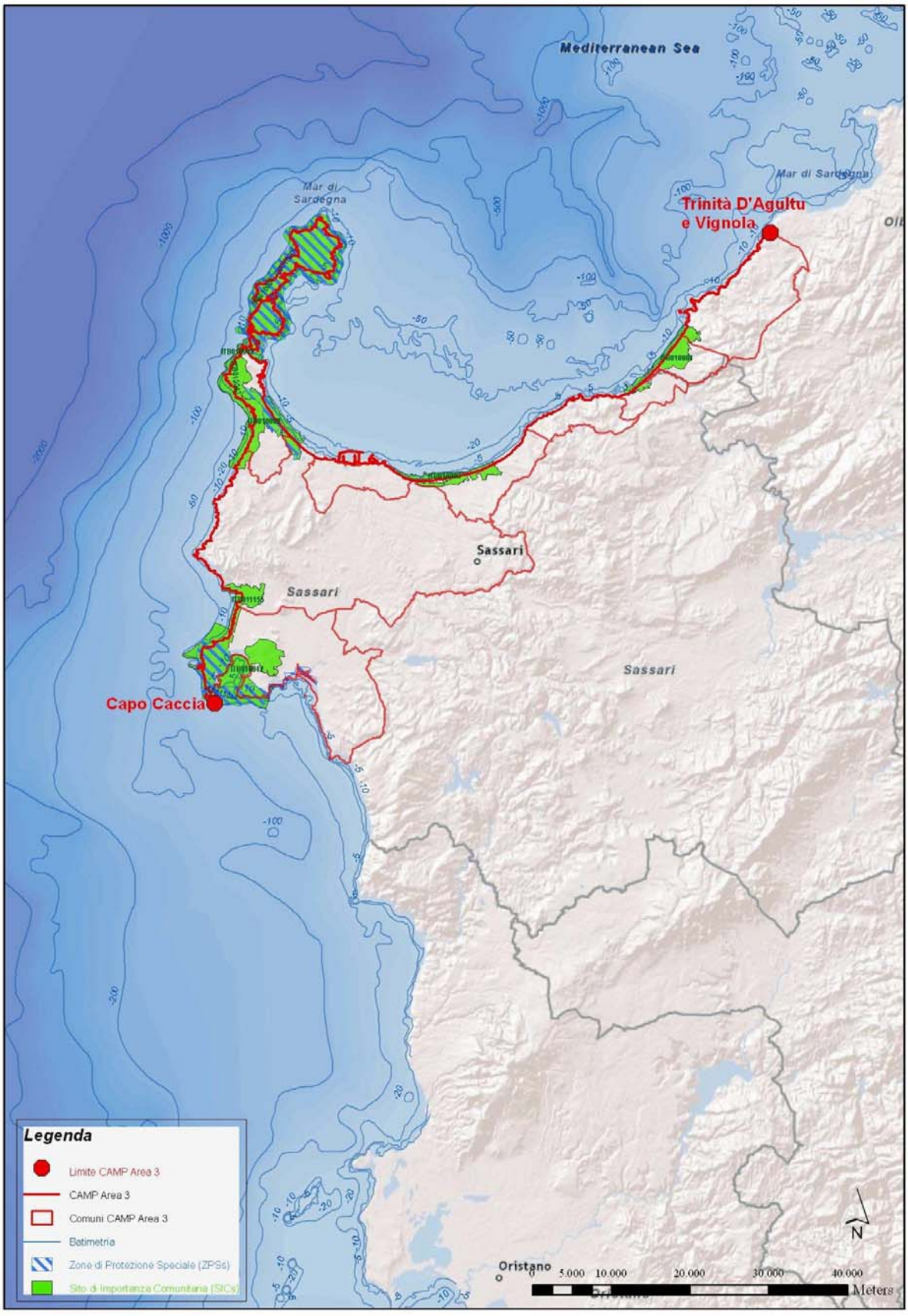


Fig. 2.3.3.3. The Natura 2000 areas

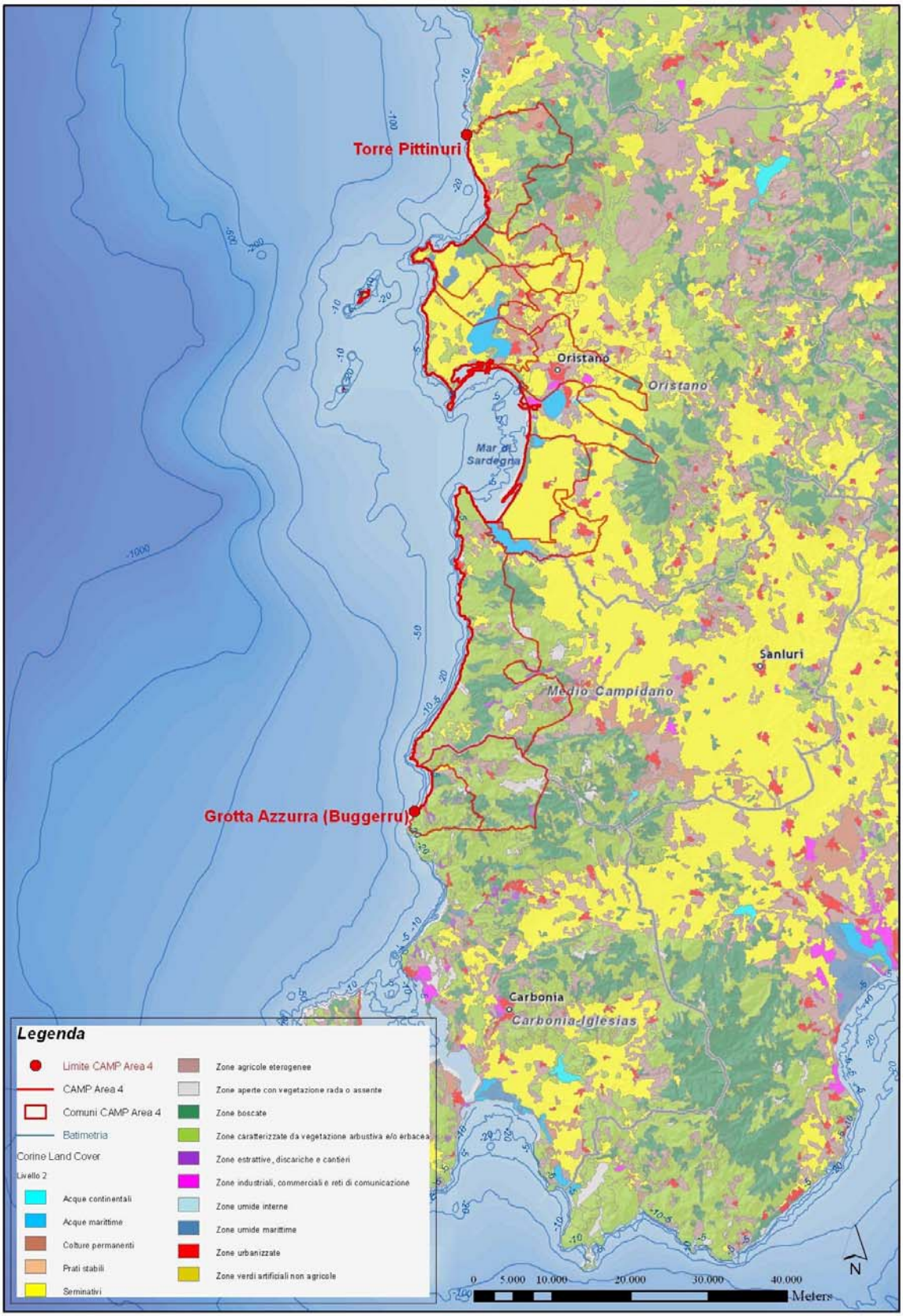


Fig. 2.3.4.1. Land use in Area 4 (Corine Land Cover)

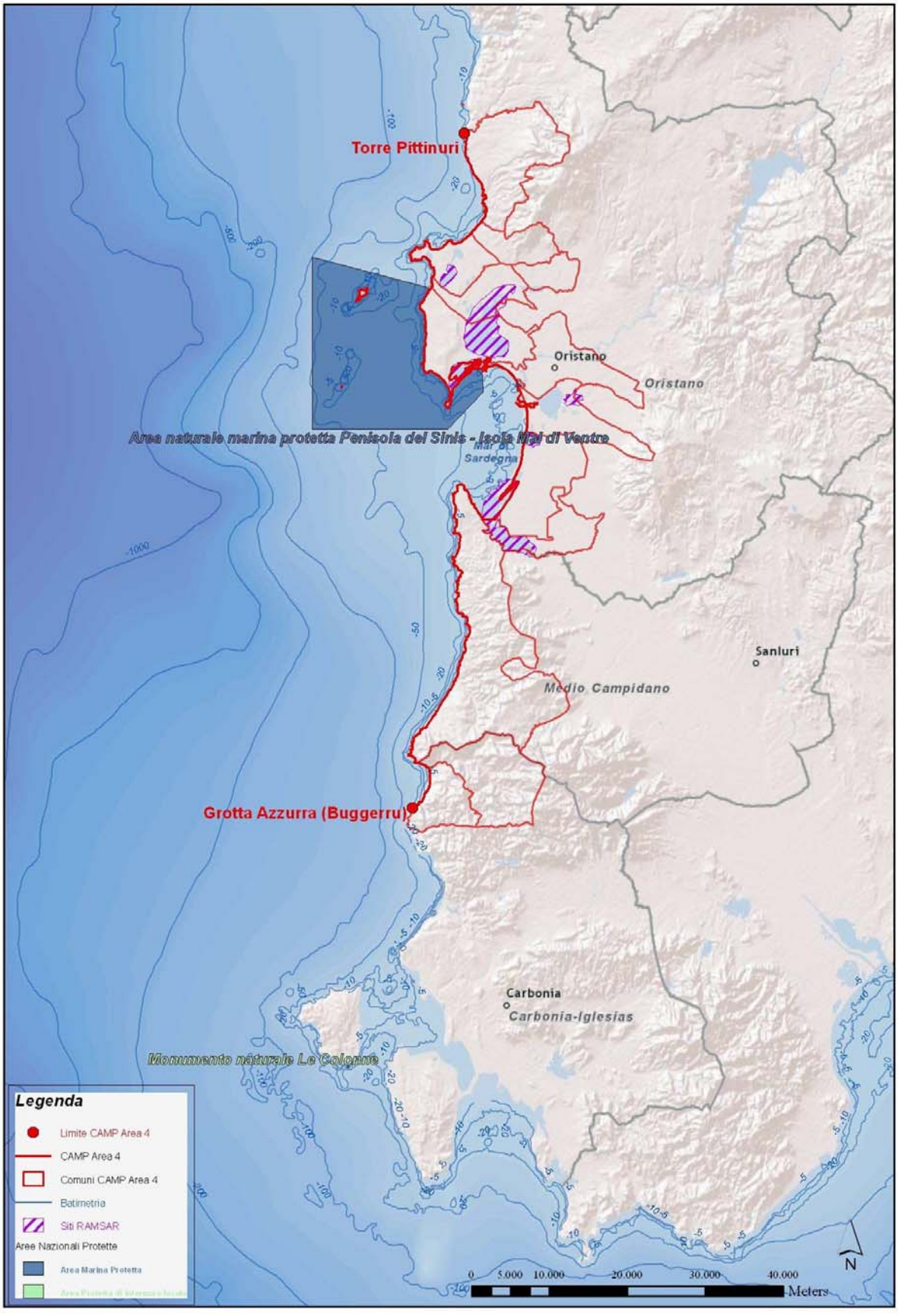


Fig. 2.3.4.2.The protected areas ( not including NATURA 2000)

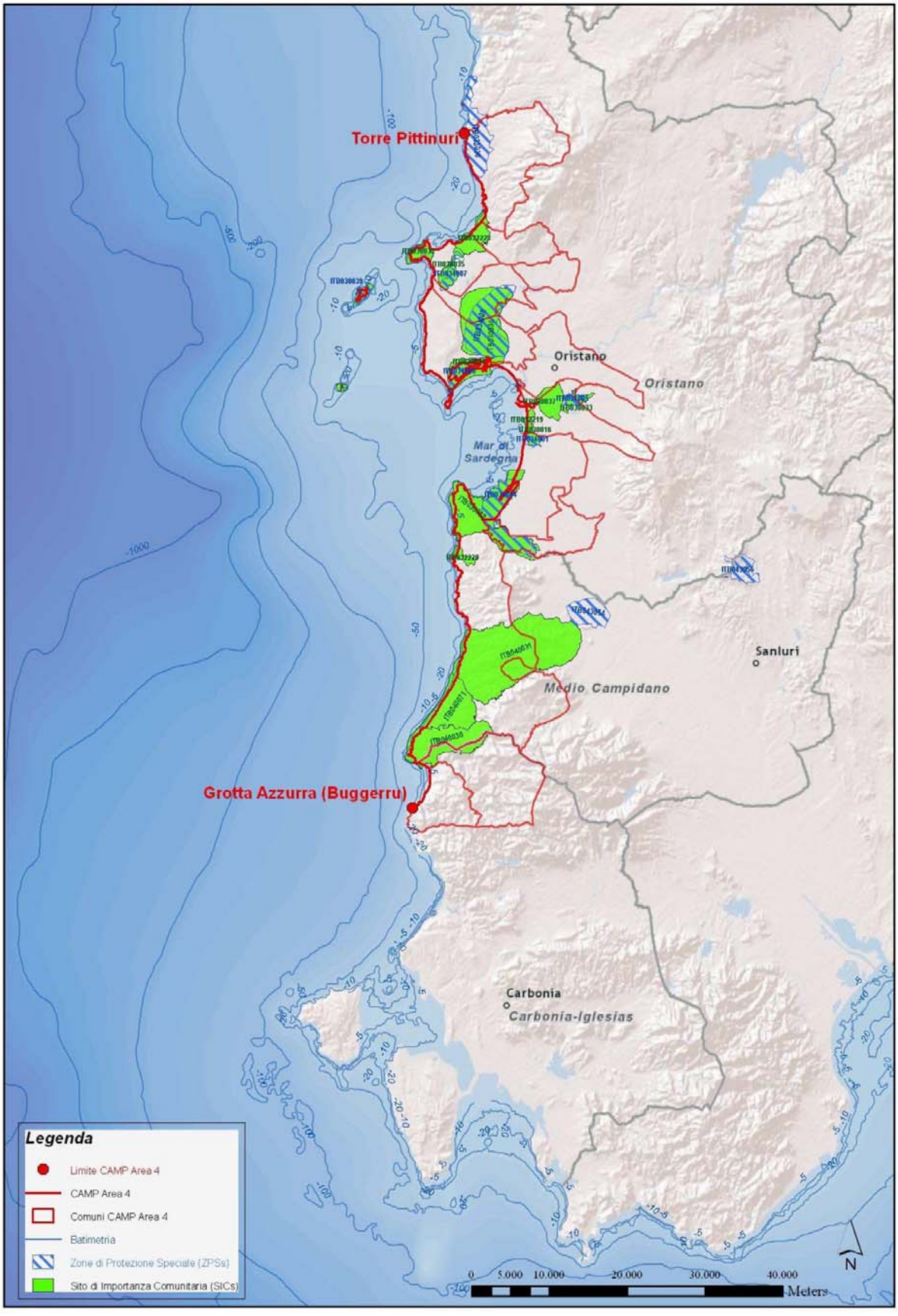


Fig. 2.3.4.3. The Natura 2000 areas

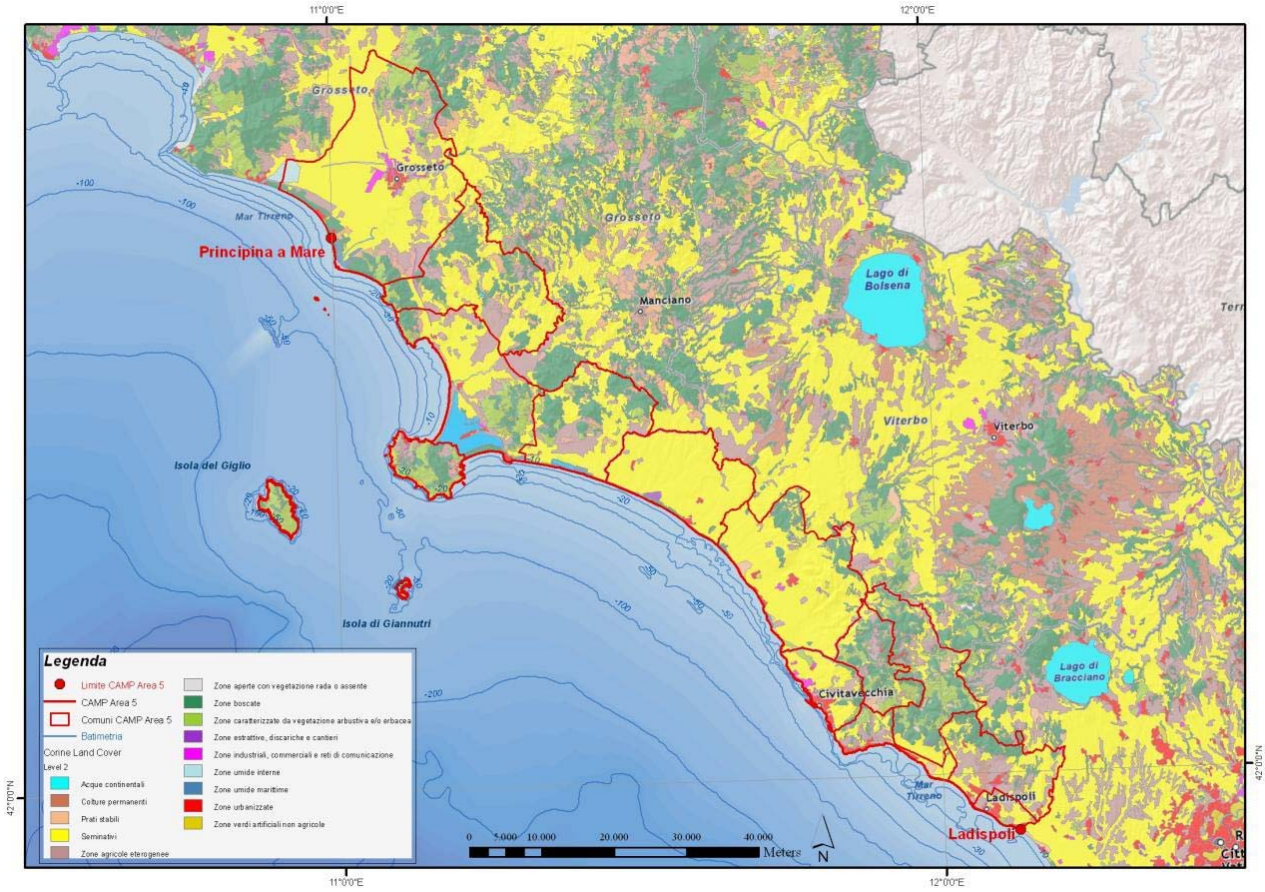


Fig. 2.3.5.1. Land use in Area 5 (Corine Land Cover)

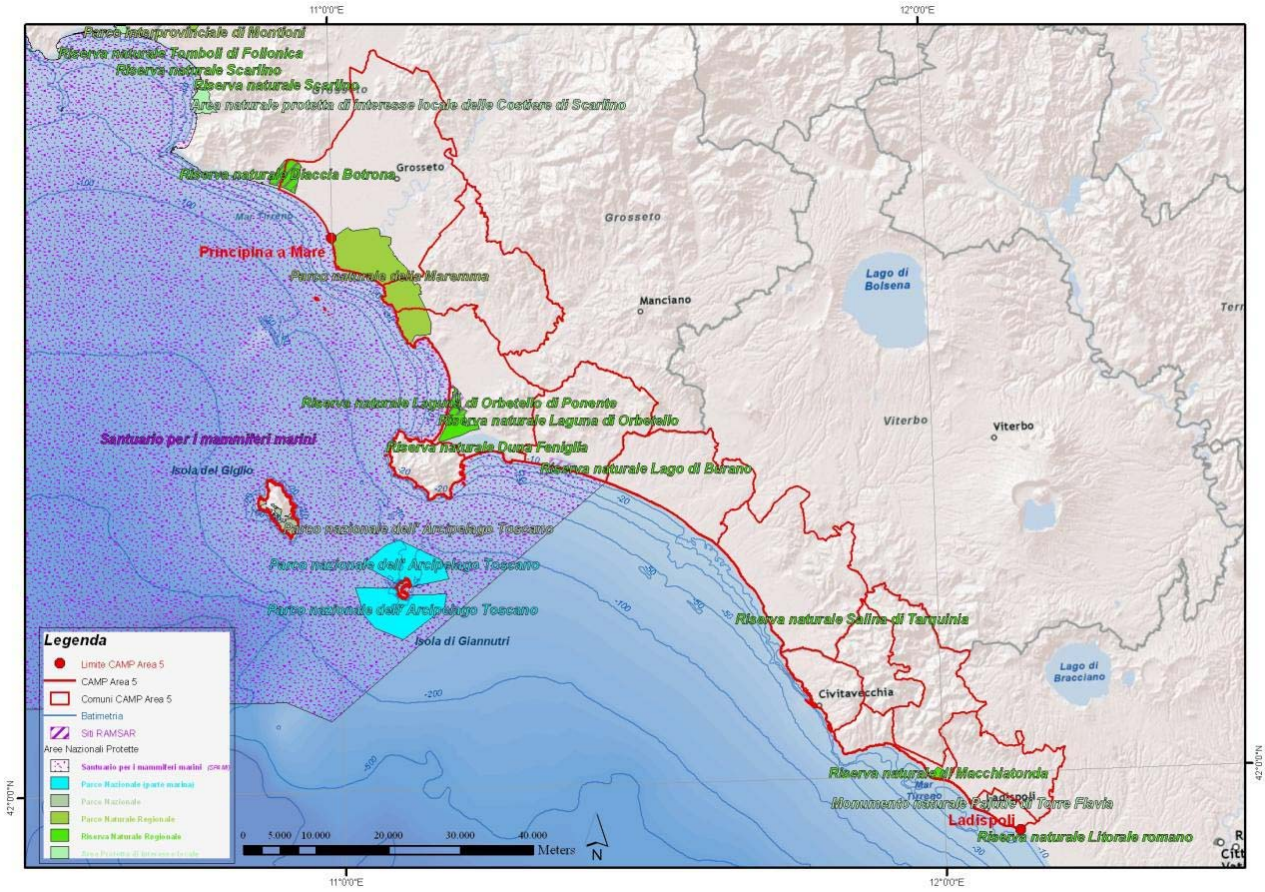


Fig. 2.3.5.2.The protected areas ( not including NATURA 2000)

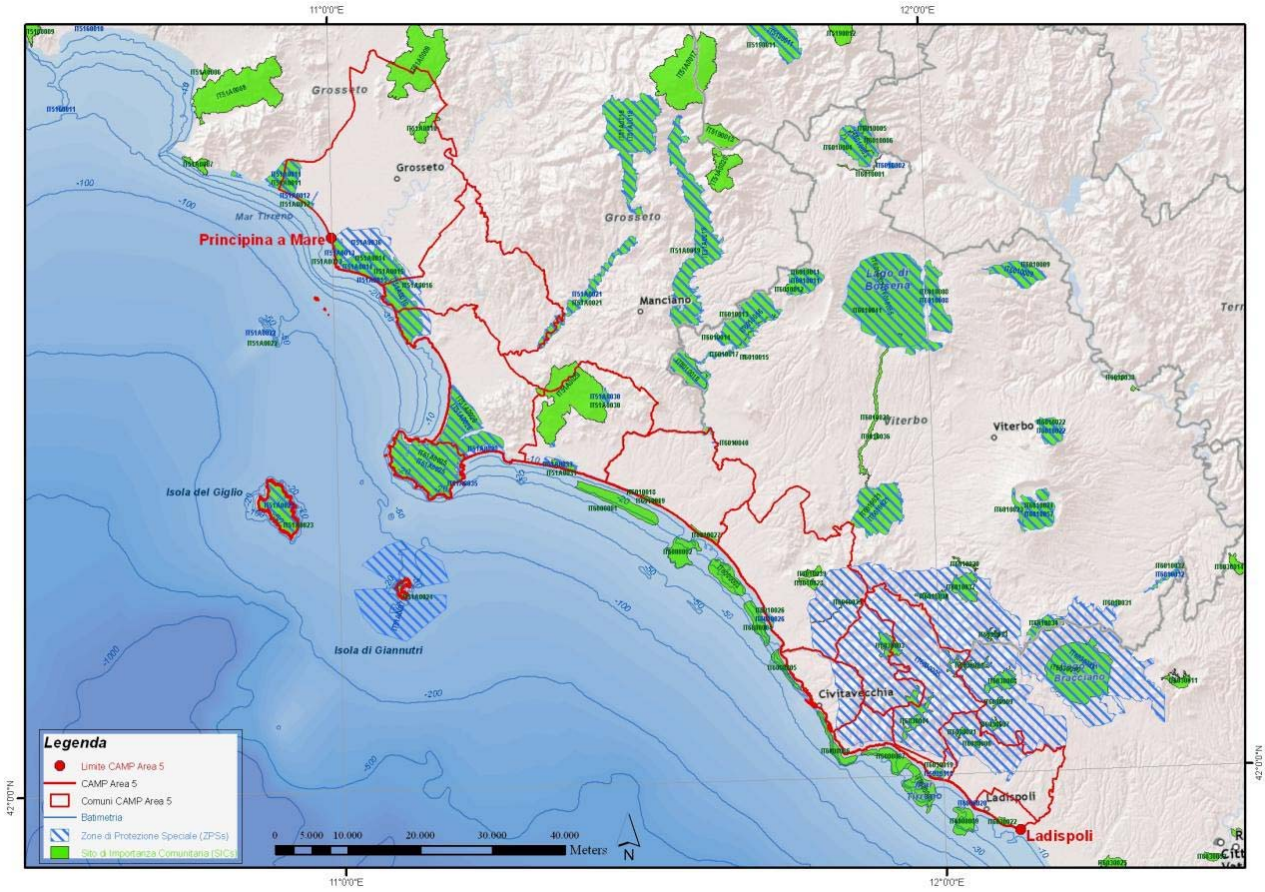


Fig. 2.3.5.3. The Natura 2000 areas

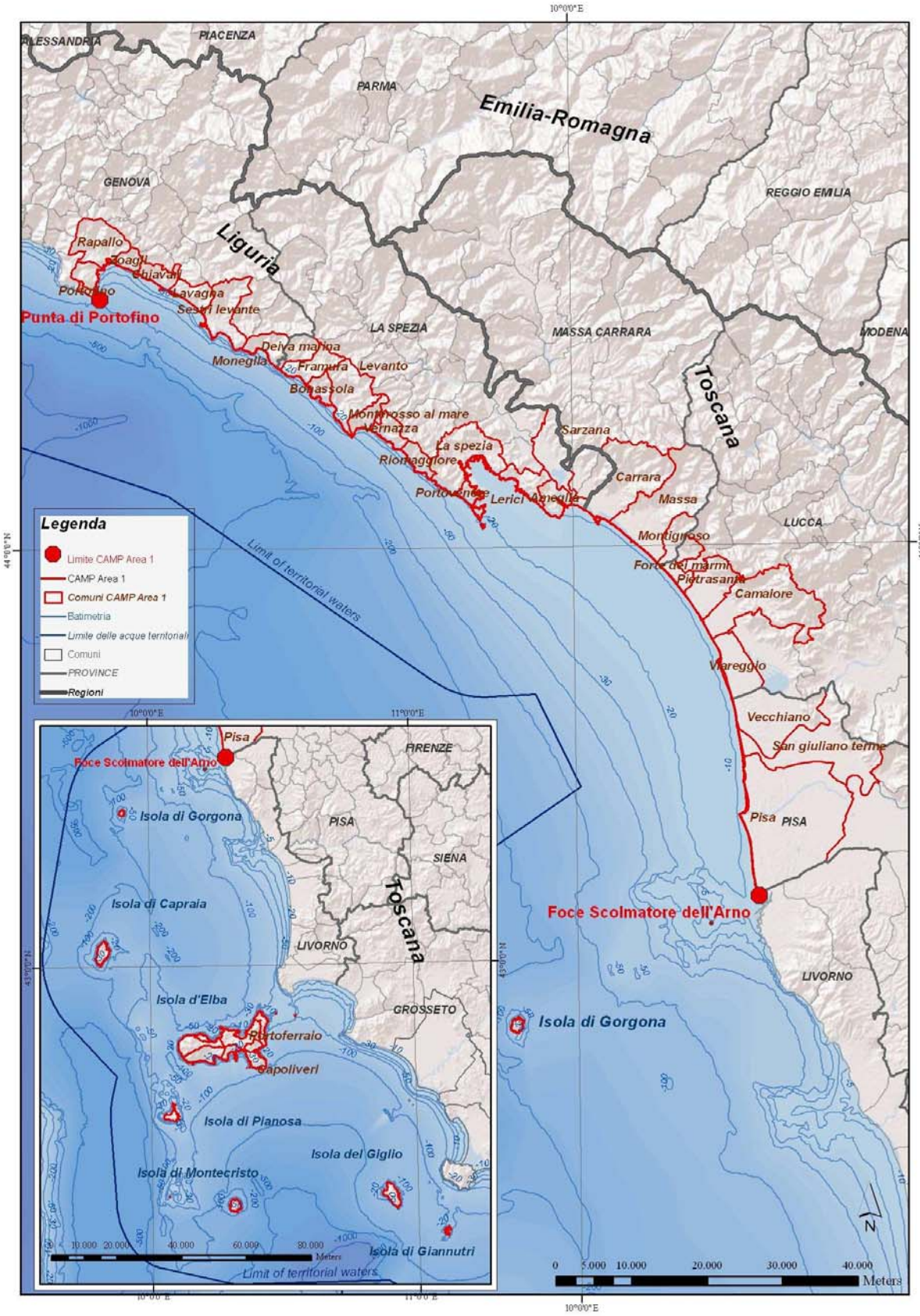


Fig. 2.5.1.1 Administrative boundaries : Municipalities in the area of CAMP Italy (red) , administrative boundaries : regions, provinces , municipalities ( gray).

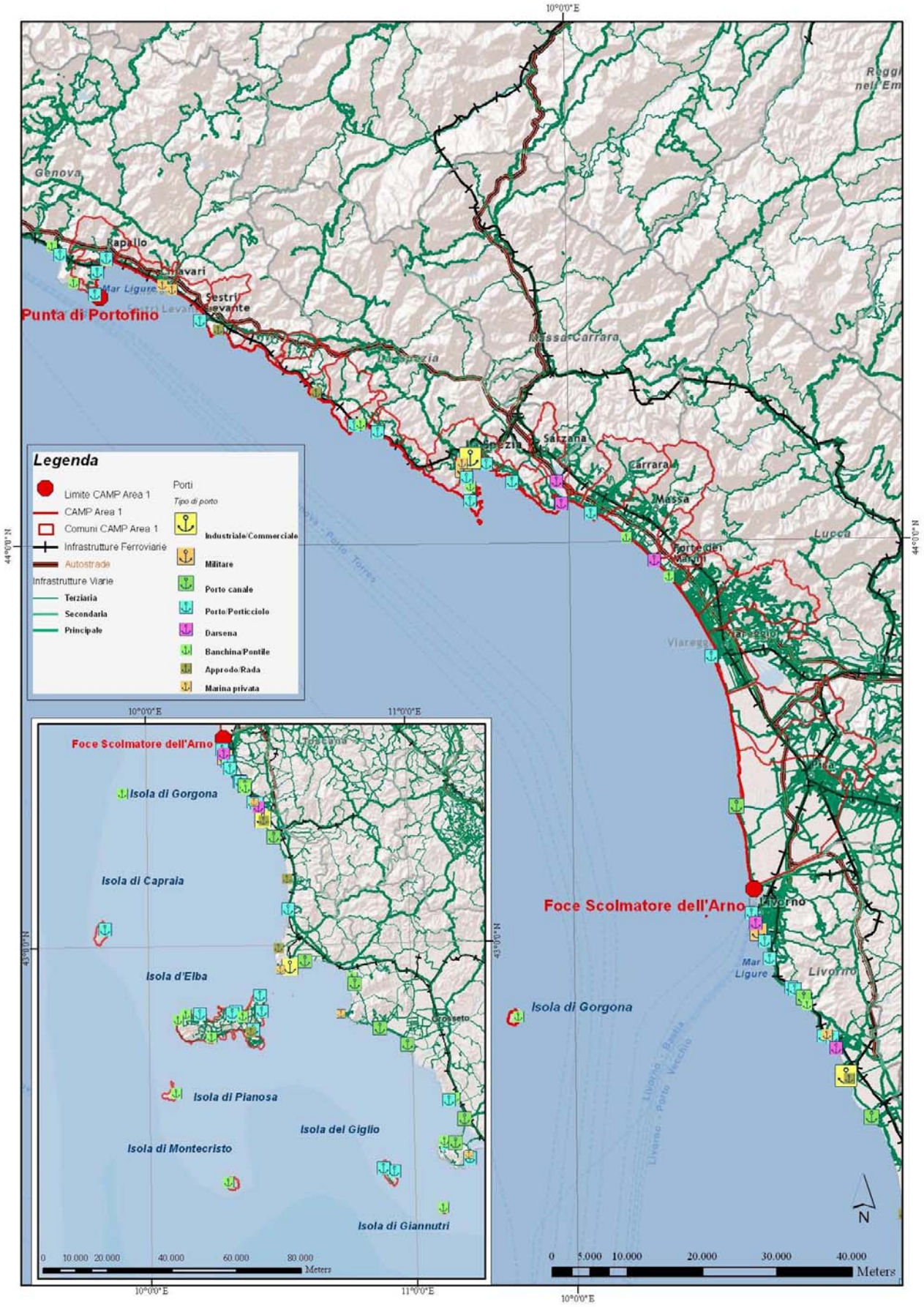


Fig. 2.5.1.2 Transport infrastructures in the area of CAMP Italy: railways (black ) , roads (green ), highways (orange ), ports (commercial (yellow ) , navy (orange ) , port-channel (green ) , marinas (blue ))

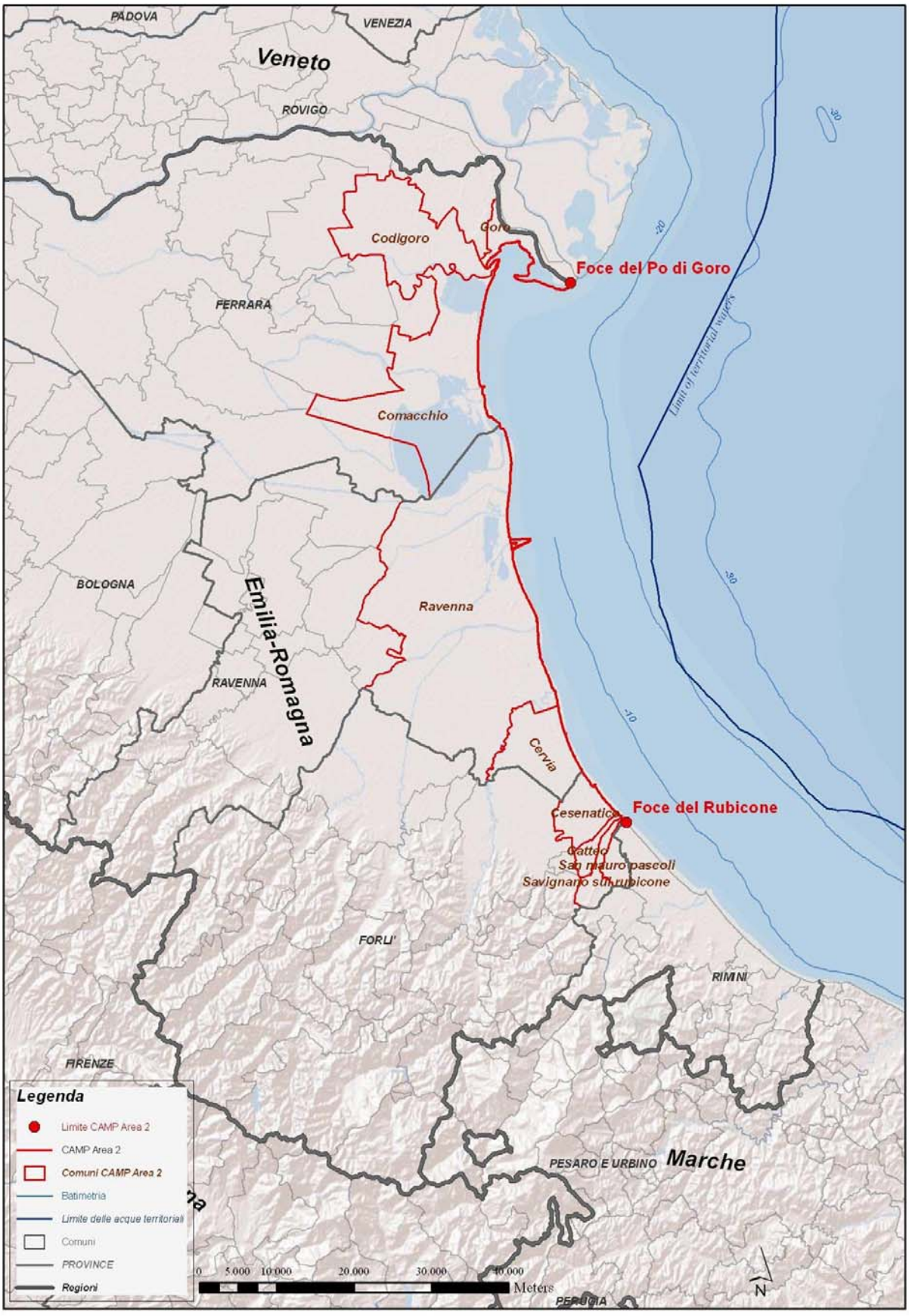


Fig. 2.5.2.1 Administrative boundaries : Municipalities in the area of CAMP Italy (red ) , administrative boundaries : regions, provinces , municipalities ( gray).


Fig. 2.5.2.2 Transport infrastructures in the area of CAMP Italy: railways (black ) , roads (green), highways (orange ), ports (commercial (yellow) , navy (orange) , port-channel (green) , marinas (blue)).

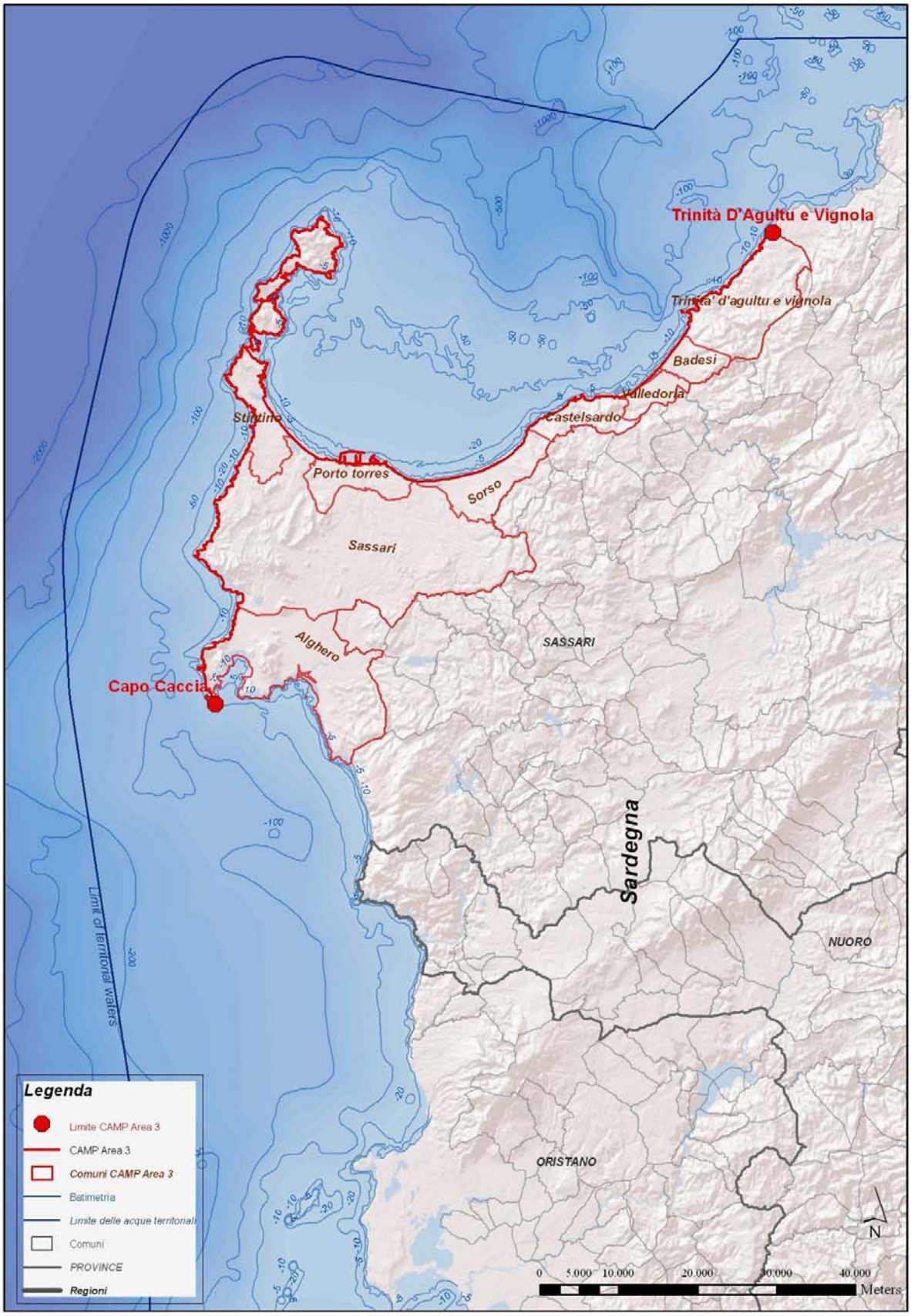


Fig. 2.5.3.1 Administrative boundaries : Municipalities in the area of CAMP Italy (red ) , administrative boundaries : regions, provinces , municipalities ( gray).

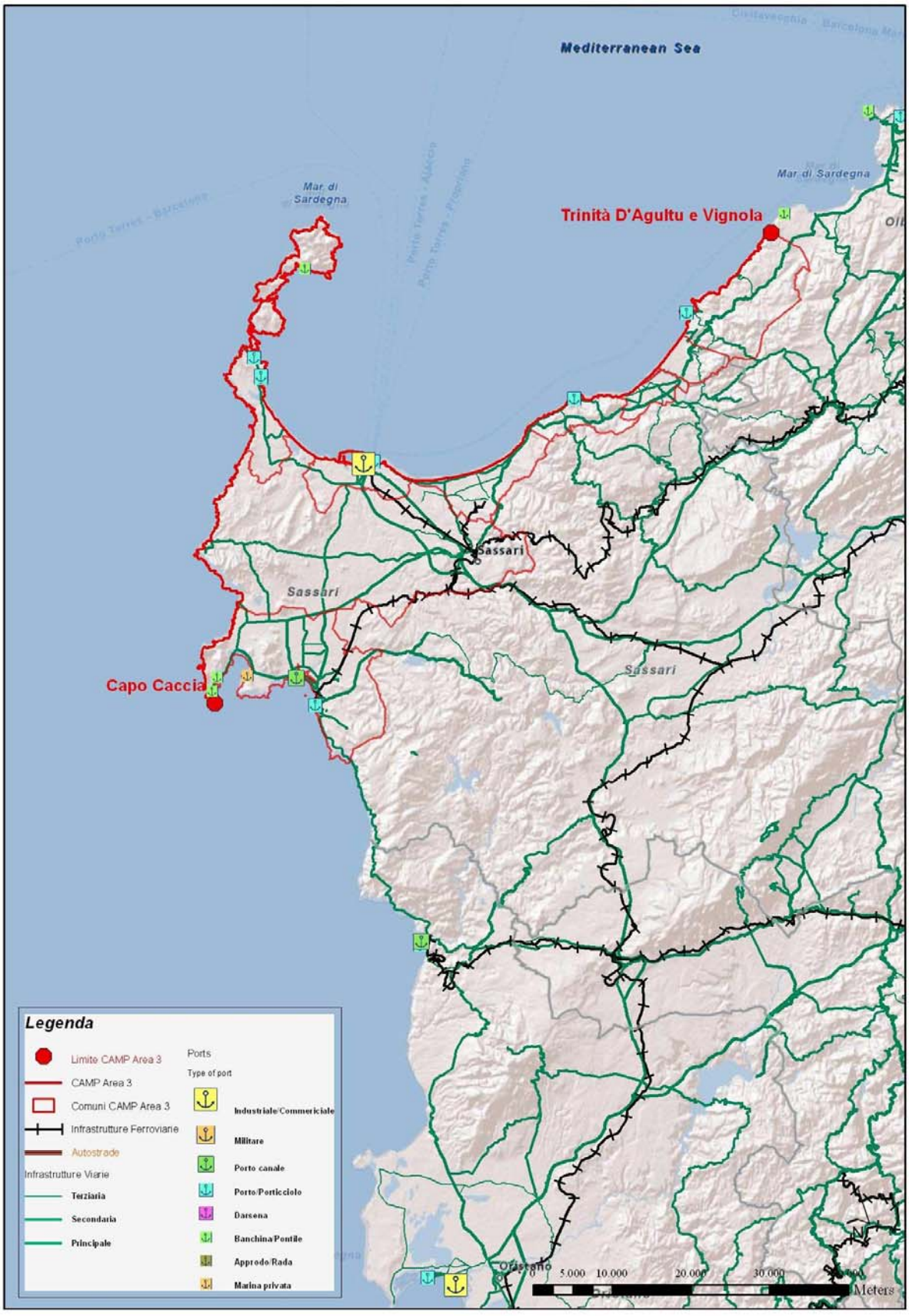


Fig. 2.5.3.2 Transport infrastructures in the area of CAMP Italy: railways (black) , roads (green), highways (orange), ports (commercial (yellow) , navy (orange) , port-channel (green) , marinas (blue)).

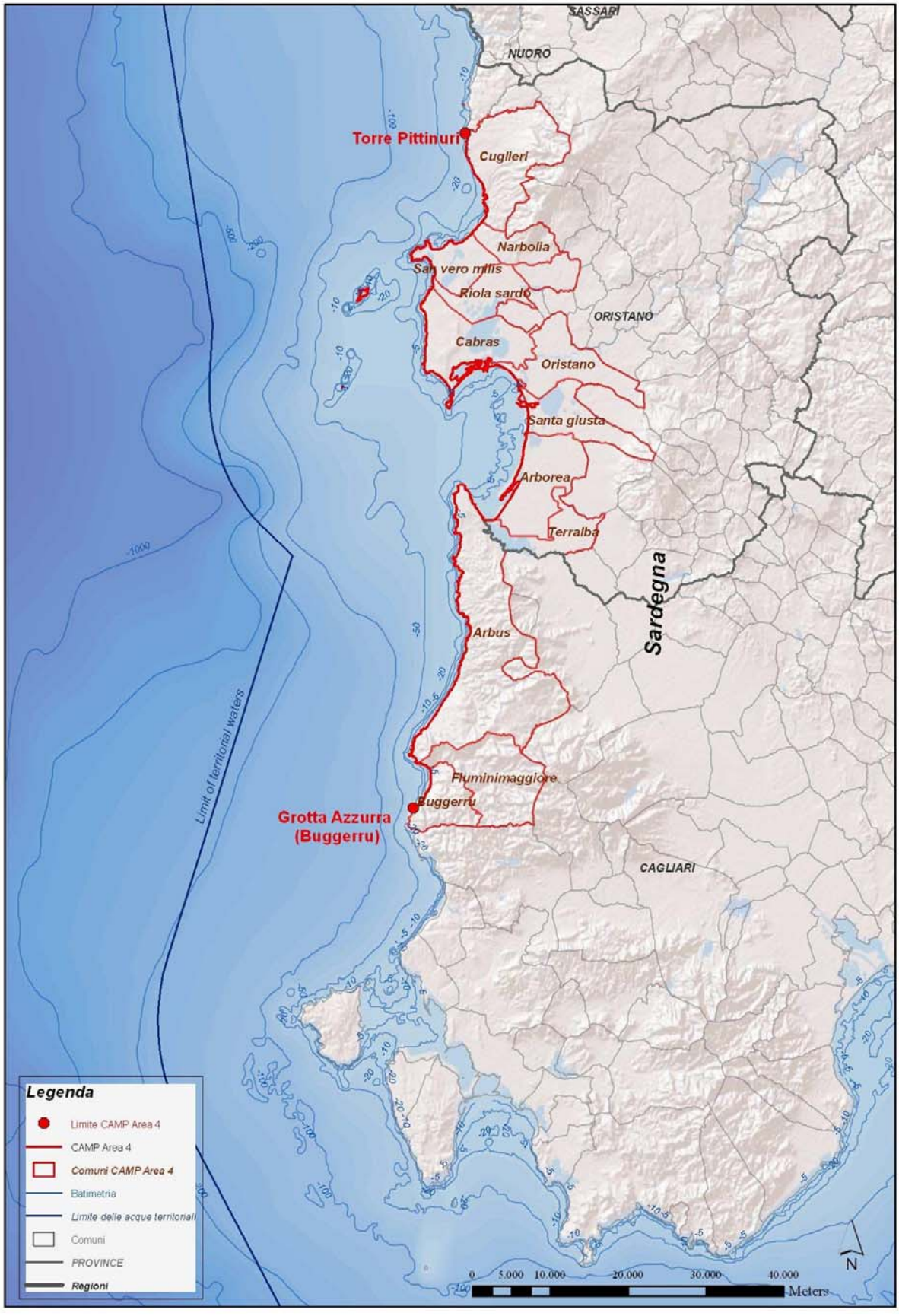


Fig. 2.5.4.1 Administrative boundaries : Municipalities in the area of CAMP Italy (red ) , administrative boundaries : regions, provinces , municipalities ( gray).

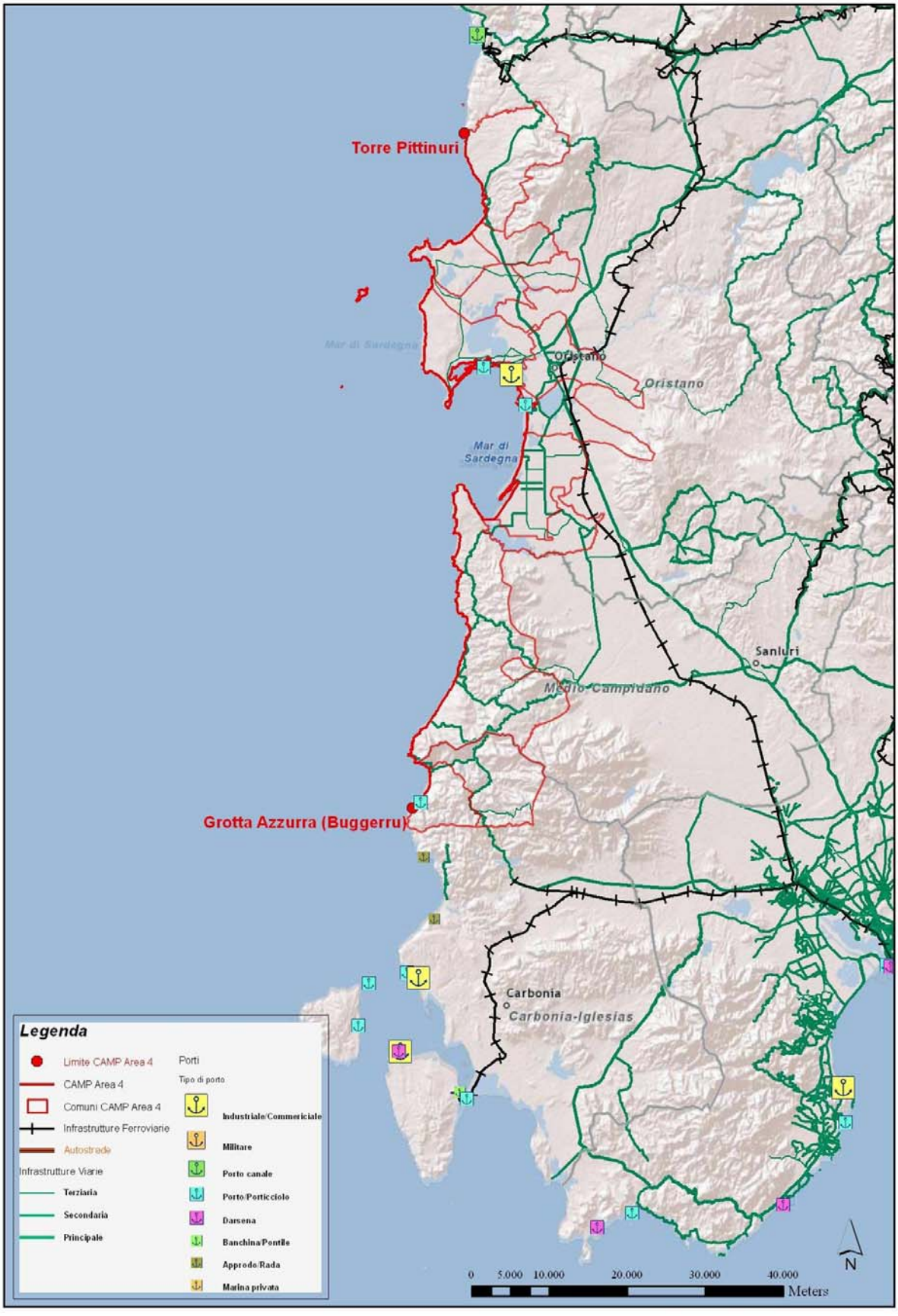


Fig. 2.5.4.2 Transport infrastructures in the area of CAMP Italy: railways (black), roads (green), highways (orange), ports (commercial (yellow), navy (orange), port-channel (green), marinas (blue)).

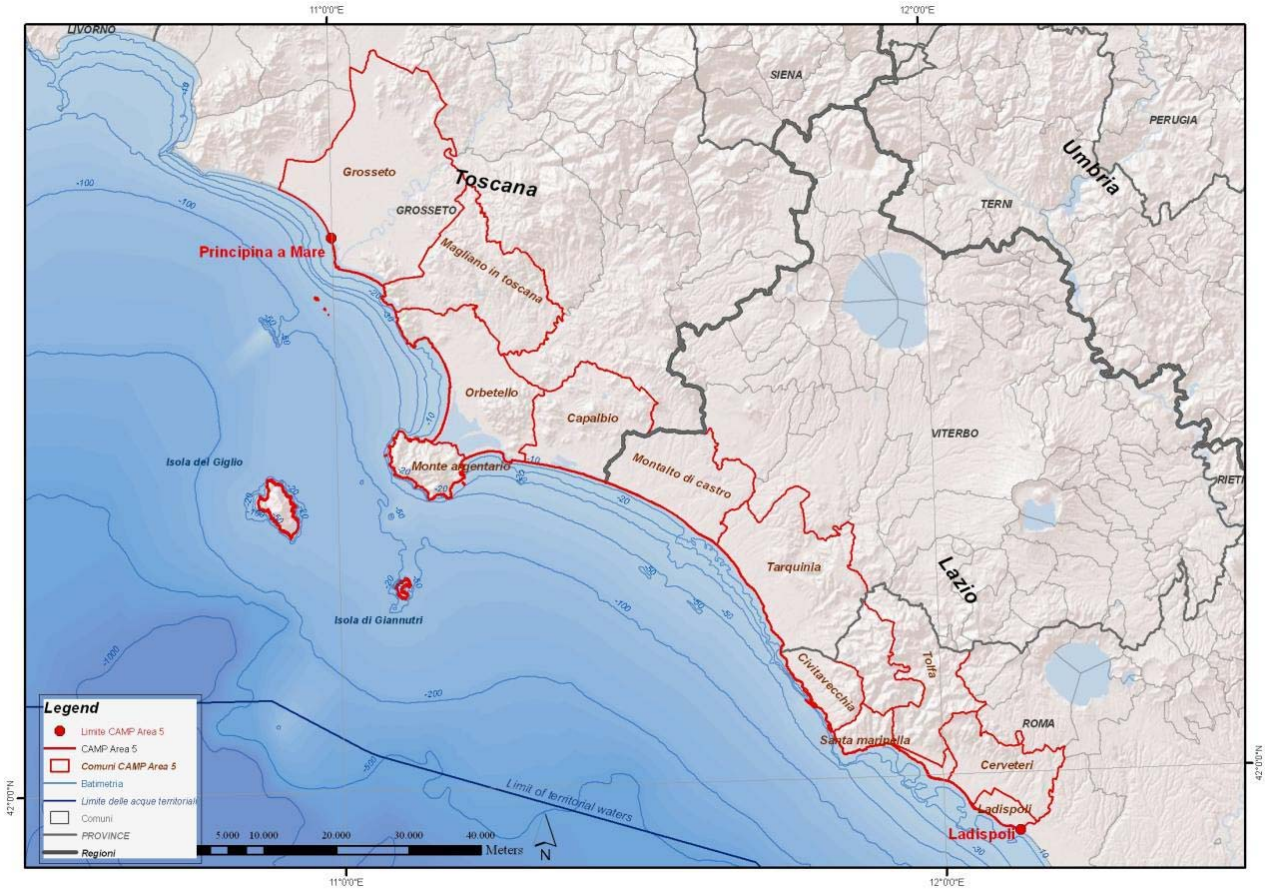


Fig. 2.5.4.1 Administrative boundaries : Municipalities in the area of CAMP Italy (red ) , administrative boundaries : regions, provinces , municipalities (grey).


Fig. 2.5.5.2 Transport infrastruttures in the area of CAMP Italy: railways (black), roads (green), highways (orange), ports (commercial (yellow), navy (orange), port-channel (green), marinas (blue)).