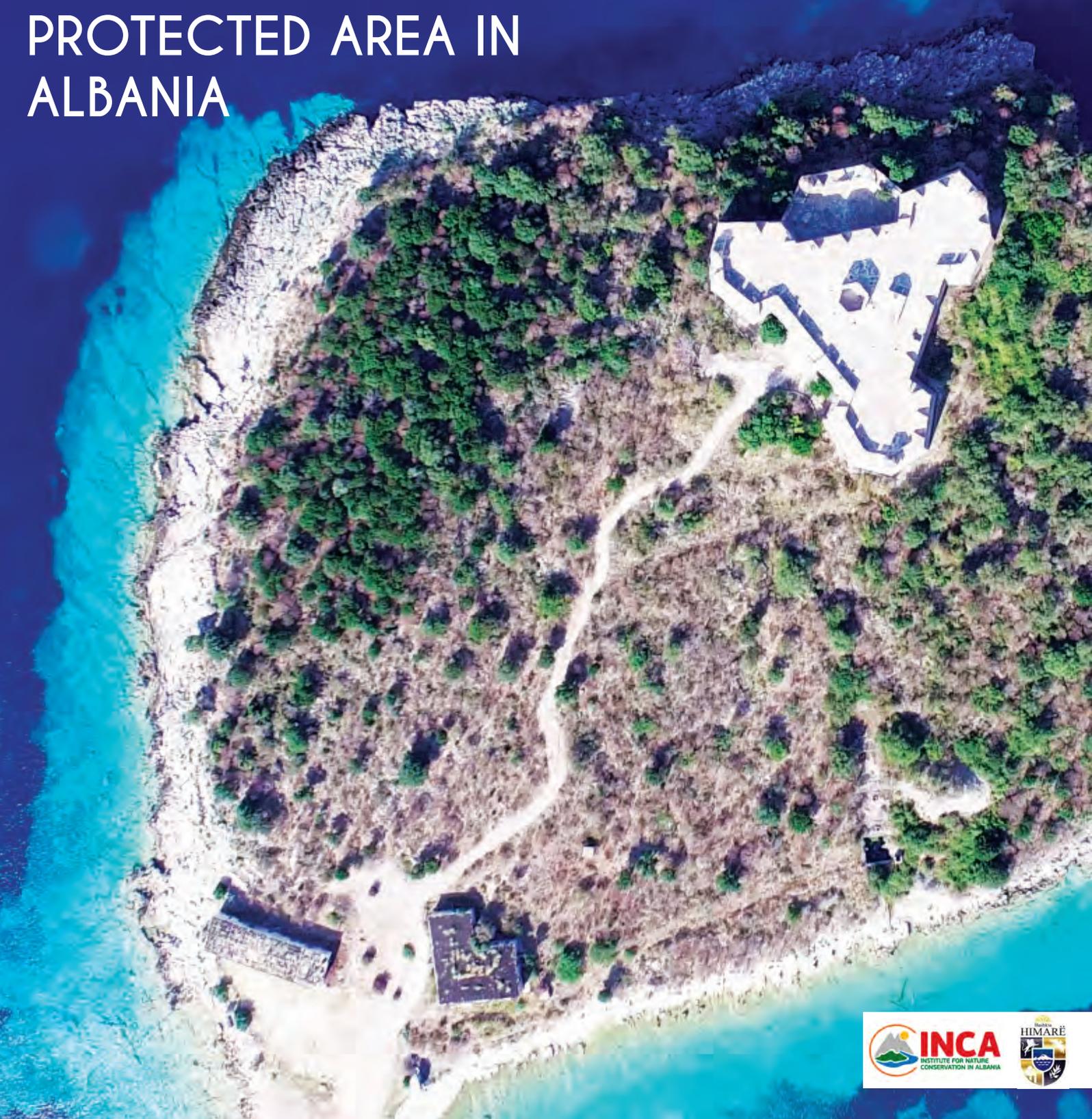


# MedMPAnet<sup>project</sup>

## MANAGEMENT PLAN OF “PORTO PALERMO-LLAMANI BAY” PROTECTED AREA IN ALBANIA



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# Management Plan of “PORTO PALERMO- LLAMANI BAY” Protected Area in Albania

**MedMPAnet** project

Regional Project for the Development of a  
Mediterranean Marine and Coastal Protected  
Areas (MPAs) Network through the boosting  
of MPA creation and management

## Study required and financed by:

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# ABBREVIATIONS & ACRONYMS

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BC	Biodiversity Convention
BSAP	Biodiversity Strategy and Action Plan
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
DBPA	Directorate of Biodiversity and Protected Areas
DCM	Decision of Council of Ministers
DFSD	District Forest Service Directorate
DFSS	District Forest Service Section
ECS	Environmental Cross-cutting Strategy
EN	Ecological Network
EU	European Union
FSD	Forest Service Directorate
GLP	General Local Plan
GNP	General National Plan
ICPA	International Convention for Protected Areas
IMCPACME	Improvement of MCPA Coverage and Management Effectiveness
IMOC	Inter-institutional Maritime Operational Center
INCA	Institute for Nature Conservation in Albania
IUCN	International Union for Conservation of Nature
LSPAMI	List of Specially Protected Areas of Mediterranean Importance
MARDWA	Ministry of Agriculture, Rural Development and Water Administration
MCPA	Marine and Coastal Protected Area
MedMPAnet	Mediterranean Marine Protected Areas Network
MME	Monitoring of Management Effectiveness
MoC	Ministry of Culture
MoD	Ministry of Defense
MoE	Ministry of Environment
MP	Management Plan
MTI	Ministry of Transport and Infrastructure
MUDT	Ministry of Urban Development and Tourism
NCA	National Coastal Agency
NGO	Non-Governmental Organization
NP	Nature Park
NTC	National Territory Council
NTPA	National Territorial Planning Agency
NUCI	National Urban Construction Inspectorate
PA	Protected Area
PAA	Protected Area Administration
PAMC	Protected Area Management Committee
RAC/SPA	Regional Activity Centre for Specially Protected Areas
REA	Regional Environmental Agency
SAC	Special Area of Conservation
SIEF	State Inspectorate of Environment and Forestry and Waters
SPMCPA	Strategic Plan for Marine and Coastal Protected Areas
UNDP	United Nations Development Programme

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# SUMMARY

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## 1. Overview and Description of Marine and Coastal Protected Areas (MCPA)

Himara lies along the Ionian coast of Albania (local name of Himara is the Coast). It is situated in the southwestern part of the country, from the extreme south of Llogara Pass to Qeparo Mountain in southeast, with a straight length of 22 km.

Himara Region consists of Himara town along with 10 villages: Palasa, Dhermi, Gjileka (previous part of Dhërmi), Vuno, Ilias (previous part of Vuno), Himarë, Pilur, Kudhës, Qeparo and Qeparo-Fushë (previous part of Qeparo).

Himara geographical<sup>1</sup> landscape consists of a snaking shape coastline, which with its capes and bays, has a total of about 37 km. It is high, rocky, with steep vertical cliffs above the sea, together with many bays in the form of wonderful gravel beaches. The total length of coastline, rocky coast and clefts is about 26 km, while the gravel beaches nearby have a total of some 11 km. Having a long coastline full of contrasts and natural beauties, Himara has the best qualities for a sustainable tourism.

Himara territory is distinguished by a geological complex and diversified environment. Significant geological and tectonic complications are reflected in the character of landscape. Tectonic processes in Himara are presently active. The relief of Himara territory is mostly mountainous but in some places the surrounding mountains descend to the West to some limestone hills at a height from 200-300 m to 700- 900 m. In and around the mountainous area there are also two mountains: Vërriu Mountain (547 m) and Qyteza Mountain (578 m).

Himara relief is rugged and divided by the flowing waters of mountain streams. Most of these streams have temporary flow; they have waters as long as the rains are present and have broken through the rocky soil, forming deep and narrow shaped gorges and canyons. Mountain streams have corrosive effects when they move down to the sea and deposit large amounts of various materials. Buçi Stream (Korami) flows into Potam, while the Dry Stream flows into Lllaman Bay, which has formed a wonderful beach.

A very important place in the relief of Himara belongs to karstic forms and processes. This type of relief is highly common. There are also smaller karstic fields and

areas near Kolza Hill (552 m), Qyteza Hill (578 m), which lie east of Himara, in Lera Pass (between Lllaman and Porto Palermo) and in many other places of Himara.

Key morphological elements of Himara coast are the rocky capes and bays, deep gorges and gravel beaches. The capes of Himara coast are several hundred meters into the sea and their overall direction is southwest and south. Alpuni Cape (Prato), which is in the south of Niqifori Cape (Mësuni) are distinguished in the mountainous area. It is a totally rocky area, forming steep rifts, around which the sea has great depths. Parts of the bay are also three small bays and capes, part of Lllaman Bay. Kavadoni Cape is one of the largest capes of Ionic coastline. It is directed toward south and extended 1.5-2.5 km to sea area. Its top goes smoothly smaller at sea, although steep sides are formed several meters high. Panorma Cape appears as a small rocky peninsula, with almost a round shape. It lies down into the sea about 1 km, forming deep gorges ranging up to 115 m.

The last capes of Himara coast are Spinarasi Cape in South Panorma, and St. Demetrios (Suga) southeast of Panorma cape. Capes are surrounded by water, creating numerous bays of horseshoe or arch shape, with high rocky coastlines or great depth.

Bays are formed by tectonic subsidence, but their banks are modified based on the sea activity. Lllamani bay and beach lies about 3 km south of Himara. Its sides are rocky, especially the southern one, where an abyss about 30 meters high is formed. The rest of the coast has shaped a very nice gravel beach. It is formed by gravel and pebbly materials brought by the Dry Stream. It is one of the most favourite beaches for visitors. Submarine water sources are found in its southern side.

Palermo Bay (Porto Palermo), known since ancient times, is the most typical, the most beautiful and majestic bay of all the Ionian coastline of Albania. It covers a ground area of about 2 km, while the entrance width is 1.5 km. A castle was built under the rule of Ali Pasha in a peninsula-shaped small rocky headland named Peninsula Castle. The peninsula divides the bay into two parts: Armeridha Bay and St. Nicholas Bay. There are submarine water sources and caves un the northern part of Armeridha Bay.

The shores are rocky and with steep slopes ranging from 50-60 m, and in several cases up to 115 m deep, such as Panorma famous cliff at the highest point of the cape under the same name.

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<sup>(1)</sup> Prof. M. Kabo, 'Himara in Centuries', Tirana 2004.

The cape of Peninsula Castle extends about 40 meters in the sea area with high banks. The peninsula is covered with Mediterranean shrubs.

The depth of the entrance of bay area is some 80 to 105 meters, while inside the bay it is 65-75 meters. At the pass connecting the coast with Peninsula Castle, a landing place (small harbour) is built for the boats. Porto Palermo Bay has a number of great tourist values, but there is no appropriate infrastructure. Grava Bay (or Panorma bay) extends about 350 meters inland and is entirely a rocky area and abysses. Depth at the bay entrance is 30-35 meters, while at its top it is 10-13 meters.

Himara regional area has a Mediterranean climate. It is characterized by a very wet and mild winter, with almost no negative freezing temperatures ; by a dry and hot summer, with insignificant rainfall ; by an unstable spring which combines shortly with the hot summer, and especially by a fairly long dry autumn (September-October), which is warmer than spring. These climatic features are related to the geographic position of the region, clearly reflecting the Mediterranean nature of the climate.

The average annual temperature in the area is 16.8 °C. The average temperature of the two coldest months of the year shows that vegetation period in Himara region is neither interrupted during winter, nor stopped for a short period of time.

The highest temperatures of the year are in August (a characteristic of all coastal Mediterranean countries) and go up to 30 °C and higher. The average temperature in August reaches 25.5 °C. The maximum temperatures go up to 32-36 °C and sometimes 38-39 °C. The most common minimum temperatures range from +1.5 -2 °C but in certain cases they can further decrease.

Solar radiation is very high, about 1495 kwh/m<sup>2</sup>. The amount of sunshine hours is 2442 hours per year, while the number of sunny days is 136 days per year.

Himara region is characterized by a large amount of rainfalls, mainly in the form of rain, while snow is very rare. Average rainfall is some 1442 mm per year. Annual characteristic performance (seasonal) of rainfall in Himara is their uneven distribution. From October to March rainfalls are about 80 % of their total annual amount. Three summer months are characterized by 4-5 % of total annual rainfalls. Summer rainfall is usually associated with heavy evaporation, accompanied by few minutes of thunder and lightning weather conditions. Hail fall is a yearly occurrence with an average of 5-7 days per year. Hail fall usually occurs in the first half of spring.

Meanwhile, Himara area is open to warm and humid winds coming from the South and West. The most typical winds are Garbiu (Sirocco), Murlan (Murrëri) and Briza (Maistrot).

The only scarce natural assets of Himara are waters and lands. Waters come from underground karstic sources and more rarely from wells opened in gravel layers deposited

by streams in the lower parts of these areas, especially around the gorges of streams.

Himara karstic sources are usually small, with a flow from some 1 litre per second to several dozen litres per second. The largest karstic sources of Himara are those arising in the vicinity of water (coastline sources) and even under water. The biggest coastline source is Potami, in the southernmost edge of Himara Bay, only 30 meters away from the water coastline. Potami flow is about 120-150 litres per second. This water is currently used to supply Himara town with "drinking" water.

Submarine sources emerge from the sea surface, creating water vortex which can be observed from the shore. Such sources can be also observed from Porto Palermo Bay (Armerida) and Llanan Bay.

Due to low water reserves, the highly extended drought and karstic limestone terrain, which favour the rapid infiltration of water in the depth of soil, water resources are carefully used by local residents.

Agricultural lands are present only in Qeparo plain and Vuno karstic areas. Other agricultural regions are in mountainous and hilly slopes, where soil layers are very thin or even absent, because of rinsing by flowing water.

The flora and fauna of Himara region, in accordance with the climate, soils and other natural factors, are mainly of Mediterranean variety. They extend from the sea level up to greater heights. Typical Mediterranean vegetation is spread out in a vertical strip, which extends from the sea level up to 700-800 m high. This vegetation belt consists of Mediterranean bushes, highly favoured in limestone terrains and able to resist to summer drought period.

Himara area grows also the true Mediterranean macchia or mixed macchia. Its typical plants are leaf-bearing ones such as forsythia, strawberry-tree, myrtle, heather, laurels, oleander, gorse, milkwort (wood milkweed plant), sage, medicinal local plant (*Salvia fruticosa* - cfaka) etc. Macchia generation includes also very important forest tree species of all Ionian coast such as sumac, Mediterranean oak etc.

The upper floor of the flora belt consists of Mediterranean subalpine pastures, stretching into the higher parts of Çika Mountain Range. Pastures can be also found in mountainous area of Kavadori peninsula, Panorma peninsula and surrounding areas.

The region includes coastal habitats of Thermo-Mediterranean shrubs and pre-desert types, with the presence of *Euphorbia dendroides*, with a conspicuous Tertiary Macaronesian origin. There are also different marine species of conservation interest, such as Posidonia.

Land fauna is represented with several species, such as Fox (*Vulpes vulpes*), Wild Rabbit (*Lepus europaeus*), Weasel (*Mustela nivalis*), Land Tortoise (*Testudo hermanni*), etc.

Some reptile species are *Coluber gemonensis*, *Elaphe longissima*, *Natrix natrix*, *N. tessellate*, *Lacerta trilineata*, *Anguis fragilis*, *Coluber jugularis*, *Elaphe longissima*, *Vipera ammodytes*, *Lacerta viridis* etc. The most common types of amphibians are *Rana graeca* and *Rana balcanica*. The most common birds are common Gull (*Larus ridibundus*), Tern (*Sterna sandvicensis*), Sand-Martin Tern (*S. albifrons*), Partridge (*Alectoris graeca*), Wild Dove (*Columba livia*), etc. Marine fauna is represented by Sea Turtle (*Caretta caretta*), Dolphin (*Delphinus delphis*), Mediterranean Seal (*Monachus monachus*) and a large number of fish species etc.

The region included in the protected area mainly consists of three main bays: Llamani, Porto Palermo and Grava/Panorma. Llamani landscape is generally pleasant, a valley lined between limestone hills in the form of bay. The western side of hill, in the north, is characterized by limestone slopes transformed by climatic conditions and bushy herbaceous vegetation. Eastern slopes of the beach are covered with bushes, pine forests and Mediterranean bushes. Some ruins of former military buildings are also near Lera valley. The territory in this part of peninsula is mostly covered with grassland.

Porto Palermo Bay is known since ancient times. It is located between Kavadori Cape and Panorma Cape, and in the East it is bordered by the road Qeparo - Lera Pass.

The bay is of tectonic origin and it is protected. Before 1991 it had a very limited access as it was a military area. Therefore, it is presupposed that during this period the marine and coastal biodiversity had been rich, although studies have been limited. Currently, the military base is used as a Coast Guard and fishing boats protection area. Rusted ruins of military installations have polluted some parts of the area. Some new constructions near the coastal road create the appearance of a narrow development area.

There is a small and attractive rocky peninsula inside the bay, which extends about 300 meters into the sea. The castle built by Ali Pasha in the early 19th century is located in this peninsula, some 28.2 meters high, surrounded by water and milkweed plant vegetation (*Euphorbia dendroides*). The church of St. Nicholas, several buildings and a small harbour are in the place where the castle is connected with the land. The highest peak of this bay is 123, 8 meters near Lera Pass.

Kavadori Cape is generally covered with grass. In the northern part of the bay there are several ruins of military buildings and the tunnel.

Panorma Peninsula is in the south of Palermo Bay. It is generally covered with grass and Mediterranean bushes. There are two fishery centers in the northern part of peninsula. Resort centers (beaches) with host infrastructure for tourist and visitors such as Llamani, Porto Palermo, Panorma, Fishermen and Gravas resort centers are also built in the small bays and near the road.

The surrounding area is poor in terrestrial vegetation but the peninsula and western part is very

sharp and has a stunning landscape. The southern bay of peninsula near the road is also covered with new buildings and constructions, and the creation of new beaches.

Several communication antennas and a lighthouse are placed at the highest point of Palermo peninsula (104.7 m).

The road network within the protected area consists of a single paved road and several paths or unpaved roads. The road lies near the coast giving a beautiful view to the area.

Porto Palermo and Llamani Bays are highly attractive. They have an ecological value, scenery attraction and a potential for tourism, entertainment and sports (hiking, cycling, climbing, skydiving glider, riding, bird watching, sport fishing, swimming, diving, canoeing, rowing, sailing, motor water-diving etc.).

The landscape around Palermo and Llamani bays is bordered in the North by Ulliri i Hollë Hill and Himara village (Potam). In the East, it has a very steep territory and the roadway. Palermo Peninsula is in the South. The highest points are Mount Gjumi 542,1 m and Mount Vrriu 547.0 m, outside the Protected Area territory. Also, Kukumi Pass is linked with Suqe Pas at the height quota of 93.2 meters.

Flora composition of the area is rich and diverse. Presence of *Salvia fruticosa* L. is another characteristic of this area. Further, the presence of *Euphorbia dendroides* formations is considered a very interesting feature of the area and is almost unique in Albania. Forests dominated by *Quercus ithaburensis subsp. macrolepis*, known as Vlora oaks, are present in the area. They do not form any particular form of forest belt and can be considered a relict species that follows the Ionian coast since the Tertiary period.

We can observe xero-halophytic vegetation over the rocky shores of Porto Palermo. The most common types of this vegetation are *Crithmum maritimum*, *Limonium anfractum*, *Elymus pycnanthus*, *Desmazeria marina*, *Lotus cytisoides*, etc., representing the endemic communities of *Crithmo-Limonietum anfracti*.

Two invasive plant species are also observed in Porto Palermo: Agavia (*Agave americana* L.) and nutmeg (*Ailanthus altissima* Mill.). A potential threat to marine biodiversity is also the invasion of *Caulerpa racemosa* var. *cylindracea*, which is widely spread in Porto Palermo, as in the whole Mediterranean Basin, including the Albanian coast of Ionian Sea.

Sea wild plants are *Magnoliophytes marine species*, which form underwater beds and are important habitats for marine ecosystems. Presently, the area has three types of plants: *Posidonia oceanica*, *Cymodocea nodosa* and *Halophila stipulacea*. *Posidonia oceanica* or sea grass is the most abundant type, which forms large meadows at shallow and middle depth. A great diversity of fish is found in Porto Palermo but the most common ones are *Chelo* sp., *Mullus surmulletus*, *Diplodus* sp., *Coris julie*, *Serranus cabrilla*, *Oblada* sp., *Chromis* sp. etc.

Use of Porto Palermo and the surrounding area for livestock grazing is totally uncontrolled, and often has a significant impact on the habitats. Grazing and fires are substantially potential threats to habitats, species at risk and landscape.

Himara Region has a variety of tourist attractions (cultural heritage, natural resources, landscapes, traditions and food), which give the opportunity to develop different forms of tourism integrated with other parts of the region. The presence of rural areas, protected areas with rich biodiversity, mainly coastal-marine, mountain, hills, fields, capes, gorges and delta, caves, and underwater scenery, makes this region an ideal destination for ecotourism and rural tourism.

## 2. Values

The marine and coastal space includes special natural values and a perfect ecological balance at national and international level. It represents one of the most important regions with a high perspective for the socio-economic development in general and tourism in particular. The symbol of the protected area of Porto Palermo -Llamani Bays is: Nature-People-Culture.

The protected area is characterized by the following values:

1. It is the most interesting part deserving the name of Albanian Riviera.
2. It represents the most picturesque, stunning and natural individuality landscape with a diversified relief composed of four capes, three bays, with blue marine-coastal space and ever green natural environment around, with beaches of cold water and crystal sources.
3. Coastal, marine and underwater rich biodiversity, habitats and rare species are threatened. Presence of milkweed (*Euphorbia dendroides*) is considered interesting and unique for Albania. Forests dominated by the sumac (*Quercus ithaburensis subsp. macrolepis*,) can be considered relict species of the Ionian coast, since the Tertiary period.
4. Marine subsurface biodiversity is known for the diversity of threatened species, such as *Posidonia oceanica*, *Cymodocea nodosa* and *Halophila stipulacea*. Likewise, it is known for the diversity of fish, dolphins, seals, sea turtles, shellfish, sea urchin, corals etc.
5. It is a unique site combining eco-tourism and marine tourism, especially underwater tourism. It is also a potential site for entertainment and water and mountain sports such as (hiking, cycling, climbing, non-motor skydiving, riding, bird watching, sport fishing, swimming, diving, canoeing, rowing, sailing, motor-water riding, etc.), thus creating conditions for camping with tents etc.
6. Mediterranean climate combined with terrestrial, coastal-marine and submarine landscapes, with permanent vegetation and clean beaches have bio-curative potentials (climate, hydro) for medical purposes.

7. An area of potential socio-economic development, (especially for farming, fishing, pasture, citrus, arboriculture, processing of agricultural products and livestock, agro-tourism and ecotourism). There is an opportunity of resources for production of renewable energy in the surrounding areas.
8. The area is part of an ancient history, and a unique historical and cultural heritage. There are characteristic ancient and cult buildings, such as St. Nicholas Church, Ali Pasha Castle, Porto Palermo military base (which could turn into a museum in the future), with rich underwater archaeology etc.
9. Beauties of nature and spirit of people are reflected in the specific spiritual world of folklore, rare polyphonic songs, folk dances, dresses, folk traditions etc, values which make the area more attractive to foreign and domestic tourists.
10. The area has great value for scientific research and monitoring.

## 3. Major Threats

The protected area is an exceptional center of diversity of species and habitats, but also one of the most threatened ones. Uncontrolled human activity, for several decades, has caused a strong stress to the area. Such an impact has been associated with major damages of demographic and ecological nature.

The intensity of these effects is significantly determined by socio-economic factors such as population growth and de-population of rural areas, agriculture, livestock and bad practices of forest and pasture management.

Albanian marine and coastal ecosystems are under considerable pressure. Risks are related to their interior value, but also to the loss of biodiversity, species and natural habitats, which play a key role in the healthy life of people, lifestyle, food production and availability of natural resources for economic growth and welfare of the community.

The main risks to the protected area and surrounding areas are as follows:

- Intensive development of the marine and coastal region;
- Movement of population and its non-uniform distribution;
- Loss and fragmentation of habitats, deterioration of vulnerable species' situation or endangered species, destruction of vegetation and pasture from potential fires;
- Introduction of non-indigenous/local species, of genetically modified species, and introduction or reintroduction of currently existing species or previously existed species;
- Damage to the meadows of *Posidonia* from fishing activities, uncontrolled marine-culture activities, ships, anchors, pollution and any kind of litters;

- Urbanization of marine and coastal area, uncontrolled construction and social and economic activities or construction of quays for yacht anchorage;
- Solid waste, sewerage and other untreated waters;
- Pollution from discharges of ships, discharge of hydrocarbons and wastewater;
- Dumping of solid waste and activities conducted on the coast and land;
- Dumping of waste or other hazardous materials, such as poisonous, explosive, industrial waste and pesticides;
- Activities involving the use and modification of land, or use of subsurface of the area territory, sea-bed and underground of the maritime area;
- Waste disposal and any kind of materials from ships, installations and the coast;
- Sinking of ships, cargo and goods of any type and other solid waste precipitating to the sea floor;
- Uncertainties regarding the titles of property in the area;
- Concentration of tourism investment in marine and coastal areas;
- Over-use and lack of sustainable management of natural resources (fishing, pasture, medicinal herbs etc.);
- Wildlife inconvenience and maltreatment, including illegal hunting, overfishing activities and use of prohibited means and methods in and around the protected area;
- Large presence of marine-culture, accumulation of food, antibiotics materials, and excrement of fisheries, exercise of a strong and localized pressure to the environment and badly contribute to the water pollution and water quality.

Protected areas and its natural and cultural resources are largely affected by the easy access of illegal activities, the presence of a favorable infrastructure, strict business requirements for natural resources and constructions, and difficulties to control the entire territory.

#### 4. Vision and goals for the Marine and Coastal Protected Area (MCPA)

The Marine and Coastal Protected Area (MCPA) is established to preserve biodiversity, integrated marine and coastal ecosystems, species, terrestrial, marine, coastal and underwater landscape, as well as administration of functions and services they provide. The protected area will provide resources for sustainable living conditions of the population, stakeholders and for future generations.

The protected area will be well-governed with the participation of local government, engagement of local interest groups, in order to contribute to the sustainable management of natural resources and landscape, providing the right balance between the preservation of marine and coastal ecosystems, on one hand, and human development activities, on the other hand.

Priority of the protected area is to ensure the maintenance and conservation of:

- a. representative types of marine and coastal ecosystems in appropriate and acceptable proportions to ensure their long-term survival and maintain their biological diversity ;
- b. the habitats at risk of extinction in the areas of their natural distribution or in a reduced distribution of their natural areas as a consequence of their regress or restricted areas ;
- c. critical habitat to ensure the survival, reproduction and renewal of endemic, endangered and threatened flora and fauna species ;
- d. areas of particular scientific, esthetic, cultural, and educational importance ;
- e. safety of water quality, conservation of specific natural and biological processes and life support systems.

Conservation and management of the area for recreational, entertainment, sports, ecotourism and cultural purposes, is closely connected with the co-functioning of nature conservation goals of the landscape, with the development of different types of ecotourism activities.

Sustainable socio-economic activities should focus on both economic benefits and equal opportunities for social benefits within the protected area. Improvement of sustainable ecosystem services through financial mechanisms is a way to boost funds for the recovery of nature and its related services. Another goal is the promotion of values related to nature, values of biodiversity, culture and history, and scientific research of the protected area, through communication, awareness and education.

#### 5. Area Division and Management

The protected area «Palermo Poto-Llamani Bay» has no management plan. Therefore, an estimate on area division cannot be made, but some considerations are given below for the territorial borders to be proposed as a protected area.

In the interest of the process of good management of the protected area and the achievement of goals in accordance with the values of biodiversity, protection of the habitats of threatened or endangered species, preservation of the unique landscape, natural and cultural monuments etc., a division of the area into several sub-areas is often needed, which management is conducted independently, but under an integrated management process of the entire protected area.

Area division is a function of the management plan objectives with participation and as such, they can be changed depending on the situation and ten-year management plan. Area division is a form for the use of land and waters (agricultural, forest, pasture, water, marine and coastal, non-fertile, urban and construction land etc) which has to do with the division of an area or surrounding land in a number of sub-management units (sub-districts)

shown on a map. Based on this approach, public and private arrangement of the character and intensity of their use is balanced in accordance with the preservation of ecological, biodiversity and sustainable development.

Water and land planning management is the process of clear definition of use or functions of the protected area, natural resources and bio-spiritual, historical, cultural and archaeological values. A sustainable use management should be in place, without causing a degradation of the physical, biological, economic, social, cultural environment, and an unacceptable reduction of the quality of ecosystem services.

The goals are set for the management of each sub-area division. Each sub-area is explained with reasonable management descriptions, uniform and different in types or intensity from the other sub-areas. A border division system can be also used to inform all divisions included about the management goals. Territory planning includes urban levels (urban planning instruments) in the regional, national and international context.

The Protected Areas often need to be protected from harmful external factors, leading to the establishment of a buffer sub-area around the Protected Area. If a «buffer sub-area» is not possible, then a border side of the Protected Area (PA) will play the role of buffer sub-area, as an integral part of PA.

Amendments to the law «On Protected Areas» give rise to the division of a protected area, apart from those mentioned above, and may also contain other sub-areas suitable to the territory and goals of their management. The study and creation of each sub-area is a very sensitive process, with the purpose of neither giving nor assuming responsibility of areas that are untenable or impossible to be really protected on site. The area division process is dynamic and not an invariable one.

In general, the border division to protect the area of Porto Palermo - Llamani Bay should:

- Strengthen the implementation of the requirements of applicable legal provisions ;
- Preserve sensitive marine and coastal ecological elements from disturbance and misuse of public and private interests ;
- Separate incompatible uses from each other and set priorities for uses or specific goals in different sub-areas ;
- Prevent discharges or dumping of wastes or other substances directly or indirectly harming the integrity of protected area ;
- Respect for the natural marine, coastal and subsurface environment, in order to develop an harmless approach of a balanced environment, including ecological, historical, cultural, spiritual and archaeological values ;
- Conserve/preserve the ecosystem of rare species and their natural habitats, by means of area division, with a total ban on dangerous methods, but allowing only natural processes ;

- Regulate or prohibit any activities involving the misuse and modification of land or underground of the territory of area, seabed or undersea area ;
- Protect capes, bays, peninsulas and steep slopes, with a ban on general development, based on the full set of geomorphological features in a sub-area extending no closer than 20-300 m from the shore or any active geomorphological elements ;
- Create specific panoramic corridors, with focus on preserving the quality of landscape from the favourable key points, including all panoramic places of the seaside, mountain, bays, capes, slopes, canyons, etc., from the local, national and inland roads or creation of special places preferred by visitors and tourists ;
- Regulate the transfer, prohibition or anchoring of boats, speedboats and fishing boats ;
- Identify and provide marketing of cultural, historical, archaeological and important monuments of outstanding value of the sub-areas. Their development should be based on the attached instructions of the institutions in charge of territorial planning ;
- Define the prohibition of activities with significant impact on the environment, and the sub-areas of permission of these activities after obtaining an environmental permit.

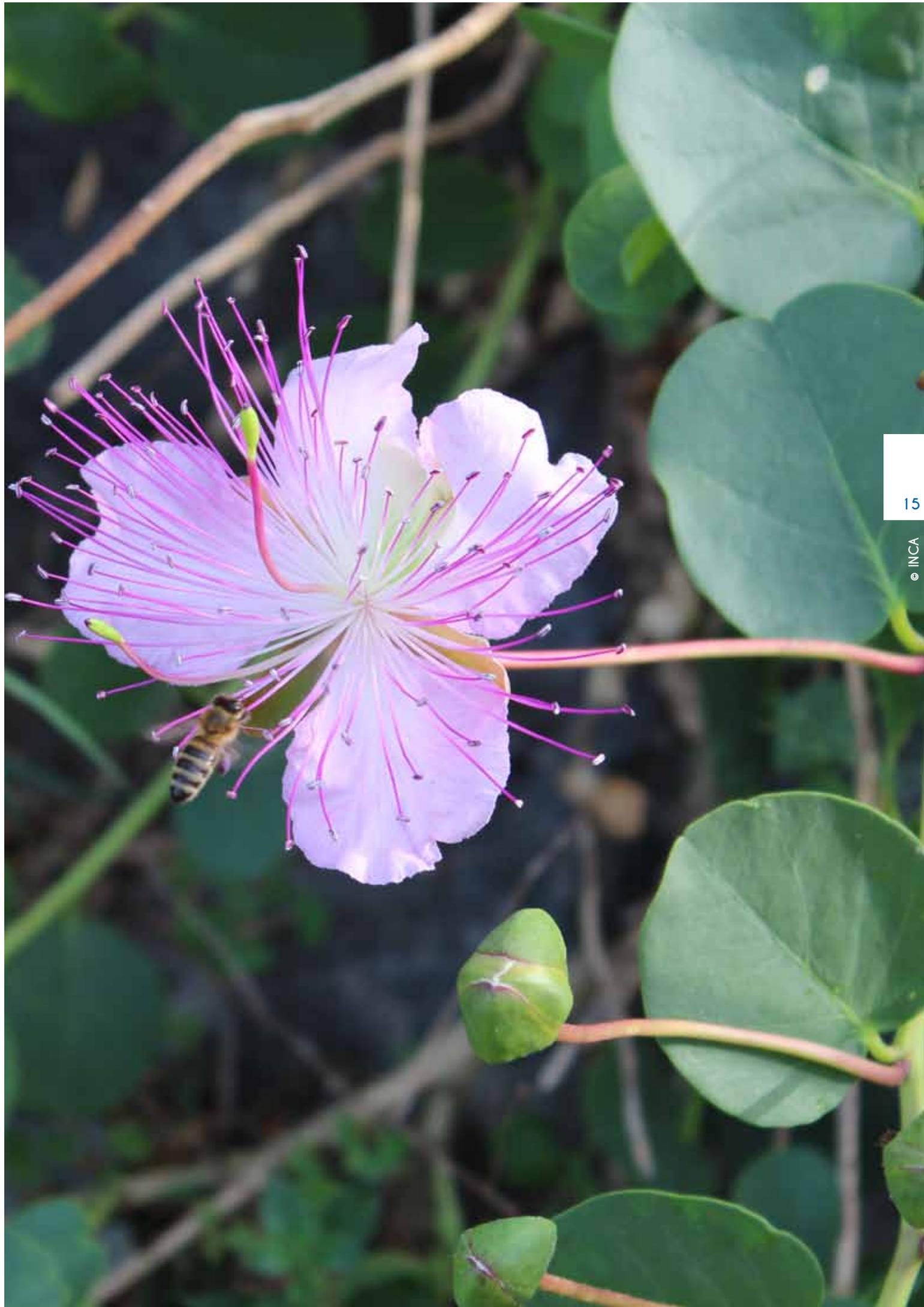
## 6. Monitoring and assessment of management

Efficient management is a multi-disciplinary judgment, which includes biophysics, socio-economic and governance issues. In general, it requires several various indicators to determine that the management is meeting the goals and objectives. Long-term monitoring programs using appropriate indicators are needed to determine whether enforcement actions are being implemented as described in the management plan, and whether the goals are being met (results of protection). The health of ecosystems, biodiversity and welfare of the local community should be also monitored.

After the specification of the overall purpose of Monitoring and Evaluation program, the related goals and objectives should be identified; the level and range of basic data should be determined; indicators for each goal and objective should be selected, and indicators ranked by priority have to be revised.

Likewise, monitoring methods should be identified and developed; needs for resources to implement the monitoring programme should be assessed; and an overall plan with monitoring and evaluation timelines should be determined.

Also, the process for evaluating and responding to the results of monitoring programme should be formulated. Adaptive management responses are a means to correct specific strategies or management actions that are found ineffective. These are the ways for the accomplishment of management goals.





# INTRODUCTION

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Mediterranean ecosystems represent only 1.2 % of the land surface and have clear geographical boundaries. Terrestrial and marine ecosystems of Albania are part of the Mediterranean chain of ecosystems. Marine and coastal region of Albania is one of biodiversity hotspots in the Mediterranean Sea, and a major part of ecosystems is conserved in an almost natural state.

This region is characterized by a large variety of habitats, flora and fauna species of particular national and regional importance. Most species are present in the list of rare species. Some are known for their specific scientific interest, while many of them have a special economic, medical, industrial, decorative importance etc.

The area is located on the borders of the three sub-regions: Western and Eastern part of the Mediterranean Sea and Adriatic. Southern Coast is crucial for marine biodiversity as flora and fauna include species of various origin. At the same time the most important marine habitat and protected Mediterranean habitat is *Posidonia oceanica*.

Albanian coast and sea have prominent landscape, stunning views dominating the Albanian Riviera. They represent one of the most beautiful areas attracting domestic and foreign tourists. The reason why most of the tourists choose this coast as a tourist destination is directly connected with the natural environment and landscape.

The presence of traditional and cultural heritage diversity largely increases their attractiveness. It paves the way to expand and offer a diverse tourism potential, providing a wide range of opportunities for economic development, source of income and job vacancies.

Cultural heritage consists of archeology (prehistoric periods, Illyrian, Hellenic, Byzantine, Ottoman conquest), thus giving rise for cultural tourism development. Further, traditional village architecture makes the coast highly attractive.

The marine and coastal environment constitutes high-value economic, social and ecological resources for the country. It is considered the largest source on which future development of the country relies.

In recent years, pressure from tourism, development of residential areas, inadequate legal measures and poor implementation had adverse impact on the marine and coastal environment of this region. As a result

of unsustainable management of these resources, significant amounts of wastes are reportedly thrown illegally along the coastal paths or they are thrown in the sea. The largest sources of pollutants are direct or indirect untreated sewage discharges.

The System of Marine and Coastal Protected Areas (MCPA), diversity of ecosystems and marine and coastal habitats are still not representative. Regardless of marine-coastal areas in Albania, there are also biodiversity hot spots in the Mediterranean Sea and no information is available on the conservation status of key species and their habitats.

A number of marine-coastal areas, with a total length of 430 km (along the Adriatic and Ionian sea) are still vulnerable, notwithstanding their crucial ecological and socio-economic role at national, local or Mediterranean level.

In addition, the coastal terrain represents the most vulnerable territory in terms of pressure exerted by the development, but the management of this area remains a challenge for Albania. It is mainly the duty and responsibility of central bodies and local governments, but also of civil society, business community, individuals and owners, to know how to use, maintain and develop in a sustainable manner, these potentials of the marine-coastal area.

## 1. Description of the elaboration of Management Plan (MP)

In May 2012, the Ministry of Environment and RAC/SPA (UNEP/MAP) representatives agreed with the development of MedMPA Pilot Project in Albania, under the Regional Development Project of a Mediterranean Network of Marine and Coastal Protected Areas, supported by the Regional Activity Centre for Specially Protected Areas (RAC/SPA). In this framework, the Institute for Nature Conservation in Albania (INCA) was appointed in order to foster close coordination, smooth project implementation at national and local level, based on a common process of selecting the region to be developed as an MCPA in Albania.

INCA coordinated the implementation of the project «Support to planning, area division and development of Marine Protected Area in Porto Palermo Bay (Albania), based on multifaceted sound scientific and socio-economic knowledge», in close consultation with all stakeholders, especially with the local community, considering their role in the area development.

This Management Plan (MP) covers the Protected Area (PA), Porto Palermo-Llamani Bay. Its formulation process was carried out with the participation of stakeholders at central and local level, in order to ensure ownership, shared support of the vision, goals, objectives, policies and actions identified in the plan. The plan is prepared in close collaboration with local residents, local businesses and other groups of interest, attempting to be a comprehensive process in the relevant decisions.

A number of seminars and consultations have taken place with the Department of Biodiversity and Protected Areas attached to the Ministry of Environment, with representatives of the District Council, Himara Municipality, local government institutions, residents, NGOs and other business groups in the area to design MP. In these seminars, participants identified key issues of the plan and described potential outcomes associated with these issues.

Some expeditions are conducted in the area in cooperation with local experts. The main purpose of these activities was to provide remarks and views of local residents through the collection of information in the area, current situation, obstacles and challenges. Similarly, to identify pressures, threats, opportunities and visions for the preservation of the unique marine-coastal character of the Southern region, in particular: a) natural landscapes-land contours and biodiversity and b) cultural landscapes-settlements, traditional buildings and other heritage values along with the common products of arboriculture, citrus, olives and other branches of agriculture, livestock and fishery, which are of special importance in support of the formulation of management objectives of sustainable and balanced social and economic development.

In drafting this plan, there were taken into account the findings and recommendations set out in the following documents:

1. "Improvement of the Effectiveness of Coverage and Management of Marine and Coastal Protected Areas"(IMCPACME), with the aim of "Safeguarding the protection of unique marine and coastal biodiversity of Albania for the present and future generations", under the auspices of the Albanian Government, GEF and UNDP.
2. "Strategic Plan for the Marine and Coastal Protected Areas (SPMCPA)", prepared under the auspices of UNDP in the framework of the project "Enlargement of the surface area and improvement of the management of marine and coastal protected areas".
3. "Regional Project for Marine Development of the Mediterranean Region and Network of the Marine and Coastal Protected Areas (MPA) through the promotion of MPA Creation and Management («MedMPAnet Project»).

4. "Ecological Study of Porto Palermo Bay and of surrounding areas"<sup>2</sup>.
5. "Socio-economic analysis and tourism development study".

## 2. Description of the management plan framework

Formulation of the plan is based on "Standard Framework for the Management Plan of Protected Areas in Albania"<sup>3</sup>.

Accordingly, the plan supports planning, area division and development of the marine-coastal protected area in Porto Palermo-Llamani Bay on the sound scientific and socio-economic knowledge. Further, it aims at the implementation of mechanisms for the participation of stakeholders in the management and planning of this protected area and of financial stability.

The Management Plan is divided into 7 parts:

- **Part 1** describes the administrative location, local government unit and PA boundary; PA legal status, including the national category of PAs and the category of International Union for the Conservation of Nature (IUCN) for PAs; relevant national and international policies and legislation, including master-plans, local development plans, tourism development plans, forest plans, waters etc. Brief description of the main limitations for the PA management; Institutional structuring: Roles and responsibilities of the concerned parties; Description of the natural system of PAs (including the original reasons for the creation of PAs, main ecosystems of the area and their structure (components/ecological processes and inter-relations); Description of the socio-economic system, including land ownership; Current governing structure and the scheduled one, as well as the description of cultural landscape and heritage.
- **Part 2** provides an assessment of the protected area and of current framework. Assessment of (ecological, socio-economic and cultural aspects); Assessment of the institutional framework ; Assessment of threats, including a summary of the main implications related to the sustainable management of protected area resources, special qualities and communities.
- **Part 3** Protected Area management introduces the vision, programs and long-term objectives and plan action measures. Similarly, it defines some principles and management actions which widely consist of the smooth implementation of various management activities in the protected area; fundamental principles of the local community involvement, decision making and

<sup>(2)</sup> "Support to planning, area division and development of the Protected Marine Area in the Bay of Porto Palermo (Albania), based on sound scientific and socio-economic knowledge".

<sup>(3)</sup> Approved by Order of the Minister of Environment no.148, dated 21.02.2013.

transparent communication; including the quantitative monitoring of the action based on the indicators selected for each component of the system (including ecological, socio-economic, water resources etc).

- **Part 4** reflects the financial plan based on management actions, calculation of financial needs and human resources.
- **Part 5** provides the framework of monitoring and management assessment for the accomplishment of described results as per the action priorities set out in the Management Action Plan.
- **Part 6** provides bibliographic references.
- **Part 7** reflects the annexes, maps, tables, graphical presentations and geographical data.

### 3. Who the plan refers to ?

Porto Palermo-Llamani Bay represents a unique combination of marine and coastal natural, cultural and historical values and landscapes. The result is a magnificent reserve, rich in various natural, semi-natural, artificial, land, aqueous and subaqueous habitats and archeology. Ali Pasha Castle is located in its center, being one of the most sophisticated military bases in the country. Furthermore, it represents one of the most important marine-coastal areas of Albania.

The Ministry of Environment has legal liability under Article 15 of Law no. 8906, dated 06.06.2002 «On Protected Areas», as amended, with a view to lead and develop management plans for each protected area. The management plan of the protected area must be included in policies, plans, programs and related governmental activities, and in the decision making at national, regional and local level.

As already agreed, the formulation and practical implementation of management plan remains one of the most effective practices for the proper management of protected areas, in addition to legal remedies as part of the management system. The latter guides and regulates all actions and resources within the boundaries of protected area and in the surrounding areas, in accordance with and in support of the conservation status and objectives.

The best practices of international management, legislation, policies and guidelines require the preparation of the management plan. The plan should help, direct central and local state authorities, administration of protected areas (PAA), civil society and NGOs, business community, artisanal fishing groups and local residents, for a desired and long-term management of use and the realization of objectives set in the framework of multi-purpose and joint actions.

The management plan deems the territory proper use not only based on ecological aspects, but also referring to its economic potential to compensate for the sacrifices to condition the use of territory.

Management plan and conservation programs are implemented by the area protection administration. Management Committee (MC) should be established to follow up its design and implementation.

Accordingly, the protected area personnel and community should pursue a different approach to nature and visitors regarding the level of knowledge, communication modalities, demonstration, functions and their continuous training.

The management plan cannot be exclusive property of the Ministry of Environment, but of all stakeholders including protected areas. MP success depends on cooperative interaction among all actors that are parties to the protected area, who are also responsible for the management and implementation of policies at national, regional and local level.

Most importantly, not only the Ministry of Environment units but also the other concerned parties should consider MP as a key working instrument providing guidelines for the protected area, to be made available to the public, open to all main groups of interest and users within the territory and near the protected area. The plan also supports annual PA administration working schedule and analysis of the PAMC.

### 4. Plan objective

Management Plan is the only most important protected document for the protected areas and for all of its potential users. It guides users to protect, maintain and manage in a sustainable and ecological manner the areas of special natural and cultural value through the creation of Protected Area.

The plan coordinates and combines actions affecting the protected area objectives. No decision can be taken that undermines the future of protected area, without referring to the Management Plan or running counter to the objectives, actions scheduled for nature conservation, biodiversity, wise use of all natural resources and landscape by the community and businesses.

The plan defines the vision, specifies programs, objectives, actions and results for the next ten years. It incorporates a planning policy framework for the sustainable management of natural resources and biodiversity, in order to protect and enhance ecological characteristics of the area. Meanwhile, it promotes the improvement of social conditions through the activities of sustainable use of land, water and third activities associated with them, such as tourism. Management actions are designed to protect, preserve and manage threatened species or endangered flora and wild fauna, from a scientific perspective. These actions also identify the inventories of marine and coastal biological diversity components considered as crucial for the conservation, sustainable use, their integration in relevant sectors and crosscutting policies.

The plan promotes coordinated implementation, monitoring and overall evaluation of these activities through the broad network of partners and stakeholders. Basically, it builds a framework for PA management, guiding decision making and setting the priorities of stakeholders involved. This plan provides guidelines for monitoring the biological diversity components, identifying processes and categories of activities which have or are likely to have significant adverse effects on the conservation and sustainable use of biological diversity and modalities for assessing their effects.

The Plan brings to the attention of its users that protected areas contain some of the greatest values in the region, from ecological and economic perspective. Besides protecting and guaranteeing the diversity of living world, it serves as a source for the existence of material goods and income for the community.

The value of this management plan will be realized if the related managers refer to it on a daily basis, promote

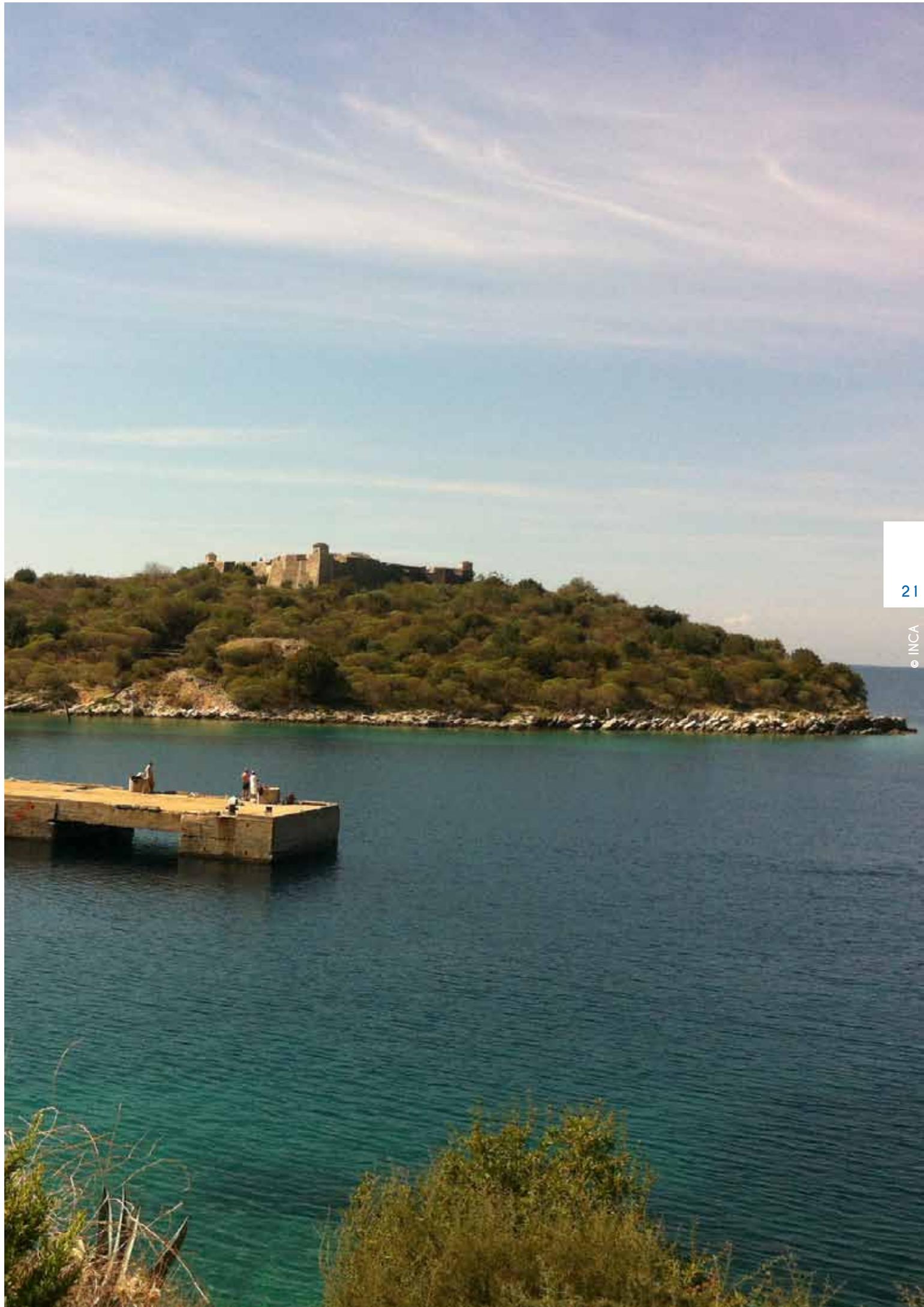
the on-site content with various land owners, supporters and user groups operating within the area of Porto Palermo-Llamani Bay.

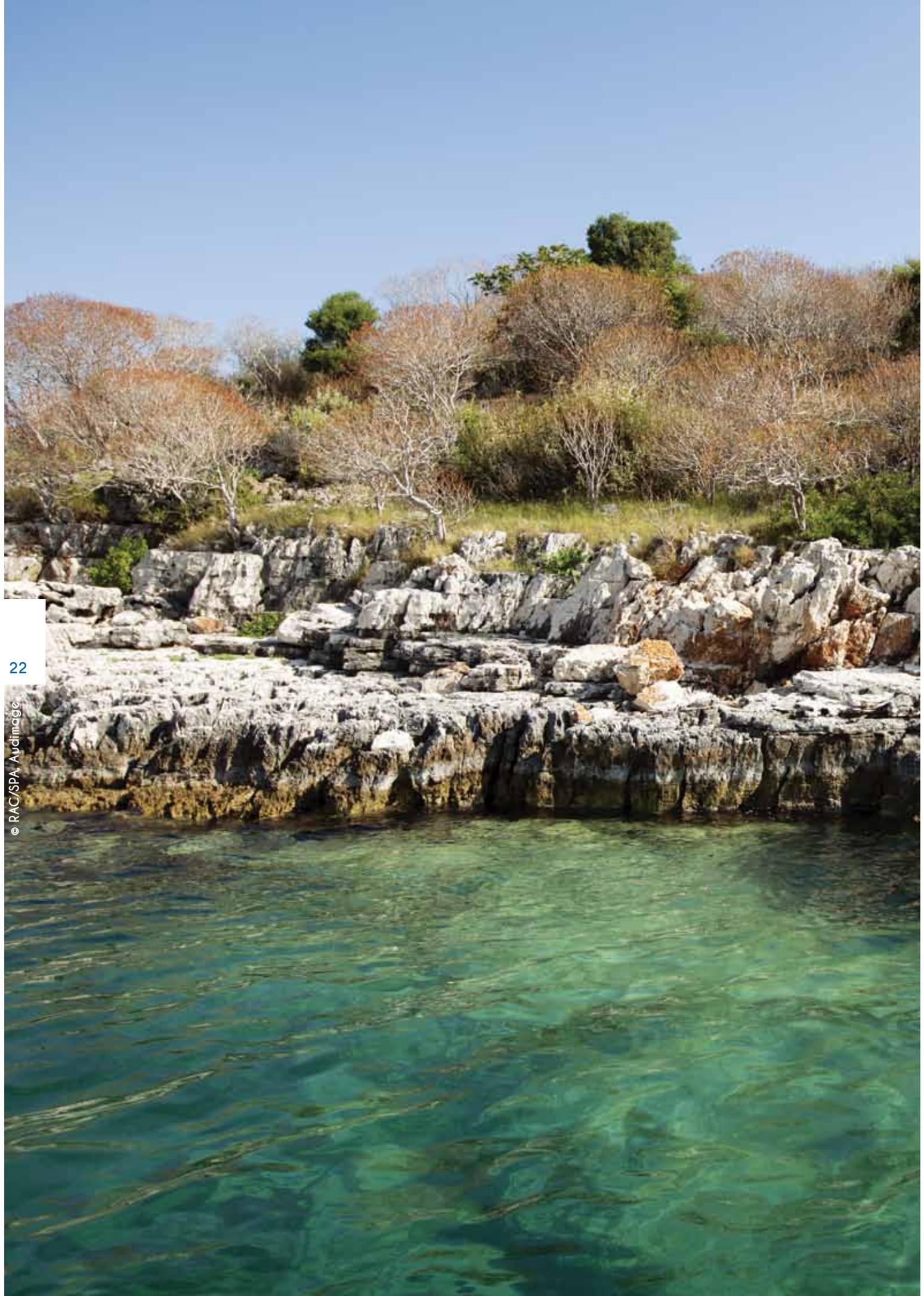
## 5. Plan time schedule

Management Plan is a document that sets out the vision, long-term objectives for the protected area, which the administration and Management Committee will attempt to realize in the future.

MP sets realistic and feasible goals for a predetermined period of time. Therefore, the plan outlines a detailed framework of actions to take place within the protected area in the next 10 years (2015-2024), at which time the plan will be reviewed and corrected as already planned.

Its success can be guaranteed if all stakeholders support the plan and work jointly in partnership, in order to implement policies and management actions assigned.





# I. DESCRIPTION OF MARINE AND COASTAL PROTECTED AREA (MCPA)

## 1.1 MCPA selection criteria

Selection of protected area of Palermo-Llamani Bay is based on the study, analysis and recommendations set out on the marine and coastal selection criteria of the « Marine and coastal Protected Area Strategic Plan (MCPASP), prepared by INCA with the support of UNDP, in the framework of the project «Expansion of area and improvement of the management of marine and coastal protected areas».

The list of the said criteria provides a solid conceptual framework to be implemented in Albania. It requires a systematic identification of marine habitats and area divisions according to a reliable classification. The system of representation based on exact science and careful planning is the core of a protected area network in full accordance with the international criteria for MCPA selection.

Coastal landscape under «Study and Plan for Integrated Coastal Management»<sup>4</sup> is divided into 8 areas/ marine bio-geographical units in the Southern coastal region. These units were defined according to the geomorphology, orientation, geology, substrate and exposure to winds and sea currents. Unit 6 includes the region extended from Dhërmi to Porto Palermo, proposing Porto Palermo as a protected area. Environmentally Sensitive Areas (ESA) were identified under the following criteria:

- high complexity of ecosystems ;
- rich biodiversity ;
- ample natural resources for human use ;
- quality or “naturalness” of marine-coastal and land environments ;
- natural beauty ;
- need for integrated and due environmental development ;
- presence of cultural and archeological ruins ;
- traditional uses ;
- potential for entertainment and educational purposes.

**In defining the area of Porto Palermo-Llamani under a protective status, the following considerations have been taken into account:**

- **Ecological criteria**
  - *Rich natural and biological diversity:* It includes interesting marine and coastal habitats, with a wide variety of habitats and species.
  - *Representation:* It is represented by rocky coast and infra-shore phase of the Ionian Sea.
  - *Productivity:* High-level productivity in terms of the natural and semi-natural production (marine-fish culture).
  - *Importance for species:* Mediterranean seal.
- **Priority**
  - *Species that are threatened reduced or at risk of extinction:* Posidonia, Reefs.
  - *Importance for a habitat/biotope:* Posidonia, reefs, Euphorbia/Milkweed.
  - *Importance for various species:* Regardless of the limited data, a number of marine and land species represent an international concern.
  - *Sensitivity:* Posidonia meadows are affected by marine-culture activities in the area and human activities (baths, fishing boats etc); they show signs of pressure. The negative effect may be also observed in the land habitats (especially in euphorbia) damaged in the course of constructions and fires during summer season.
  - *Naturalness:* Severe human interventions have taken place in the area during 1960s in the course of the construction of undersea tunnels. However, being a military zone since then, it has renewed and preserved its naturalness.
- **Practical considerations**
  - *Surface area:* The proposed surface area is limited. Nevertheless, it includes a well-defined natural landscape, with clear boundaries, thus making it perfect for conversation. The castle and church built by Ali Pashë Tepelena by the end of eighteenth century are an added value to this area.
  - *Potential for renewal:* Having been a confined area for a long time and under human threats only in the last 20 years, there is a high potential of renewal. The presence of military basis, though not sufficiently active, may be an associated positive component of the renewal process.

<sup>(4)</sup> PAP/RAC-SOGREAH: “Integrated Coastal Management Plan and Study”, 2005.

- *Acceptance level:* The area has been isolated for many years and local communities are accustomed to the concept of a protected area (without access). The objection to the creation of Protected Area from marine-culture investors may be probable.
- *Potential success of management measures:* The area is distinguished for natural beauty, cultural values (Castle of Ali Pasha, Church of Shën Nikolla and subaqueous amphora) and the economic potential (tourism, marine-culture etc). Management measures will be integrated in various fields, with a view to renew natural aspects. The role of local authorities is essential.

Based on the foregoing information and analysis, the area is classified as Marine and Coastal Protected Area-“Porto Palermo-Llamani Bay”. The objectives of the area are firstly the contribution to the inviolability of biodiversity, ecosystem and landscape of the network of MCPA in general and secondly, the preservation of natural biodiversity, ecosystems, goods and services of the ecosystem within the specified area.

Porto Palermo-Llamani Bay meets most of these criteria to enjoy the protective status of “Managed Nature Reserve (Nature Park)”, fourth category according to IUCN. Pursuant to article 9 of the Law no. 8906, dated 06.06.2002 “On protected areas”, Managed Nature Reserves (habitat/species management areas or Nature Parks) are territories representing biocenters and/or biocorridors of national and regional importance or areas of specially protected plant and animal species or paleontological findings. These territories are used for research, education and cultural purposes.

This category includes pieces of land/sea under private or public ownership and inhabited centers within which activities such as agriculture-farming, agro-forestry, medicinal plants, traditional fishing, centers of beaches, services and reception of visitors, especially military and cultural ones, and other related services can be carried out. Protected area primarily managed for nature and biodiversity and recreation (leisure, entertainment). The purpose is to preserve also the quality of landscapes and harmonic interaction of human activities therein and their biological diversity.

## 1.2 Location

Country: Albania

Region: Vlorë

Municipality: Himarë

Total area: 2,067.75 hectares, of which 315.36 hectares (15.25 %) terrestrial and 1,752.39 hectares (84.75 %) marine.

The protected area of Palermo-Llamani Bay is totally located within the administrative territory of Himara Municipality. It is extended to the southeast of Himara town. It is bordered by the Cape of Alpuni (Prato) of Llamani Bay in the North and ends to the south with Spinaras Cape.

Further, in the west it is bordered to the marine surface area extended to a distance from the shore (from the main capes: Alpuni, Kavador, Panorma and Spinaras) 1 nautical mile (1853 m).

Topographic border of the protected area:

1. In the north it is bordered to the point 1 by coordinates 43 91 937.1E/44 38 146.4N, situated 1853 meters (1 nautical mile) far from the shore of Alpuni Cape (Llamani Bay), spread across the ridge in the direction of Ulliri i Hollë Hill, descending to the road of Himarë-Qeparo up to the point 2, with coordinates 43 95 093.6 E/44 39 875.2 N, where the main road joins the road down to Llamani beach ;
2. In the east, point 2 with coordinates 43 95 093.6 E/44 39 875.2 N, it continues on the right side (down) the motor road of Himarë-Qeparo up to the point 3, with coordinates 43 98 722.3 E/44 35 525.0 N ;
3. In the south, point 3 with coordinates 43 98 722.3 E/44 35 525.0 N, it follows the direction of Spinaras Cape up to the point 4, with coordinates 43 98 519.7 E/44 33 685.7 N, in a distance of 1 nautical mile from the cape ;
4. In the west, point 4, with coordinates 43 39 519.7 E/44 33 685.7 N, it follows the isohypses in a distance of 1 nautical mile up to the point 1, with coordinates 43 91 937.1 E/44 38 146.4 N.

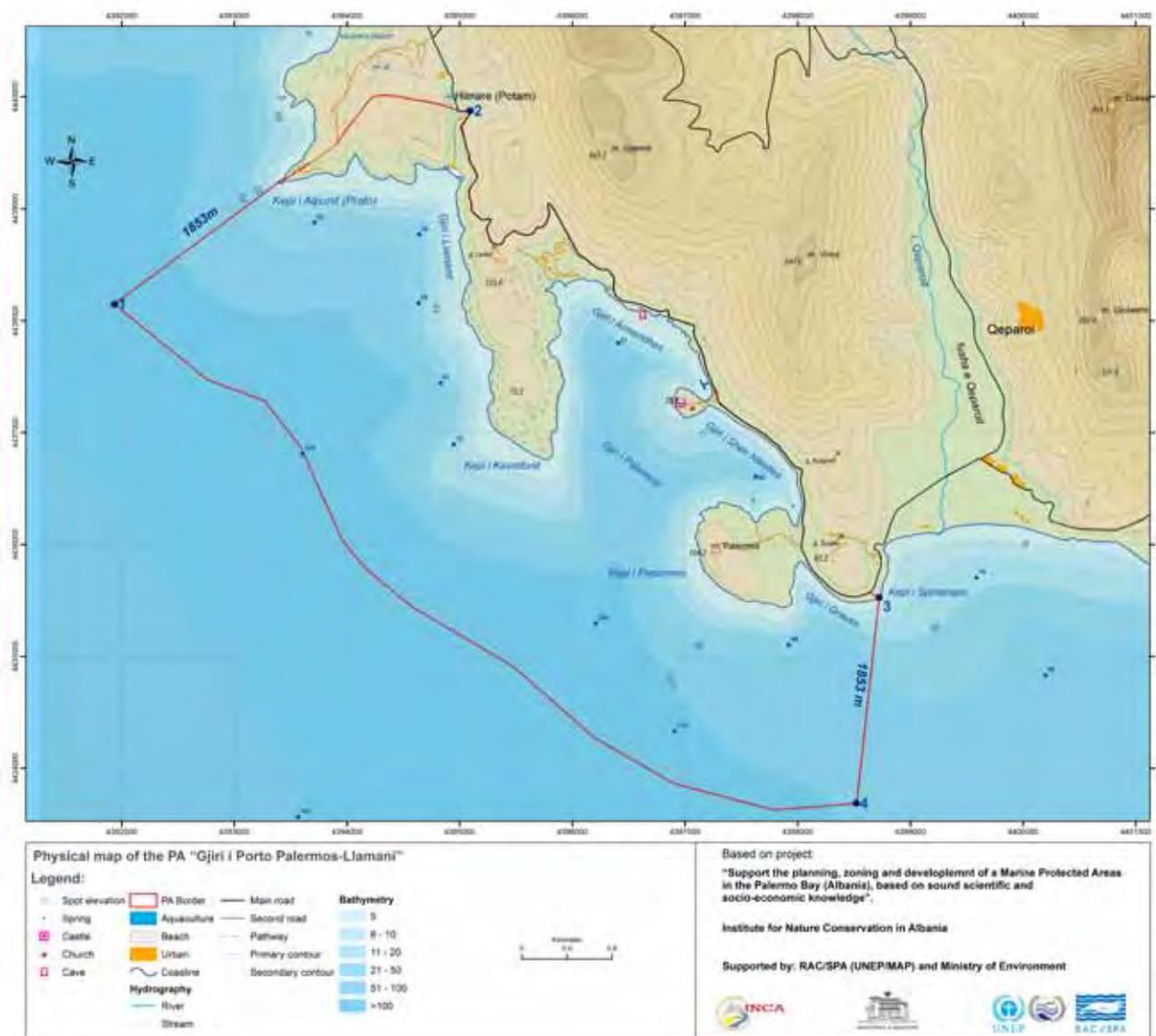
The Protected Area surface includes Ulliri i Hollë Hill, Llamani beach, Lerë Pass at the quota of 123,8 m and 75.2 m; large peninsula of Kavador, ruins of military buildings, fortifications and tunnel, dairy farms, pier, buildings of fishers, church of Saint Nikolla, Ali Castle at the quota of 28.2 m; small resorts for the beaches, quota of 104,7 m (Palermo Peak), where communication antenna are installed, Mediterranean and pasture vegetation.

The marine-coastal and subaqueous environments are characterized by rocks and bays. There is Llamani bay, Porto Palermo bay which consists of two bays: Armeridha and Shën Nikolla, as well as Grava Bay in the south.

Meadows with *Posidonia oceanica* form subaqueous meadows, pure coastal-marine and subaqueous still virgin spaces, highly favorable for diving, presence of archeological ruins (amphora) of the second century B.C., as well as three fish cultivation centers (marine-culture).

There are some secondary roads within the territory, which are not properly maintained, such as those leading to the Cape of Alpuni, Llamani Bay up to Llamani Bay, Cape of Kavador to the peninsula and the Cape of Panora, Kukumi Castle ruins and Spinaras Cape etc.

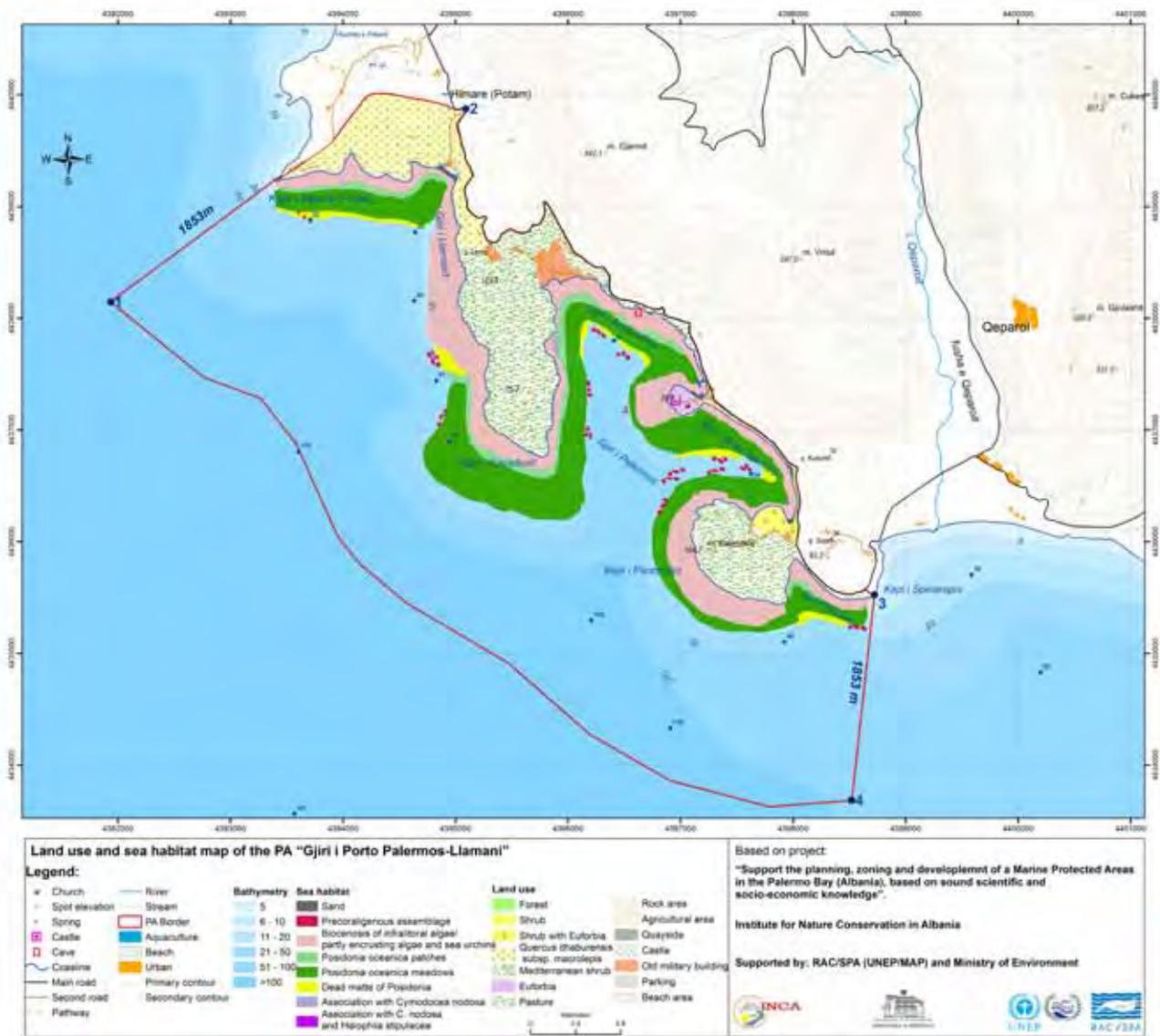
The protected area territory is surrounded by Himarë village (Potom), the motor road Himarë-Qeparo, at a quota of 642.1m (Gjomi mount) and 547.0 m (Vrriu Peak/Mount), Kukum Pass and Sukës Pass, Qeparoi torrent, the mountain covered with pasture vegetation, some spots of sumac and agave, with two bar-restaurants and an ecological center.



Map 1: Protected Area "Porto Palermo-Llamani Bay"

Table 1: Land use within the protected area "Porto Palermo-Llamani Bay"

No.	Territory use	Surf. hectares	%/ Total
1.	Forest surface areas, shrubs, forest vegetation land	101.45	4.91
2.	Pasture surface area	184.67	8.93
3.	Agriculture surface area	0.78	0.04
4.	Water surface area (marine)	1,752.38	84.75
5.	Non-productive surface area (rocky)	13.72	0.66
6.	Surface area with sites and urban one	14.77	0.71
	<b>TOTAL</b>	<b>2,067.75</b>	<b>100.00</b>



Map 2: Land Use of the Territory of Protected Area "Porto Palermos-Llamanj Bay"

### 1.3 Legal status of Protected Areas

The aim of Albanian Constitution is to ensure «... *A healthy and ecologically-friendly environment for the present and future generations; and the rational use of forests, waters, pastures and other natural resources, based on the principle of a stable development* ...». This constitutional provision justifies all efforts to manage biodiversity, and benefits and services of the ecosystem in supports of this biodiversity.

The management of Protected Areas is based on Law no. 8906, dated 06.06.2002 «On Protected Areas», as amended. The scope of the Law is conservation, management and sustainable use of protected areas and their natural and biological resources ; improvement of conditions for the development of environmental tourism ; public information and education, and direct or indirect economic benefits of the local population, and public and private sector.

The law fully complies with the European policy for the defense of nature and biodiversity, according to the categories and criteria of the International Union for Nature

Conservation (IUCN). The law is generally in line with the Habitats Directive (Directive 92/43 / EEC of the Council of 21 May 1992, for the conservation of natural habitats and of wild fauna and flora). At the same time, the law ensures transposition of the Framework Directive for the Marine Strategy (Directive 2008/56/ EC of 17 June 2008 on establishment of an action framework of European Community in the area of marine environmental policy, related to the part on nature conservation and biodiversity.

The purpose of this law is to provide special protection for key components of natural resources, in support of biodiversity and nature as a whole, through the establishment of protected areas. Protected areas are established to ensure the preservation and regeneration of natural habitats, species, reserves and natural landscapes.

This law regulates the conservation of protected areas through six management categories, which are applicable in the territory of the Republic of Albania. The classification of areas and the status and level of protection for each area are based on the IUCN criteria.

Marine and coastal protected areas are regarded as important elements for the ecosystem management. When they are well managed, they conserve the structure, function, and integrity of a segment of the ecosystem ; increase knowledge and understanding of marine ecosystems ; serving as mitigation tools against human exploitation, mismanagement, pollution, and damages to the ecological integrity.

Under the Albanian law, “Protected Areas» are land, water, marine and coastal territories assigned for the protection of biological diversity, natural and cultural assets, managed by legal and modern scientific methods, and in accordance with the IUCN tailored categories.

Table 2: Comparison of definitions of protected areas management categories

CATEGORY	IUCN / WCPA, Definition of Management Categories	Definition of categories according to Albanian legislation
<b>CATEGORY I Strict Natural Reserve / Scientific Reserve</b>	To protect nature and maintain natural processes in normal condition, in order to have ecologically representative examples of the natural environment for scientific studies, environmental monitoring, education, and conservation of genetic resources in dynamic situation and evolution.	Territories no smaller than 50 hectares, of special natural value, formed by natural ecosystems or easily changeable, representing bio-centers and bio-corridors of national and regional importance, are declared strict natural reserves.
<b>CATEGORY II National Park</b>	To protect natural areas and special scenic beauty, of national and international importance for scientific purposes, educational and recreational activities (relaxation and entertainment). National parks are large areas of natural characteristics unchanged by human activities, where disposal of resources is not allowed.	Wide territories, usually larger than 1000 hectares, unique for national and international values, which large proportions are natural ecosystems, little affected by human activity, where plants, animals and natural physical environment are of particular scientific and educational importance are declared national parks.
<b>CATEGORY III Natural Monument</b>	To protect and preserve natural features of national importance, due to their special interest and unique characteristics (unprecedented). They are fairly small areas which focus is on protection of special features.	Natural formations (including special woods) with an area up to 50 hectares, unique geological and geomorphologic formation, a mineral deposit or a habitat of a rare endangered species or of special important scientific and esthetic value, are declared natural monuments.
<b>CATEGORY IV Habitat and Species Management Area / Managed Natural Reserve</b>	To ensure the necessary natural conditions to protect the species, group of species and biotic communities of national importance or physical features of the environment, which require a special human interference. A controlled use of some resources may be allowed.	Territories representing bio-centers and bio-corridors of regional and local importance or areas with plants, animals, minerals and paleontological findings, specially protected areas or those used for educational and cultural study, are declared managed natural reserves (area of management of habitats and species).
<b>CATEGORY V Protected Landscapes and Seascapes</b>	To preserve the natural landscapes of national importance which are characteristic of a harmonious human interaction with the earth and environment during their use for tourism, recreation and entertainment within a normal lifestyle and economic activity in these areas. Areas falling into this category are mixed cultural landscapes and high natural scenic value, where the traditional use of land is preserved.	Territories that are larger than 1000 hectares, with harmonious and well-formed landscapes, with a characteristic developed relief and a variety of marine or land ecosystems, with historical monuments, are declared Protected Landscapes.
<b>CATEGORY VI Protected Area of Managed Resources / Resources' Reserve</b>	To protect the natural resources of the area for future use and prevent development activities that could harm resources. This is a temporary category used until a permanent classification is made.	Areas including wide, fairly isolated and uninhabited territories, with hard access or areas that are still rarely populated and under constant pressure to be populated and widely used, which are inappropriate or have a clear uncertainty for the future intensive use, are declared protected areas of managed resources.

The Law no. 9868, dated 04.02.2008 «On some amendments and additions to the Law no. 8906, dated 6.6.2002 «On Protected Areas» explains that the territory of protected area is divided into sub-areas, as per the importance of their components of habitats and ecosystems. Internal area division may include the central area, recreation area, traditional use area, area of sustainable development, and other sub-areas of the territory. Also, division of areas is in harmony with the level of protection required by the features of sub-areas, considering the nature of the area, types of human activities in the area and their impact on nature.

The Decision of Council of Ministers (DCM), which has the approving authority of protected area, specifies the designation, area surface and degree of the protection of its sub-areas. Important value is also attached to DCM no. 267, dated 24.04.2003 «On the procedure of designation and declaration of protected areas and buffer zones,» which completes the legal framework for the declaration, administration, management and sustainable use of protected areas and natural biological resources ; DCM no. 86, dated 11.02.2005 «On establishment of committees for the management of protected areas» and DCM no. 897, dated 21.12.2011 «On approval of rules for the declaration of Special Conservation Areas» (SCAs) within the Nature 2000 Network, specifying that SCAs are declared the territories included in Protected Areas (PA) and within the PA representative network, as well as ecosystems, habitats and landscapes outside this network.

## 1.4 Policy and legal framework

Protection of nature and sustainable use of natural resources is one of the priorities of the Albanian Government. Prevention of environmental degradation, loss of major natural values, high levels of air pollution in urban and industrial centers, massive erosion of soil, damage of forests, above and underground water pollution in land and marine areas, protected areas etc, are some of the main concerns in the long-term national development.

Conservation of nature within the Protected Area system is being more than ever evaluated as an important instrument for preservation of the highest biodiversity in the country. Expansion and consolidation of the network of protected areas, as a basis for the creation of Ecological Network (EN) of the country, is considered as one of the paramount goals of the Action Plans and Programs of the Albanian Government.

Nature protection is one of the priority sub-areas linked with *acquis communautaire* in the environmental area. As defined by the Stabilization and Association Agreement (SAA) (Article 70/3 and Article 108), harmonization of the legislation with *acquis communautaire* in the area of environment is directly connected with environmental standards, the vital task of fighting environmental degradation in order to promote environmental sustainability. This goal is incorporated in the sectoral strategic documents: Cross-cutting Environmental Strategy (CES) and the Strategy and Action Plan for Biodiversity (SAPB).

The main goals of this area are focused on the conservation and sustainable use of biodiversity, through good management in its three component levels: species, habitats and ecosystems, and achievement of the favorable status for the wild fauna and flora species, which will ensure their survival. These fundamental goals are planned to be achieved through the expansion of territories of Protected Areas and effective implementation of their management plans, strengthening the capacity of the Administrations of Protected Areas (APA).

The process of harmonization with the main directives of European Union (EU) for nature protection is already in an advanced stage. The Directive for Birds is in line with the law «On protection of wild fauna», no.10006, dated 23.01.2008 and further harmonized with the law «On Hunting», no. 10253 dated 11.03.2010. Full approximation is expected through the formulation and approval of other bylaws following the implementation of the two above-mentioned laws in the medium term.

The Directive on Habitats is transposed by virtue of two laws, respectively the Law «On Protection of Biodiversity» of 2006 (amended), and Law of 2002 «On Protected Areas», amended in 2008.

The Directive on Birds (codified version 2009/147 / EC) and the Directive on Habitats (92/43 / EC) are transposed to the extent of 85-90 % of their provisions.

Albanian legislation is clearly inspired by the EU standards. Also, the main principles of EU environmental laws are already present in legislation. This legislation is being drafted with the assistance of foreign experts and meets the requirements of international conventions, to which Albania is a party.

The legal framework for nature protection is based on this hierarchy: Constitution, legislation, and normative supporting acts such as bylaws, governmental decisions, decrees, ministerial orders, instructions and standards.

The Ministry of Environment, in cooperation with line ministries and stakeholders, is attempting to complete the harmonization of the Albanian legislation with EU legislation regarding the protected areas and biodiversity. Current legislation for the protection of biodiversity and the management of protected areas is complemented by a series of bylaws, decisions and orders of the Council of Ministers (CoM) or ministries related to the study, declaration and management of protected areas.

The new concepts of management of protected areas are based on the coordination of actions for the conservation of natural values and sustainable use of natural resources by local residents and stakeholders. These concepts, including residents and stakeholders of natural resources, are considered as a crucial part of the process of Integrated Management of Protected Areas.

Table 3. Brief description of the main restrictions of Management of Protected Areas

Legislation	Relevant Restrictions/ Opportunities for the management of Protected Area
Law no. 8906, dated 06.06.2002 "On Protected Areas", as amended.	The purpose of the law is to provide special protection for a number of important components of natural areas, biodiversity and nature, by creating a network of protected areas based on the system of categories of the International Union for Nature Conservation (IUCN). The law also regulates the development and mitigation of "environmental tourism", other economic benefits, and provides public information and education.
Law no. 9587, dated 20.07.2006 "On the protection of biodiversity", as amended.	The aim of the Law is to protect and preserve biological diversity, maintain sustainable use of its components, through the integration of key elements of biodiversity in the strategies, plans, programs and decision-making at all levels.
Law nr.9867, dated 31.01.2008 "On protection of wild fauna".	The focus of this Law is protection, management and control of wild fauna, with the aim to preserve types, populations, and habitats where they live, migration routes, and to ensure their requirements for food, shelter and breeding.
Law no. 10253, dated 11.02.2010 "On Hunting".	This Law establishes the rules and requirements for the development of hunting as a traditional sport, leisure and tourism activity, and the sustainable management of hunting, considering wildlife as a national asset managed and protected by law.
Law no. 9867, dated 31.01.2008 "On establishment of rules and procedures for international trade of endangered species of wild fauna and flora" CITES.	The Law establishes rules and procedures to implement the provisions of CITE Convention, in order that the international trade order does not threaten their survival, and avoids mistreatment during their international trading.
Law no. 64, dated 31.05.2012 "On fishing".	The Law regulates the general fishing activity and its management, ensures the protection of life in marine and inland waters, through the promotion of sustainable development activities within the maritime space and inland waters of the Republic of Albania.
Law no. 111/2012 "On integrated management of water resources".	The aim of the law is to protect and improve the sea environment and surface water, either temporary or permanent, internal sea waters, territorial waters, exclusive economic zones, continental shelf, transboundary waters, underground waters, and their status.
Law no. 8905, dated 06.06.2002 "On protection of the marine environment from pollution and damages".	The aim of this law is to protect the marine environment from pollution and damage, by means of prevention and remedial measures. This may be caused by human activities at sea and in coastal areas, which reduce water quality, damage the sea and coast streams, endanger fauna and flora, threaten human health, and hinder normal activities of this environment.
Law no. 107/2014 "On territory planning and development."	The main purpose of this law is to ensure a sustainable development of the territory through the rational use of land, natural resources, and to ensure a more efficient functioning of the system through public involvement in the process of decision-making and development plans for the control of territory.
Vlora District Strategic Plan.	This Plan builds three important scenarios for a diversified economic development of the territory, where the development of sustainable tourism is ranked the first (followed by rural development and light industry), as well as evaluation of existing natural and cultural attractions.
Territory Plan of the area of Himara Municipality.	The vision of territorial development has placed tourism and cultural and natural resources as a basic priority for local development, aiming at sustainable high quality tourism development standards. Also, soft forms of mass tourism and sustainable forms of tourism should be developed in relation to natural and cultural resources. Landscape values of the area are treated with special significance, and protected by inappropriate buildings/ developments.
Directive of the Council 92/43 / EEC "On the conservation of natural habitats and wild fauna and flora".	The main goal of the EU Habitats Directive is to protect biodiversity in Europe and the establishment of special conservation areas.
Directive 2009/147/EC "On the preservation of wild birds".	The aim of this Directive is to create a comprehensive scheme of protection for all wild bird species found in the European Union area, and the creation of special protection areas.
Framework Directive 2000/60/EC, EU Water Framework.	This Directive sets a framework for action in the area of water policy, for a better quantitative and qualitative status of the territorial waters integrity (including marine waters up to several miles from the shore).
Convention on Biological Diversity.	The aim of this Convention is to establish a system of protected areas, which management is conducted in support of conservation, sustainable use and equitable sharing of benefits. Protected Areas are recognized as economic institutions, which play a key role in fighting poverty and protection of critical life systems for residents.
World Convention on Protected Areas (WCPA) of IUCN.	WCPA mission is "to promote the establishment and effective management of a worldwide representative network of land and marine protected areas", providing an additional contribution to the IUCN mission.
Berne Convention "On the protection of wild flora and fauna and natural environment in Europe".	The scope of Berne Convention is to ensure the preservation of wild flora and fauna and their natural habitats.
Bonn Convention "On protection of migratory wildlife species"	The aim of this Convention is to preserve all kinds of migratory marine, land and water species, in all areas where the migration is present.
Barcelona Convention "On Protection of Mediterranean from pollution".	The aim is to protect waters of the Mediterranean Sea from pollution, hydrocarbons and other harmful materials. Pursuant to this Convention, other protocols are signed, such as the ones "On Special Protected Areas" and "On Protection of Biodiversity in the Mediterranean Region".
CITES Convention (on International Trade of Endangered Species of wild fauna and flora).	Member States of this Convention are obliged to implement the obligations for all species threatened by extinction, which may be affected by trade.

Source: Ministry of Environment

## 1.5 Institutional Structuring

The Ministry of Environment (MoE) has the primary policy-making and monitoring role for the protected areas in Albania. The main tasks of the MoE are to:

- Prepare and publish plans of areas to be declared protected after obtaining the opinion of the local government authorities ;
- Formulate legal procedures for proposal and adoption of a protected area, and related management rules ;
- Provide public awareness for the approved protected areas, natural monuments, species of plants and animals, to be specially protected, mining materials and paleontological discovery, and furnish details of the conditions for their protection ;
- Approve and announce plans for the management of protected areas, programs for protection of species of particularly vulnerable plants and animals, and for protection of water and natural resources and artificial lakes in these areas ;
- Follow monitoring of the management and operation plan for the habitats and species.

Management plans and protection programs developed in cooperation with managing institutions and owners of buildings and objects included in the protected areas.

The National Agency for Protected Areas, established in February 2015, with its regional structures (the Regional Administrations of Protected Areas) is responsible for the administration and management of biodiversity and protected areas and the implementation of management plan. The administration staff of the protected area plays a coordinating function and information to ensure a better

implementation of legal practices, in relation to nature conservation, biodiversity, protected areas and landscaping.

Management plans and conservation programs are implemented by the administration staff of the protected area. The administration staff of the protected area, besides the task of responsibilities under the provisions of Law «On Protected Areas» performs also certain tasks and services tasked by the Decision of the Council of Ministers (DCM) no. 266, dated 24.04.2003 «On the Administration staffs of protected areas».

In order to oversee the implementation of management plans in protected areas, the Management Committees are established. Composition, functions, duties and responsibilities of the committees are defined in the Decision of the Council of Ministers no. 86, dated 11.02.2005.

The State Inspectorate of Environment and Forestry (SIEF) is set up by virtue of the Decision of Council of Ministers no.103, dated 04.002.2015, which mission is to ensure the observance of legal requirements in the areas of environmental protection and forestry. It is responsible for all functions related to inspection in accordance with the responsibilities of the respective ministries responsible for the environment.

Stakeholders, both at central and local level, have a role and responsibility for the conservation, good management and sustainable use of natural resources in the protected area. Involvement of stakeholders is widely recognized as a supporting mechanism for the effective protection and management of protected areas. A cooperative relationship between area management authorities and local interest groups can significantly contribute to resolve complex planning and management issues.

Table 4. Role of stakeholders in the management of natural resources and ecosystem services

Institutions	Mission and role in the management of Protected Areas
<b>COUNCIL OF MINISTERS (CoM)</b>	Council of Ministers (CoM) is the highest executive body and decision making authority for the environment, national authority on territorial planning. Besides other powers, CoM promotes development and planning policies related to the territory, supports the formulation of national territorial plans by relevant planning authorities and ensures that they meet the technical and procedural standards, as defined by law.
<i>National Territory Council (NTC)</i>	NTC is a decision making body responsible for the approval of the national instruments of territorial planning. It is a supporting council of the Council of Ministers.
<i>National Water Council (NWC)</i>	NWC is the highest coordination and decision-making body at the central level for the integrated management of water resources, presided by the Prime Minister.
<b>MINISTRY OF ENVIRONMENT (MoE)</b>	MOE mission is to develop and propose policies, strategies and action plans for the protection and management of the environment, forests and waters, in view of a sustainable development, improving the quality of life of people and supporting integration in European Union. This mission will be accomplished by participation, promotion and coordination of activities, leading to long-term development and prosperity, while protecting the nature and awareness of public opinion.
<i>National Environment Agency (NEA)</i>	NEA is subordinate to the MoE and responsible for environmental protection. NEA exercises the functions conferred by the laws "On Environmental Protection", "On environmental permits," and "On environmental impact assessment".
<i>NAPA</i>	The National Agency for protected Areas is the main authority responsible for the management of protected areas
<i>Regional Environment Agency (REA)</i>	REA is subordinate to the MoE. Its main mission to support law enforcement on environmental protection, implementation of procedures related to environmental licenses, and the collection and processing of information and other data on the environment at district and region level.

Institutions	Mission and role in the management of Protected Areas
<i>State Inspectorate of Environment and Forestry (SIEF)</i>	SIEF is subordinate to the MoE with the mission to guarantee the respect of legal requirements in the area of protection of environment and forestry. SIEF is responsible for all functions related to inspections in accordance with the responsibilities of the ministry for environment.
<b>MINISTRY OF URBAN DEVELOPMENT AND TOURISM (MUDT)</b>	MUDT is responsible for the formulation and implementation of the legal framework, strategies and policies of its areas of responsibility. The main areas of its activities are closely related to environmental welfare. Key areas of MUDT work and activity are related to principles and policies of environmental protection and improvement of institutional behavior in environmental protection.
<i>National Agency for Territorial Planning (NATP)</i>	NATP has implementation responsibility related to territorial planning at national level. NATP conducts studies and assessments on developments in the territory and based thereupon, it suggests to the Council of Ministers the improvement of legal system for urban planning and the related control instruments of development, or any other measures pertaining to the planning processes or other necessary measures.
<i>National Coastline Agency (NCA)</i>	NCA scope is the protection and sustainable development of the coastline area. It is also responsible for the implementation of policies for the integrated management of coastline area, coordination of programs and promotion of investments.
<i>National Urban Construction Inspectorate (NUCI)</i>	NUCI has a key role in the control of territory.
<b>MINISTRY OF CULTURE (MoC)</b>	MoC exercises its activity in the areas of responsibility, such as formulation, planning and development of national culture policies, cultural, material and spiritual heritage promotion of religious tolerance and cultural dialogue, and cultural integration in the European and international family.
<b>MINISTRY OF AGRICULTURE, RURAL DEVELOPMENT AND WATER MANAGEMENT (MARDWM)</b>	MARDWM mission is to develop a sustainable and effective management of agricultural land, irrigation system, and drainage and flood protection.
<b>MINISTRY OF ENERGY AND INDUSTRY (MoEI)</b>	MoEI mission is to develop and implement policies in support of an efficient energy supply system in the country, utilization of energy and mineral resources in view of sustainable economic development and public utility, promotion of industrial development with environmentally friendly standards.
<b>MINISTRY OF ECONOMIC DEVELOPMENT, TRADE AND ENTREPRENEURSHIP (MEDTE)</b>	MEDTE mission is the formulation and application of government policies in the economic, trade and entrepreneurship areas, in order to build a new economic model.
<b>MINISTRY OF TRANSPORT AND INFRASTRUCTURE (MTI)</b>	MTI is responsible for the implementation of public services such as running water supply, sewerage and sewage treatment, waste collection and treatment, as well as the management of the national road network.
<b>MINISTRY OF LOCAL GOVERNMENT (MLG)</b>	MLG is responsible for the organization and functioning of local government and territorial division of the country.
<b>MINISTRY OF DEFENCE (MOD)</b>	MoD mission is the formulation and implementation of general state policies on national security and defense, in accordance with the Constitution, Security Strategy, North Atlantic Treaty Organization (NATO), Military Strategy and other legislation in power in the Republic of Albania.
<i>Inter-Ministerial Maritime Operational Centre (IMOC)</i>	Inter-Ministerial Maritime Operational Centre (IMOC) is an interdepartmental institution with the mission to ensure the surveillance of Albanian maritime space, in order to conduct the organization, planning, coordination, and control of operations at sea area, in accordance with national and international maritime law.
<b>DISTRICT COUNCIL, VLORA.</b>	District Council of Vlora builds and implements regional development policies in line with state policies at the regional level, serving as a coordinator between the central government and basic units of local government, municipalities and communes. The main goal is the best accomplishment of needs and requirements of the respective communities, through promotion of a higher quality level of services, in favor of a balanced regional development, with the ultimate goal of creation of higher standards of life quality within the territory under management.
<b>MUNICIPAL COUNCIL, HIMARA.</b>	The Municipal Council has, inter alia, the functions of water supply, sanitation, sewerage, drainage and irrigation, construction, rehabilitation and maintenance of local roads, public transport, waste management, planning. Other possibilities in support of the local level are to extend its rights and powers.
Business	Businesses are interested to use parts of the territory for construction and socio-economic activities and tourism. They use the coastal marine territory for vacation, recreation, water and land sports activities, etc.
Shepherds	The shepherds are interested to use the areas for livestock grazing interests, improve and increase pasture capacities.
Fishermen, culture -marine	Fishermen and marine-culture are interested to use the marine space for fishing, semi-natural growth of fish species, including local fishermen, artisanal fishing groups (small fishermen), and to promote ecotourism and fishing tourism (recreational fishing) as a way to increase revenues and interest in the area.
Civil Society, Environmental NGOs.	They are interested in communication, awareness and education issues related to the protection of natural environment, biodiversity and landscape.

## 1.6 Description of PA natural system

The protected area is part of the Southern Region of Albania, and includes marine and terrestrial parts of Himara territory. PA is established to maintain core functions of ecosystems, habitats and marine and coastal species, which serve the living of local population.

The boundaries of physical context of the area are stretched over main ecosystems along the Ionian coast.

**Geomorphology:** Ionian coast is mostly rocky, which in a number of cases fall directly into the sea. The gradient is mainly formed from limestone rocks. Slopes along the coast are covered with various types of vegetation. Gravel deposits are present in the coast delta stream. Attractive beaches are formed due to these phenomena. The protected area does not distinguish geological and physical prominent phenomenon.

Geological structure of the Southern coastal region consists of the deposits of Jurassic era until the Quaternary era.

**Hydrographical network:** The coastal area is permeated by some rivers and torrents. PA is generally poor in water resources. Borsh torrent is situated in its south, deriving from the East of Borsh village and flows into Ionian Sea. There are some undersea water springs in the southern part of Llamani Bay. These springs are also found in Porto Palermo (Armeridha) Bay.

**Climate:** The climate is highly variable due to the geographic position, large amplitude of the height above sea level and basically due to the relief. In general, the protected area has a Mediterranean climate due to its geographic position and extension. The annual average rainfalls are estimated at 1,000-1,200 mm. They are mainly in the form of rain, while snow is a rare phenomenon. 70-80 % of the amount of annual rainfalls belongs to the period of November-April. Only 20 % of the annual amount of rainfalls is recorded in spring.

**Temperature:** Annual average temperatures fluctuate between 16.1-17.7°C. In January, air temperature is between 8-10°C while in August it ranges between 24-26 °C.

**Wind:** Being a coastal area, the sea wind directly impacts the climate conditions, especially in summer. From November to March the main wind direction is to the East while in spring the wind direction is south-northwest.

**Biodiversity:** Study data and those collected from the recent researches in the Southern coastal region of Albania display a rich flora and broad diversity of habitats, plant associations, species of special national importance from the scientific, ecological and socio-economic perspective.

The main types of vegetation (Table 5: *Types of plants recorded in the area of Porto Palermo-Llaman*) located in the land part of the protected area are as follows:

- *Vegetation of lowlands or forests and brushwoods is evergreen.* It expands from maritime lowland up to 900 m height, also present in Palasë-Himarë region.

- *Densely leafed forests are ever green (Assoc. Orno-Quercetum ilicis),* are also located in the region of Himarë and Qeparo, in the vicinity of the protected area.
- *Vegetation communities dominated by Euphorbia dendroides, Pistacia lentiscus-Allianca Oleo-Ceratonion (Assoc. Pistacio-Euphorbietum dendroides).* This type of vegetation is encountered in particular parts along the maritime area, as well as in Porto Palermo. It exhibits at low heights (50-100 m). The associations of Euphorbia are considered more interesting and roughly unique in Albania.
- *Vegetation of Mediterranean pseudo-steppe, dominated by Brachypodium ramosum (Assoc. Brachypodium ramosi).* The degradation caused by overgrazing or fires has triggered pseudo-steppe type vegetation, which is dominated by grass, mainly Brachypodium ramosum, over calcareous rocks. Parts of meadow are commonly encountered at 0-900 m height, along the entire southern coastline, including Himarë- Qeparo region.
- *Caduceus oak forests (Assoc. Quercetum frainetto).* They are also encountered in the western slopes of Vuno-Himarë region.
- *Forests dominated by Quercus ithaburensis subsp. macrolepis* (known as oak tree of Vlorë), is a dominating species of oak forests: the layer of trees covers 60-70 % at 7 m height; the layer of brushwood covers 50-60 % at 1-2 m height; the layer of grass covers roughly 30 % at 0,3 m height; the maximum diameter of the trunk is 30-40 cm. This type of forests is located here and there in Himarë-Porto Palermo region and is considered as a relict species since tertiary period.
- *Phrygana/Frigana.* It is composed of low brushwood, roughly 60 cm high, not very close to each-other and dominated by Phlomis fruticosa (assoc. Chrysopogono-Phlometum fruticosae). Even the associations with Salvia fruticosa L are characteristic of the community of this area.

The floristic composition of this community mainly consists of species like *Anagyrris foetida, Salvia triloba, Lotus cytisoides, Phlomis fruticosa, Glaucium flavum, Galium aparine, Pistacia terebinthus, Salvia triloba, Calicotome villosa, Spartium junceum, Ruscus aculeatus, Asparagus acutifolius, Urginea maritima, Asphodelus aestivus, Chrysopogon gryllus, Acanthus spinosus, Trifolium angustifolium, Brassica incana, Paliurus spina-christi.*

**Vegetation of maritime rocks.** The xero-halophytic vegetation of *Crithmo-Limonietea* class dominates the lowest layer above the movement of waves. The ordinary types in this area are *Crithmum maritimum, Limonium anfractum, Elymus pycnanthus, Desmazeria marina, Lotus cytisoides, etc.,* which represent *Crithmo-Limonietum anfractum* endemic communities.

The maritime meadow is of maritime *Magnoliophytes* type. It forms underwater beds, which are important habitats for maritime ecosystems. They offer food and shelter for a large number of maritime species. Likewise, they prevent coastal erosion through stabilizing sediments with their rhizomes.

There are three types of plants present in the area: *Posidonia oceanica*, *Cymodocea nodosa* and *Halophila stipulacea*. *Posidonia oceanica* or the maritime meadow is the most abundant type, which forms huge meadows of shallow and middle depth. *Posidonia oceanica* meadow is among the most important habitats of the Mediterranean, and its preservation is a high national and international priority (Guideline for Habitats EU 92/43/CEE, May 21, 1992). *Posidonia oceanica* is also included in the Red List of Albanian Flora (2013).

In the shallow waters (2-3 m) within the bay, there have been identified small areas covered with *Cymodocea nodosa* spots, partly accompanied by *Halophila stipulacea*.

*Associations of coralligenous biocenosis pertain to circalittoral area, but can be particularly encountered as an enclave in the biocenosis of infralittoral algae, which favor shadows /nuances. This habitat is encountered in various locations between 20-60 m depth.*

*Biocenosis of low mediolittoral rocks.* It is a part of maritime area subjected to the movement of waves. The organisms populating this mediolittoral scene are easily adaptable to the sudden change of temperature and salination.

*Lithophyllum byssoides Habitat.* It is characterized by the presence of calcareous formations, mainly red algae (*Lithophyllum byssoides*), which are ordinary in the northern and central parts of the Western Mediterranean and Adriatic

Sea. Fragments (isolated pillows) are present only along the coastline in the north of Porto Palermo area.

*Biocenosis of mediolittoral caves.* They correspond to the ruptures or entrances of caves that are partly outside the water. Some of these habitats are present within the bay and along the coastline of the northern part of the studied area, where there grow types of *Hildenbrandia prototypus*, *Phymatolithon lenormandii*, *Peyssonnelia spp* etc.

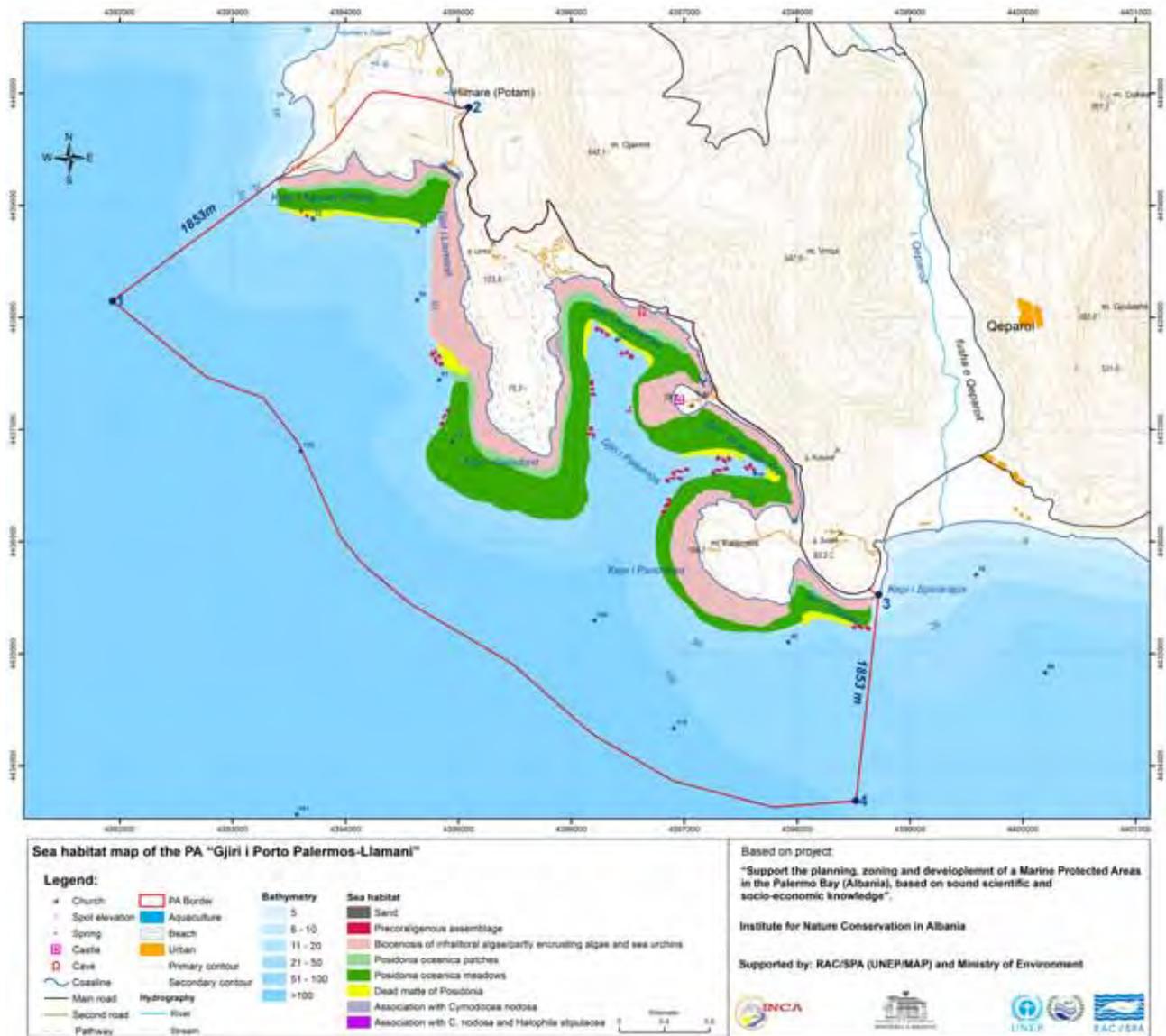
The infralittoral stage is a benthic environment, always submerged. The upper border is mainly characterized by the presence of vegetation that cannot tolerate the long appearance, (such as *Cystoseira*), whereas the lowest border has been normally fixed at the maximum depth, where it is possible for vascular maritime plants or “fanerogame” (such as *Posidonia oceanica*) to survive.

*Biocenosis of infralittoral algae,* includes brown, red and green macroalgae, which are the primary important producer and the same as maritime meadow. Further, they can offer food, substrates and shelter for a wide variety of animals.

*Association with Cystoseira amentacea var. spicata,* is placed in the first rank of infralittoral height and creates belts, mainly in the exposed coastline of the area north of Porto Palermo. This association includes many layers and is characterized by high and rich species. It shelters epibiotic organisms and other nethic organisms, which mainly pertain to algae, polychaetes, mollusks and crustaceans.

Table 5: List of Habitat types in Porto Palermo

No.	TYPE HABITATS	Area - Hectare	%/Total
1	Association with <i>C. nodosa</i> and <i>Halophila stipulacea</i>	0.1	0.02 %
2	Biocenosis of infralittoral algae/partly barren bottom	186.5	39.34 %
3	<i>Cymodocea nodosa</i> beds	0.8	0.17 %
4	Dead matte of <i>Posidonia</i>	18.9	3.98 %
5	Precoraligenous assemblage	5.9	1.24 %
6	<i>Posidonia oceanica</i> meadows	227.6	47.99 %
7	Rare meadow of <i>Posidonia</i>	33.2	7.00 %
8	Sand	1.3	0.27 %
	<b>Grand Total</b>	<b>474.2</b>	<b>100.00 %</b>



Map 3: Main PA sea habitats

### 1.7 Description of socio-economic system, including land ownership

Himara Region is composed of Himara town along with villages of Palasa, Gjileka, Dhërmi, Iliaz, Qeparo, Kudhës and Pilur. This region has a total of 9,938 inhabitants, of these some 4,800 inhabitants are of Himara Municipality. The region has about 715 hectares of agricultural land, 121 hectares of fruit trees and citrus, 34 hectares of vineyards and 532 hectares of olive trees.

The main socio-economic activities related to the protected area and surrounding areas, especially rural activities, have a great importance for the region and its economic development. The main sources are agricultural land, livestock, medicinal plants, forestry and pastures, hunting, fishing and aquaculture, water use, tourism and ecotourism and traditional cultural activities. Most of the buildings and services are concentrated in Himara town.

**Land ownership.** Land status is divided into state-owned, municipal and private property. An area of 185 hectares of pasture is owned and managed by Himara Municipality while the area around 4 hectares of Euphorbia and 100 hectares with Mediterranean bushes are under the administration of Vlora Forestry Service Directorate.

**Agriculture and agricultural products.** These products are of special importance because agricultural land is generally limited. Land is of good quality and fertile. Also, the weather conditions are favorable for the cultivation of agricultural and forest plants. Agricultural production is mostly consumed by the local market. Manufacturers face difficulties related to the agricultural products processing, and they do not have an organized place for their marketing.

**Livestock.** Cultivation of livestock species is well adapted to regional conditions. It is dominated by flocks of sheep and goats, while the number of cattle is limited. Traditional systems continue to be the basis for their growth.

Favourable pasture conditions providing the food for livestock are present almost in the whole territory of the Protected Area.

Growth of livestock development has come as a result of the demand for livestock products and the increasing demand for higher consumption of meat and their products. This area is also known for various animal breeding like birds, horses and bees. Horses, poultry, beekeeping are presently of limited activity, but with great potential to further develop in the future.

Pastures/grazing often significantly affect habitats and are spread very close to the coastline. Although the impact of grazing was under-estimated in this area; it will be a major threat of potential habitats and endangered species, unless it is controlled and managed as quickly as possible.

The hills around Porto Palermo Bay are often burned by shepherds, who believe that burning of pastures is the most effective and easiest way to improve them. This is a high-risk and constant threat to the recovery of natural vegetation, including the rare endangered species of national and international interest.

**Medicinal plants.** The region is rich of other natural resources that can be collected and served as an additional source of income for the local population, such as medicinal plants. Although the area has a high potential for medicinal plants, there is a low interest, mainly due to extreme use for grazing purposes and continuous burning incidents.

**Forestry and pasture.** There is a reduction of the area occupied by forests in the Protected Area. Most of the land is used for pasture.

**Hunting.** Hunting is an old tradition of the area. Besides the fact that it is an important recreational activity, it is also a main economic activity for a group of resident families and visitors. Most hunted species are hare, grouse, turtle, woodcocks, wild ducks, etc.

**Fishing and marine-culture.** Porto Palermo-Llamani area and especially the numerous bays are an important source for fishing and marine-culture. Sea fishing activity is carried out mainly by the fishing boat fleet. There are a wide variety of fish species. The area is known for a high quality of sea fish, due to its geographical position in the region and shores of the Ionian Sea. The fish breeding business activity in the sea is carried out in Porto Palermo area. The marine culture (fishing with baskets and special nets) is developed in recent years. Fishing is practiced individually, at shallow waters.

**Use of waters.** The irrigation and drainage system in the protected areas is not used because of the geomorphological conditions and difficult use of territory. Marine waters are used for fishing, sports, entertainment and vacation.

#### **Tourism, ecotourism and recreational activities.**

These activities are a main source of economic income in the area. In fact, the area offers natural, cultural and historical values. Tourism has some positive developments in recent years, especially in Himara, its surroundings and Porto Palermo-Llamani region. Recently, tourism has better used the natural and cultural potentials of the area, offering a higher variety of activities for tourism such as swimming, water sports, hiking, climbing, nature walking, and cultural tourism etc. Ecotourism is a way of nature tourism which aim is to enjoy the natural heritage, encourage its conservation, and build environmental awareness through environmental interpretation, promoting welfare that benefits to local population.

**Education and scientific research.** This is certainly an important area for research and exploration of prehistoric and archaeological underwater remains.

#### **Other useful presence in the area:**

**Transport.** Himara- Qeparo road passes next to the Protected Area territory. Sea transport is performed by means of a small harbour, mainly for fishing and the army use in Porto Palermo.

**Army.** There are former military bases located within the Protected Area, which are still under the jurisdiction of the Ministry of Defense.

**Service hotels and restaurants.** There are few hotels and restaurants, especially service centers for visitors and tourists.

## **1.8 Current and planned governance structure.**

Law no. 8906, dated 6.6.2002 «On Protected Areas» as amended, defines six different categories of protected areas, which are in harmony with those of IUCN.

Based on this law, as analyzed and argued in Part 1: Overview and Description of Marine and coastal Protected Area», paragraph 1.1. Selection criteria, the area « Porto Palermo-Llamani Bay» meets the criteria for protection status of «Managed Nature Reserve», category IV of IUCN, which is defined as follows: « Territories representing bio-centers and bio-corridors of regional and local importance or areas with plants, animals, minerals and paleontological findings, specially protected areas or those used for educational and cultural study, are declared managed natural reserves (area of management of habitats and species)/Nature Park.

For this category of protected area is prohibited to:

- a. Change the natura status of water reserves, springs, lakes and wetland systems ;
- b. Deposit chemicals ;
- c. Movement of means of transport off the assigned roads and parking areas ;

- d. Collection of plants, minerals, paleontological findings, stones ;
- e. Establishment and operation of military structures for defence purposes ;
- f. Establishment of sign boards, information tables, advertisements and other posters and signs apart those providing info on the conservation objectives of the reserve ;
- g. Alpine climbing, skiing, camping and fires outside assigned places.

Other activities not explicitly prohibited by legal provisions, may be exercised only after having an environmental permit.

The responsible authority for the management and administration of the Nature Park is the Vloa Region Administration of Protected Areas. The agency should be urgently provided with at least two additional staff (rangers) responsible for the protection and control of activities on the Nature Park “Gjiri I Porto Palermos - Llamani”.

## 1.9 Description of the cultural landscape and heritage.

The symbiotic relationship of coexistence of man with nature give a special and very significant value to the Nature Park Porto Palermo-Llamani Bay, under the cultural, historical, archaeological and spiritual significance.

This is an area of outstanding natural beauty (See the List: Natural Monuments of Vloa District). The landscape is exceptionally beautiful with very high mountains, rocky coastline with bays and peninsulas, and blue and clean sea. Human interventions are still in harmony with nature, they are not dominating the nature with the exception of some recent problematic issues. The use of land and local economy are reflected in the landscape, except for some cases of fires. Also, data from experts of fisheries and livestock emphasizes the long-lasting traditional experience of fishing by means of nets and the use of land for grazing. Traditional huts and animal shelters give another dimension to human presence in shaping the landscape.

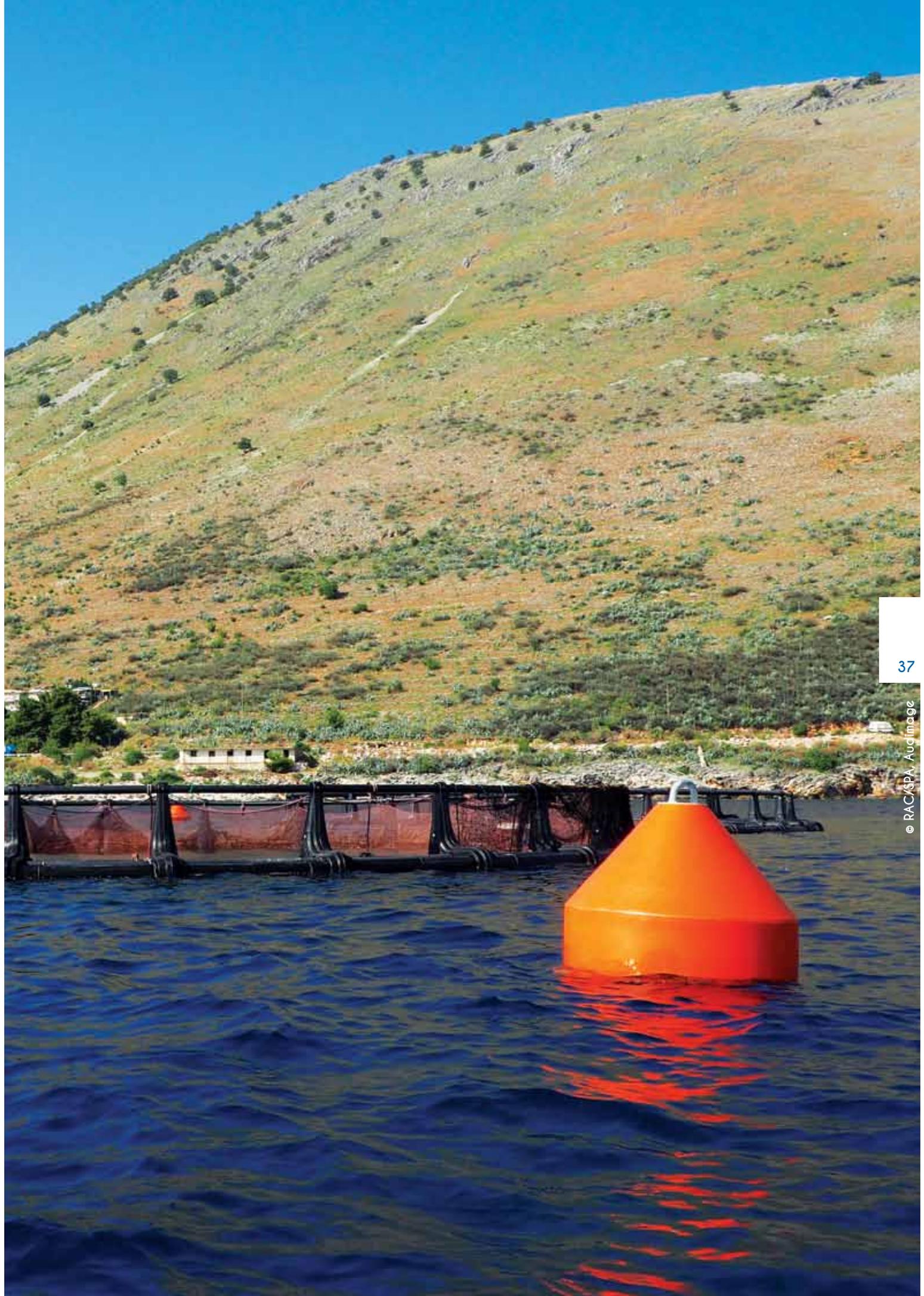
The cultural heritage of the southern coast is important for the values associated with identity and the past history. Himara is an ancient settlement since the fifth century B.C. Written sources indicate that in ancient times, Himara was the settlement of the Kaon tribe, an important tribe of Epirus, along with Mollos and Thesprotias. Kaon tribes were in possession of Epirus before Mollos. Pliny (Pliny states that the name Kaon comes from Chaones of Akrokeraunes coasts, where the strongholds Himara were settled, below the royal water source of Meandria (ancient city in Borsh), Kestrine etc.

Within the park territory there are some important historical sites as the Porto Palermo Castle (Ali Pasha) and St. Nicholas Church. Since 1948, this Castle has the status of a cultural monument.

Also, within the territory of Himara there are several sites of historical values such as: In Dhërmi: Panaja Monastery (St. Mary's), St. Theodor Monastery, St. Stephen's Church, Pirates Cave, Parashqevi Cave, St. Nicholas Church, the old neighborhood of Dhërmi village with characteristic architecture houses, Vreto and Kumi family Towers etc. In Iliaz village: Stavridis Monastery. In Vuno village: Houses with characteristic architecture of the area.

*In old Himara village:* Himara Castle, a fortress belonging to the 3rd century BC up to Medieval period, Akipeshkopi's Church, Kasiopi's Church, St. Pandoni's Church, Athali's Church, the old neighborhood with characteristic architecture houses. *In Himara town:* Omar Cave, which has given the city name (Spile), Saint Marina Church. In Qeparo: Old Qeparo village, with characteristic architecture houses; House of Ali Pasha, St. Demetrio's Monastery, Church Bell of Qeparo village, the Old Castle etc.

Natural beauties and the folk spirit are reflected with all their strength in the exceptional polyphonic songs of the Coast. These historical and cultural values render the region more attractive for the foreign and Albanian tourists. Natural beauty along with these values becomes even more beautiful and majestic.





## II. ASSESSMENT OF THE PROTECTED AREA AND INSTITUTIONAL FRAMEWORK

### 2.1 Assessment of Values

#### 2.1.1 Ecological Values

##### Habitats and flora of the protected area landscape<sup>5</sup>.

Description of habitats and species in relation to the area of Porto Palermo-Llamani is mainly based on data collected from the “Ecological Study of Porto Palermo Bay and surrounding areas”.

##### a. Land Habitats

###### Schlerophile shrubs (Matoral)

###### Thermo- Mediterranean and pre-desert shrubs Euphorbia formations

Associations with the formations of milkwort (*Euphorbia dendroides*) are considered the most interesting and almost unique in Albania. It is a natural habitat of EC relevance under the code 5330 EUNIS (according to the EU Directive on Habitats).

Flora composition of this community primarily consists of: *Anagyris foetida*, *Salvia triloba*, *Lotus cytisoides*, *Phlomis fruticosa*, *Glaucium flavum*, *Galium aparine*, *Pistacia terebinthus*, *Salvia triloba*, *Calicotome villosa*, *Spartium junceum*, *Ruscus aculeatus*, *Asparagus acutifolius*, *Urginea maritima*, *Asphodelus aestivus*, *Chrysopogon gryllus*, *Acanthus spinosus*, *Trifolium angustifolium*, *Brassica incana*, *Paliurus spina-christi*.

###### Phrygana

It is composed of nearly 60 cm high low shrubs, not so close to each other and predominated by *Phlomis fruticosa* (assoc. *Chrysopogono-Phlometum fruticosae*). Further, the associations of *Salvia fruticosa* L. are characteristic of the community of that area.

###### Vegetation of Mediterranean pseudo-steppes

This formation dominated by *Brachypodium ramosum* (assoc. *Brachypodietum bronkial*) over the limestone rocks is exposed as degraded due to its uncontrolled use or continuous burning.

###### Forests dominated by *Quercus ithaburensis* subsp. *macrolepis*

The vegetation of *Quercus ithaburensis* subsp.

*macrolepis*, known as Vlora oak tree, is considered as a relic species since the Tertiary period and is present in the hills of northern and eastern section of the area.

###### Vegetation of coastal rocks

The shores of Porto Palermo area are mostly rocky. The xero-halophytic vegetation of *Crithmo-Limonietea* class dominates the lowest stratum above the level of wave action. The most common types in this area are *Crithmum maritimum*, *Limonium anfractum*, *Elymus pycnanthus*, *Desmazeria marina*, *Lotus cytisoides* etc, representing endemic communities of *Crithmo-Limonietum anfractum*.

The upper layer of this vegetation (from 5-6 meters to 50 meters in specific cases), periodically dusted by a crystallized dry salt smoke during strong aerosaline storms, is represented by a very rare and common vegetation of the *Capparo-Putorion* group. Characteristic types of this belt are *Capparis orientalis*, *Putoria calabrica*, *Ephedra foemina* etc.

This layer of rare vegetation hosts some subendemic types of relics such as *Acis ionica*, *Athamanta macedonica*, *Brassica incana* subsp. *egaea* etc.

According to the studies conducted to date, 54 species are registered in the area of Palermo. Of these, 10 species are deemed important and 13 species are included in the Red List of the Albanian Flora and Fauna (see Table 6).

Two types of invasive plants are recorded in the area of Porto Palermo, *Agave americana* L. and *Ailanthus altissima* (Mill.) Swingle. *A. americana*, once cultivated for fibers, is indeed naturalized and expanded, covering large surfaces across the hill slope on the national road from Himara to Qeparo.

##### b. Benthic marine communities and habitats

###### Solid beds and rocks

###### I. Mediollitoral area

The mediollitoral stage is part of the maritime area subjected to the movement of waves. The organisms populating this mediollitoral scene are easily adaptable to the sudden changes of temperature and salination.

###### Biocenosis of low mediollitoral rocks

Solidified masses of supporting organogenic coast (*Lithophyllum byssoides*).

<sup>5</sup> RAC/SPA - UNEP/MAP, 2013. Ecological study in the Porto Palermo Bay and surrounding areas. By Lefter KASHTA, Sajmir BEQIRAJ, Arjan GACE and Xhemal MATO. Ed. RAC/SPA - MedMPAnet Project, Tunis. 44 pp + annexes.

This habitat is characterized especially by the presence of algae calcareous formations, mainly red algae (*Lithophyllum byssoides*) that are common in the northern and central parts of the Western Mediterranean and Adriatic Sea. Fragments (isolated) are present only along the coastline, north of Porto Palermo area.

### **Biocenosis of mediolittoral caves**

The mediolittoral caves correspond to ruptures or entrances of caverns that are partly outside the water. Some of these habitats are present within the bay and along the coastline of the northern area where there grow species like: *Hildenbrandia prototypus*, *Phymatolithon lenormandii*, *Peyssonelia* spp., etc.

## **II. Infralittoral Section**

The infralittoral stage is a benthic environment that is always submerged. The upper border is normally characterized by the presence of vegetation that cannot tolerate the long appearance (such as *Cystoseira*). The lowest border has been commonly fixed at maximum depth where it is possible for vascular maritime plants or “fanerogame” (such as *Posidonia oceanica*) to survive.

### **Biocenosis of infralittoral algae**

The biocenosis includes brown, red and green algae, which are primary important producers. The same as maritime meadow, they can offer food, substrates and shelter for a wide variety of animals.

### **Associations with *Cystoseira amentacea* var. *spicata***

The association is placed in the first line of the infralittoral height. It creates belts mainly in the exposed coastline of the area north of Porto Palermo. The association includes many layers and is characterized by high and rich species. It shelters epibiontic organisms and other benthic organisms, which mainly belong to algae, polychaetes, mollusks and crustaceans. In this area there has been recorded a total of 12 (twelve) species of green algae, 14 (fourteen) of brown algae and 26 (twenty six) of red algae. (See *Annex 3: Seaweed of Porto Palermo*)

### **Sea Grass Meadows**

The maritime meadow is of Magnoliophytes maritime types, which form the underwater beds that are important habitats for maritime ecosystems. They offer food and shelter for a large number of maritime species. Likewise, they prevent coastal erosion through stabilizing sediments with their rhizomes.

Three species of plants are present in the area: *Posidonia oceanica*, *Cymodocea nodosa* and *Halophila stipulacea*. *Posidonia oceanica* or the sea-weed is the most abundant type, which forms huge meadow in shallow and middle depth in Porto Palermo area.

### ***Posidonia oceanica* meadows**

*Posidonia oceanica* meadow is among the most important habitats of the Mediterranean Region. Their

preservation is a high national and international priority (Guideline for Habitats EU 92/43/CEE, May 21, 1992). *Posidonia oceanica* is included in Annex I (Types of strictly protected flora) of the Berne Convention and Annex II (List of endangered or threatened species) of the Barcelona Convention. *Posidonia oceanica* is also included in the Red List of Albanian Flora (2013).

*Posidonia oceanica* meadow has a multifunctional role within maritime systems toward primary production, cycle of nutritional substances, stabilization of sediments, modification of the inclination rate of wave energy and provision of «nests» habitat for fish and non-vertebrates.

The upper border of the *Posidonia oceanica* meadow in the area has been identified at 3.5 m depth and the lowest border at 28 m. A similar group with *Posidonia oceanica*, with short leaves was found in a lower rocky area in front of the castle at 23 m depth.

In areas where the water is clearer, there have been observed beds with *Posidonia oceanica* at 25-27 m depth. In general, the area shows a regress of this lower border with a depth varying from 18-20 m.

The results of the survey suggest that *Posidonia oceanica* has suffered a decline in Porto Palermo bay. The presence of dead surfaces highlights that the beds cover a much larger space than in the past. This decline is mainly connected with the anchoring of ships and construction of farms (marine-culture) of the fish within the bay.

In the shallow waters 2-3 meters within the bay, there have been identified small areas covered with spots of *Cymodocea nodosa*, partly accompanied by *Halophila stipulacea*.

### **Associations of coralogenous biocenosis**

The coralogenous pertain to the circalittoral area but they can be particularly found as an enclave in the biocenosis of infralittoral algae. This habitat has been often encountered in various places at 20-60 m depth.

### **Description of benthic habitats for each area**

Based on the ecological study the Porto Palermo-Llamani bay and the surroundings heading north and south are divided into three parts:

- Northern Area - Llamani Bay ;
- Central Area - Porto Palermo Bay ;
- Southern Area -Panormë Peninsula and Spinaras Cape.

**a. Northern Area: Llamani Bay.** It represents several particularities compared to other areas toward the distribution of benthic biocenosis. The Medio-littoral has a well-developed community of *Cystoseira* and *Lithophyllum* almost along the entire coastline. In their lowest part, they are often accompanied by spots of photophilic algae with domination of corals.

The barren areas cover a large part of the upper infralittoral area amounting to 5-11 m depth. This huge representation of barren areas in this field, apart from the effect of the invasion by sea urchins, can be also connected with the presence of rocks, stones recently thrown in the sea by illegal builders along the coast and by the high impact of human activity.

During summer, the Llamani Bay is one of the areas with the highest tourist pressure. The rare macrobenthic population is represented by mucilaginous algae, other photophilics, black urchins (*Arbacia lixula*) and sponges dominated by *Chondrilla nucula*.

In this area it has been found a strong fragmentarization of meadow of *Posidonia oceanica*. A well-developed meadow in the southern part has been recorded in the maximum border at 7 m depth and in the lower border at 21 m depth. In the eastern coast the *Posidonia* meadow lacks entirely. In this part, at 11-27 depth, the bottom rocks are represented by a very rough relief and with steep slopes that can be unfavorable for the development of *Posidonia* meadow.

Mainly at these depths, the macrobenthos is dominated by macroalgae, often mucilaginous and association of sponges. Another potential reason for the lack of *Posidonia* in this part can be connected with the entry of sweet and cold waters from underwater sources. In the northern and western part of the area, the *Posidonia* meadow is represented in a fairly good shape, respectively placed within a range of 8-28 m depth.

Below the *Posidonia* meadow, from 26-30 m depth, there have been recorded developed precoralogenous and coralogenous formations, with a high presence and diversity of sponges, macroalgae, including those mucilaginous and *Caulerpa racemosa* var. *cylindracea*. At 30-35 m depth, the bottom part is mainly covered with coarse sand, whereas at lower depths from 40-50 m, the bed is composed of a soft bottom with the presence of precoralogenous and coralogenous formations, large quantities of sponges, echinoderms (mainly *Astroidea* and *Crinoidea*) and shells of dead mollusks.

**b. Central Area: Porto Palermo Bay.** The shallow waters of medio-littoral and upper infralittoral of the coastline vary from 0 to 3-4 m depth. They are characterized by a bottom of stony composition, mainly barren. In the central part of this area, proportions of the barren habitat amount to 6 m depth. At these depths, the macrobenthos is dominated by populations of photophilic algae, sponges (*Chondrilla nucula*) and black sea urchins (*Arbacia lixula*). In the northern part along the coastline, strips of *Cystoseira* are extended up to 1 m depth.

The *Posidonia oceanica* meadow has mainly degraded in the overwhelming part of the area, especially in the southern one. In this part, upper border of the meadow varies at 5-8, 5 m depth. The meadow degradation is more visible from 12-16 m and the lowest border is recorded at 18 m. In this part, the long bare strips at the bottom within the

meadow of *Posidonia* can be due to building human activity for the creation of marine-culture.

In the northern part, *Posidonia* meadow appears to be in better shape, with a larger cover and density at the maximum border varying from 4.5-7 m and at the lower border from 20-26 m depth. In this part, within the *Posidonia* meadow it has been recorded the fairly wide presence of sponges and *Codium sp.* and *Pinna nobilis*.

The upper circalittoral area, roughly 26-70 m depth, is dominated by soft bottom but with a wide variety of micro-habitats. Among other things, it is encountered sand, bare muddy sediments or covered by macro-algae, decomposing dry leaves of marine grass, dead shells of mollusks, bivalvia, coralogenous and precoralogenous formations dominated by sponges and calcareous algae, organogenic rocks etc.

The presence of precoralogenous formations, especially coralogeneous in this field plays an important role for the enhancement of biodiversity, since these habitats are suitable for the shelter of a considerable number of microalgae types, macroinvertebrates and fish. In the bottom areas, the ordinary macrofauna is represented by sponges, ascidians, gastropods (*Natica*, *Turritella*, *Hexaplex*, *echinoderms Ophidiaster*, *Echinaster*, *Cnidarian Pennatulula*) etc.

In the southern part, in the vicinity of the lower border of *Posidonia* meadow, there have been also recorded many other invasive algae of *Caulerpa racemosa* var. *cylindracea* (grapevine-like *Caulerpes*).

Near this area, at the bottom of its southern part it has been found presence of ancient amphora, which can be considered as an added value for the development of local tourism, through diving activities that can be also attracted by coralogenous and precoralogenous formations from the underwater steep slopes, which can sometimes amount to 40 m depth, immediately below the coast.

*Cystoseira* communities are present in several parts among upper medio-littoral and infra-littoral with a dominance of *C. amentacea* in the eastern part and *C. compressa* in the western part of this area.

The barren maritime areas spread up to 3.5 m and sometimes up to 7 m depth. They are characterized by a high presence of black sea urchins (*Arbacia lixula*), where the effect of grazing is visible throughout the area. The rare macrobenthos in these dwellings is represented by algae photophilic *Acetabularia*, *Jania*, *Padina*, sponges (*Chondrilla nucula*), gastropods (*Cerithium vulgatum*) and echinoderma (*Arbacia lixula*) and *Holothuria tubulosa*.

Sponges are present in small caves and ruptures in shallow waters vary from 1-3 m depth, in the southeastern part. Deeper in southeastern and northwestern parts there have been recorded spots of fanerogames *Cymodocea nodosa* (small grass of Neptune).

In the southeastern part it has been found high presence of athozoan (a type of cnidar) in sections with *Cymodocea*.

In the shallow waters of this area there have been recorded two unknown types: low presence of marine grass (*Halophila stipulacea*), within the plot with *Cymodocea* in the southeastern part at 1-2 m depth, grapevine-like algae (*Caulerpa racemosa* var. *cylindracea*), in the western part at 4 m depth.

The entry of sweet waters is present in the coastline of southeastern part and has eroded the coast, forming small caves and ruptures. Further down the north, in eastern coast it can be seen the impact of sweet waters by means of a strip of sediments (gravel and sand) spreading from the coast up to 15 m depth at the bottom of the sea.

The distribution of *Posidonia* meadow shows a wide variety in the upper and lower borders of area depth. Its upper border varies from 3.7 m in the eastern coast to 6-7 m in the western coast of this area, whereas the lower depth border varies from 21-28 m. In its most part, the cover and density of *Posidonia* meadow appears high up to 12 m depth.

The degradation and fragmentarization of meadow is more visible at 13-16 m depth. The spots with *matte morte* (dead plants of *Posidonia*) are relatively abundant within meadow, among 11-18 m depth. The highest degradation of meadow has resulted to be in the northwestern part, where large bare fragments and *matte morte* cross meadow from 9-16 m depth. In the shallow waters of this part, at 5 m depth, *Cymodocea* and *Caulerpa* have often grown in *matte*, in the vicinity of the upper border of *Posidonia* meadow.

The western coast of the castle lacks *Posidonia* meadow, probably due to the immediate depth and very steep slope. In this area there are also found photophilic algae up to 18 m depth, whereas *Posidonia* has been found in small parts in rocks at 23 m depth, where it was rare and with short leaves.

Mainly in the northern and western parts, associations of macroalgae, sponges and ascidians are relatively well-developed in *Posidonia* meadow, which is also characterized by a high cover or epibiontic organisms and mucilaginous algae.

Several micro-habitats have been recorded in the deeper section below the lower border of *Posidonia* meadow, up to 70 m depth. The circalittoral in upper part immediately below the *Posidonia* meadow up to 30 m depth, is characterized by bare soft bottom, soft bottom with macroalgae, *matte morte* covered by sediments and soft bottom covered by dead mollusks of the sea. At 30-56 m depth, apart from above-mentioned micro-habitats, precoralogenous and coralogenous formations, it has been recorded also a vast richness of species of macroalgae, sponges (*Agelas*, *Axinella*), cnidarians (*Parazoanthus*, *Caryophyllia*) and ascidians. The soft leafy bottom and decomposing marine grass, ascidians, sponges and bare soft bottom are

common at 40-50 m depth. At lower depths up to 70 m, the soft bottom is more homogenous with bare areas and less presence of sponges and ascidians.

**c. Southern Area: Peninsula of Panormë-Cape of Spinaras.** The mediolittoral is characterized by a continuous presence of algae *Cystoseira amentacea* and other photophilics, which were highly evident up to 6 m depth, dominated by *Padina*, *Acetabularia* and *Dyctyota*.

Due to immediate depth and very steep slopes in the western part of the area, *Posidonia* meadow starts at 11 m depth in the northern part and at 13 m depth in the northwestern part. The lowest border of meadow in this area has been recorded at 20 m depth.

In the central and eastern part of the area, the upper border of *Posidonia* meadow is present at 7 m depth, whereas the lowest border is at 19 m depth. In the eastern part it has been recorded a light fragmentation of the meadow at 12 m depth.

In the eastern part near the lowest border of *Posidonia*, at 18-19 m depth, there are present coraligenous formations dominated by macroalgae and sponges of the gender *Axinella*, *Agelas* and *Spongia*. In the central part below the *Posidonia* meadow, at 22-23 m depth, the bed is covered by *matte morte* and bare soft sediments (without macro-vegetation).

Likewise, in the northwestern part of the area there have been recorded coraligenous formations with high diversity of sponges and macroalgae at 31-33 m depth. In the central and eastern part, at 30-32 m depth, the bottom is composed of soft homogenous sediments without macro-vegetation.

#### **d. Marine habitats and species of conservation interest**

Special priority is attached to the threatened Mediterranean habitats and species of conservation interest published in the following documents:

- “Red Mediterranean Book” of sea vegetation, assemblages and Mediterranean sea landscape (UNEP/IUCN/GIS, 1990).
- EU Directive of Habitats (92/43) with the relevant annexes:
  - I- Natural Species of Habitats in the Interest of Community ;
  - II- Species of animals and plants in the Interest of Community ;
  - III- Strictly protected species ;
  - IV- Species under regulated exploitation.
- Barcelona Convention (1995) concerning the Protocol regarding the Specially Protected Areas and Biological Diversity in the Mediterranean, with the relevant annexes:
  - II- Endangered or threatened species ;

### III- Species under regulated exploitation

- Alghero meeting (1995) on the marine and coastal biodiversity in the Mediterranean Region.
- Berne Convention (1996), with the relevant annexes:
  - I- Strictly protected flora species;
  - II- Strictly protected fauna species;
  - III- Protected fauna species.
- National Red List of the Albanian flora and fauna (2013).

Among the most sensitive habitats of the Mediterranean (UNEP, RAC/SPA.1997) it is worth-mentioning *Lithophyllum byssoides* (sensible to hydrocarbons) for mediolittoral areas, *Cystoseira* communities as a hydrodynamic index in the upper littoral area and *Posidonia oceanica* meadow in the infralittoral area.

#### *Lithophyllum byssoides* Associations

In the mediolittoral areas there appear white red pale plates and calcareous rhodophytes layer of the *Lithophyllum byssoides*. The typical habitats of the Western Mediterranean Basin and Adriatic Sea are indicators of the high water quality. International Status: «Red Book» of the Mediterranean (endangered habitats), and Guideline of Habitats EU 92/43 (Annex I, underwater rocks); Alghero Meeting (endangered habitats); Barcelona Convention (Annex II); Berne Convention (Annex I, strict protection of flora).

National Status: Red List of Flora and Fauna (2013) EN B1.

#### *Cystoseira amentacea* var. *spicata* Associations

The characteristics of this belt have been observed in several highly exposed rocky fields at 0 up to 1 m depth.

It is a very complex habitat, high structural and functional biodiversity. BIO indicators are at a high level as to the water quality.

International Status: «Red Book» of the Mediterranean. Guideline of Habitats EU 92/43 (Annex I, underwater rocks). Alghero Meeting. Barcelona Convention (Annex II). Berne Convention (Annex I, strict protection of flora).

National Status: Red List of Flora and Fauna (2013) VU B2C.

#### *Posidonia oceanica* Meadow

This endemic community in the Mediterranean Sea represents the top of the soft infralittoral ending beds and one of the most important habitats of the Mediterranean. Their protection is a high national and international priority.

International Status: «Red Book» of the Mediterranean; Guideline of Habitats (Annex I: \*priority habitat); Barcelona Convention (Annex II); Berne Convention (Annex I, strict protection of flora).

National Status: Red List of Flora and Fauna (2013) VU A2d.

#### *Cymodocea nodosa* Associations

This important fanerogame colonizes sand and the bottom mud and sand. It sometimes replaces the decline of *Posidonia oceanica* meadow, but in the protected area it is present only in a small surface, mainly in shallow waters of the bay. International Status: «Red Book» of the Mediterranean; Berne Convention (Annex I, strict protection of flora). (See Annex 4: **List of species recorded in the area of Porto Palermo, according to the status of threat of the Wild Flora and Fauna Red List in Albania** and Annex 5: **List of marine species of international importance for Porto Palermo, cited in the most important conventions**).

In Porto Palermo-Llamani area it has been found a wide variety of fish but the most ordinary ones are *Chelon* sp., *Mullus surmulletus*, *Diplodus* sp., *Coris juli*, *Serranus cabrilla*, *Oblada* sp., *Chromis* sp., etc. within and along Porto Palermo-Llamani bay 26 types of fish are encountered (See Annex 6: **List of economically important types of fish**).

The list of some species of international importance as rare endangered species under protection and special conservation of their habitats, as provided for in some international agreements and conventions, is introduced as follows:

- *Hippocampus hippocampus* - Short snouted seahorse;
- *Isurus oxyrinchus* - Shortfin mako ;
- *Lamna nasus* - Porbeagle ;
- *Rostroraja alba* - White skate ;
- *Sciaena umbra* - Brown meager ;
- *Sphyrna zygaena* - Smooth hammerhead ;
- *Syngnathus abaster* - Black-striped pipefish ;
- *Umbrina cirrosa* - Shi drum ;
- *Xiphias gladius* - Swordfish.

List of some alian/invasive species appearing in Palermo-Llamani bay:

- Caulerpa (*Caulerpa racemosa* var. *cylindracea*) ;
- *Halophila stipulacea* ;
- Crabs (*Percnon gibbesi*).

<sup>(6)</sup> Thanas Goga & Franka Paloka "Socio-economic analysis and study on tourism development", January 2014.

## 2.1.2 Socio-economic values

Himara<sup>6</sup> is considered the main center based on the number of inhabitants, resident families and agricultural land. Many of the villages of Himara area such as Palasa, Dhërmi, Ilias, Vuno and Qeparo are scattered across the national coastal road. Two other villages, Pilur is located in Çipi foothills, and Kudhës is located in the foothills of Gjinvlashi Mountain.

The population age structure in the study area is dominated by young population. This has influenced the average age of population, which is 31.2 years old. This is a very good potential for the project area development. The average family size is some 3.9 members dominated by a family domination structure. The population growth in the area is expected to be normal. The area has had and still has a dynamic life according to the population. According to the latest public data, the average annual rate of population growth in the last 10 years is 6.3 % per year.

The economy of the Protected Area can be primarily focused on the following sectors stated below:

- a. Cultivation of land, constructions and services ;
- b. Agriculture and livestock ;
- c. Fishery sector ;
- d. Eco-tourism and cultural tourism.

Sustainable development of the territory cultivation is essential within the Nature Park. Priority will be attached to integrated constructions and services with a view of hosting tourist activities. This infrastructure will be provided in harmony with the environment, vision and management objectives, in compliance with the accepted standards and benchmarks, area specifics, types of construction and environmental capacity of the protected area.

The relatively high share of private land divided in relatively small parcel size currently prevails in this region. Public space parcels of the military areas have guaranteed up to now the protection of a large area of land. These military properties comprise priority areas for the construction of beneficial tourist services, including Porto Palermo.

Traditional use of these natural resources offers good opportunities for higher income for local residents. The tradition of agricultural products, livestock and fisheries is one of the main financial sources for the local population. Fishery sector is the main source of income for locals along with tourism.

Nature Park is considered as an area of high touristic potential. Ecotourism and cultural tourism are key factors for sustainable development and further economic progress for local communities of the protected area.

Himara Municipality has approved the policy document of the Territorial Development and the General Local Plan. Tourism is highlighted as the basic element of

the local government vision for the territory development, and natural and cultural resources are defined as milestones for a sustainable tourism with high quality standards. This plan is based on the policy document of the Integrated Management Programme and Coastal Area Cleaning, prepared by the World Bank and the Albanian Government.

According to Himara Municipality, soft forms of mass and sustainable tourism are expected to be developed, with respect to natural and cultural resources. Porto Palermo has planned the construction of a tourist port and resort area in the existing military area. Landscape values of the area are treated with special importance, and protected from indiscriminate building developments.

Himara area has a variety of tourist attractions (cultural heritage, natural resources, landscapes, traditions and food), which give the opportunity to develop different forms of tourism integrated with other parts of the region. Some 10 small houses/bungalows are built in Porto Palermo, which are mainly used by foreign tourists.

Mostly, the area is preferred by visitors for recreation and entertainment purposes, which are accommodated in local hotels.

The integrated management of marine and coastal waters is that the quality of coastal waters largely depends on the fact how this activity is managed, especially in cases of hotels, restaurants or other housing.

Tourism and infrastructure services do not exist or are inadequate. Availability of information, especially in the Internet is often fragmented and irregular.

## 2.1.3 Cultural values

Tourism of special interest is based on natural heritage and cultural identity, practically considering the area a tourist destination. There are several cultural and historical objects and places in the area, which together with religious objects, create an interesting and attractive landscape.

Porto Palermo is a relatively important urban center with its historical, geographical and cultural significance, a center that had a direct impact on the formation of local identity and role in the regional context. Porto Palermo is a closed bay, little developed, with a naval base in the northern part.

The small peninsula of Porto Palermo, where Ali Pasha Castle is situated, divides the bay into two parts. Porto Palermo is one of the most important cultural monuments in southern Albania and is an important tourist destination. A military base is located in the northern part of the bay, which is one of the reasons of integrity of the area or lack of illegal constructions.

The presence of abandoned military buildings and equipment damages the value of landscape within the park as well as of the well preserved Ali Pasha Castle.

The castle itself is not used to complement the tourist value and because it is not under constant protection, it is exposed to acts of vandalism and destruction.

Cultural heritage sites in the mountainous area of the region have gone unnoticed due to concentration of tourism activities on the coast. If this continues to be neglected in the coming years, it can lead to complete destruction of monuments and irreversible loss of attraction of cultural tourism in internal areas.

## 2.2 Assessment of Institutional Framework

The National Agency for Protected Areas is the main institution responsible for the management of biodiversity and protected areas in Albania, through the Regional Administration of Protected Areas. NAPA mission is: «conservation of nature, biodiversity and protected areas through the implementation of best practices of national and international level for their sustainable use, and promotion of their values with participation of other stakeholders».

Other central and local level institutions engaged in the management of the Protected Areas are as follows:

Ministry of Urban Development and Tourism (MUDT) is responsible for the development of useful instruments of territorial planning and tourism. These plans are adopted by the National Territory Council (NTC).

Ministry of Transport and Infrastructure (MTI) is responsible for investments related to waste management facilities, water supply and sanitation.

Ministry of Agriculture, Rural Development and Water Management (MARDWM) has important duties for the management of water resources used for irrigation and fishing.

Ministry of Culture (MoC) develops and implements the sectoral strategy of cultural heritage and ensures the protection and preservation of cultural heritage objects and places.

Ministry of Defence (MoD) has administration tasks for the military area in Porto Palermo.

Himara Municipality performs functions according to the law on the Organization and Functioning of Local Government (2000). It is responsible for drafting local environmental plans in accordance with national environmental strategies. It has also the right to launch any initiative for economic development in the interests of local residents, provided that these activities are not in conflict with main central government policies.

Local community, non-profit organizations, civil society and businesses play an active role in the area of conservation and management of natural resources.

## 2.3 Threat Assessment

Threat assessment in the protected landscape area is developed in close cooperation with local stakeholders. Assessment of the current situation is conducted as a result of multidimensional field studies, several workshops organized with representatives of the administration, forest service, municipality, environmental NGOs, private businesses and other interested parties.

Threat assessment is also based on the analysis of strengths, weaknesses, opportunities and threats (SWOT) within the protected area. This analysis has served to highlight the potential of the area ; identify aspects that need to be improved or avoided in the future management ; determine the ecological and socio-economic threats ; opportunities for future development, and create an overview of the main priorities in the protected area.

The effects of coastal development are among the main threats to the area, which have escalated in recent years. This major change in coastal demographic growth has affected the degradation of landscape ; loss and fragmentation of habitats; deterioration of the situation of endangered or vulnerable species ; destruction of vegetation, forest or pasture fires; and the introduction of invasive species. Further, these phenomena had a significant impact on the protected areas.

Coastal urbanization represents the size of population growth and socio-economic activities associated with serious consequences, most of which are strongly linked with tourism development of the territory.

Although on a small scale, protected areas are facing the trend of tourist development within and in their close proximity, with increase of the number of users of land and natural resources. In the existing areas used for tourism, such as Llanan Bay and Porto Palermo, we can observe lack of waste management, wastewater and drinking water systems. Thus, an increase of urban waste and wastewater and untreated waters of the coast and sea is present in the area.

Construction activities are also out of control, especially along the coast, including the uncertainty of property titles. Like along the entire Albanian coast, illegal construction and uncontrolled tourism have also occurred in Porto Palermo, but at a lower pressure, compared to the surrounding areas like Himara. Construction activities along the coast are causing permanent changes, destruction of natural habitats, decrease of habitat size and fragmentation, and landscape deterioration.

Damaged military constructions and fortifications, as well as various waste materials scattered everywhere, represent a concern to the protected area, mainly to Porto Palermo and Panorma peninsula.

The concentration in recent years of tourist investment on the coastal area, is not anticipated or associated with proper infrastructure such as water supply, wastewater sewage, and collection, transportation and hygienic solid waste disposal. These problems have serious consequences for water, land and air pollution, including higher health risks to people, animals and lower life quality. The situation is more urgent in Porto Palermo but also in other areas where reception centers for visitors are built, such as Llamani and Panorma peninsula.

Tourism activities are a key element in the urban planning of the coastal area (new areas or re-converted areas) affecting the protected area promoting the growth of local economics, but associated with management challenges. Similar facts are observed with former military buildings, cattle cultivation facilities, or the opening of new recreation centers located within the protected area.

Overuse and lack of a rational use of natural resources (fishing, pasture, medicinal herbs, hunting), disturbance and abuse of wildlife, including also their illegal hunting, overfishing and prohibited means and methods, are present in and around the protected area.

Illegal and uncontrolled cut of bushes and Mediterranean vegetation in the protected area is a serious threat to the protected area conservation, although the forests are absent in Porto Palermo-Llamani area. Also, cattle grazing, overpopulation in their types and numbers compared with the pasturing capacity, remain a matter of concern with an adverse impact, causing loss and fragmentation of habitats, and threatening flora and fauna species.

The hills around Porto Palermo-Llamani bay are often purposely burned by shepherds, who believe that burning pastures is the most effective and easiest method to improve them. This is a high constant threat, which may prevent the recovery of natural vegetation, including rare endangered species of national and international importance.

Hunting within the area, under the methods already used, has been one of the main factors causing the reduction of populations of animals and birds in some caves of Panorma peninsula, such as wild rabbits (*Lepus europaeus*), fox (*Vulpes vulpes*), turtledoves (*Streptopelia torture*), woodcocks (*Scolopax rusticola*), mountain partridges

(*Alectoris graeca*), field partridges (*Perdix perdix*), wild pigeons (*Columba livia*), several species of wild ducks etc. The behaviour of hunters and local community in general is not very friendly in hunting activities.

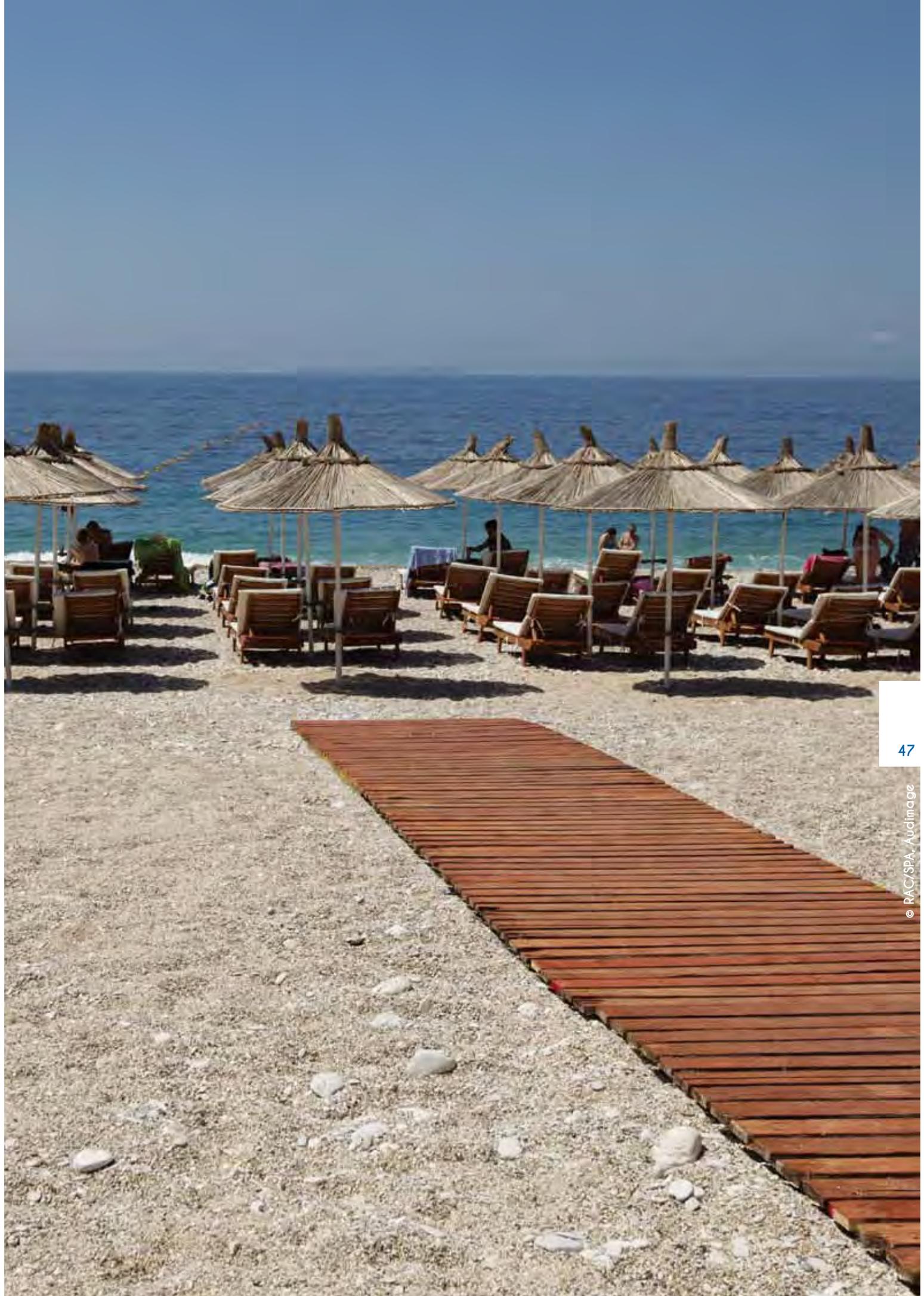
The presence of marine-culture in a protected area exerts a strong localized environment pressure based on the area development. Porto Palermo bay is suitable for the development of sea marine culture. The bay is protected, relatively deep, and favours its development. Currently, there are three fishery cultivation centers in Palermo bay (marine-culture). Use of food, antibiotics and accumulation of fish excrement can produce a negative impact on water pollution and reduce water quality. Fish cultivation exerts additional pressure on fishery resources and for some fish species it gives an extremely low result, taking into account the volume and size needed to feed the cultivated fish.

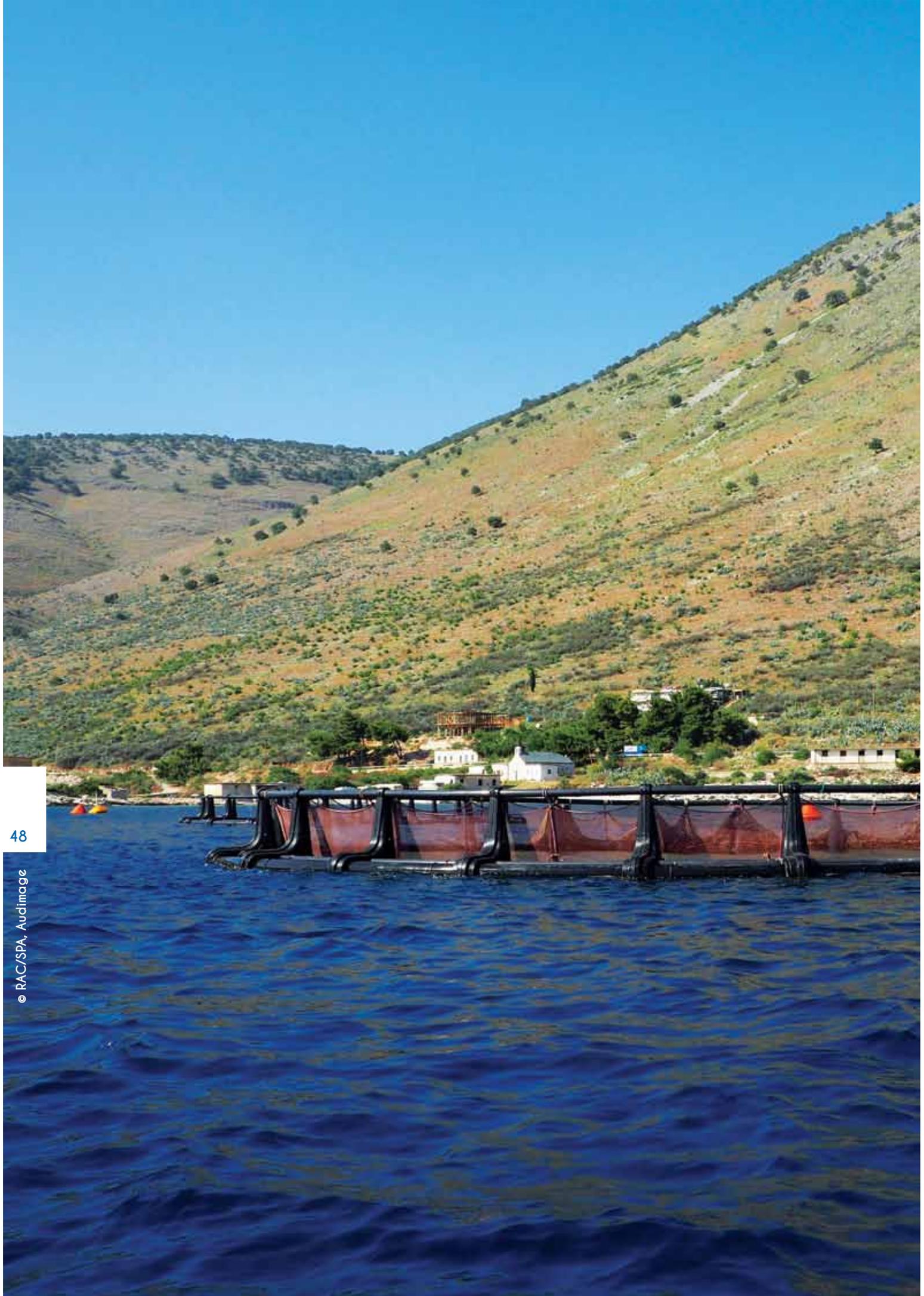
Both in Porto Palermo and Llamani, illegal fishing is a serious threat to fish species, crustaceans and other communities of marine and coastal habitats. Illegal fishing situation is still far from being under proper control. Illegal and destructive collection of date mussels (*Lithophaga*) has caused damage to the rocky coasts of Porto Palermo.

The protected area has never had impacts from natural disasters. It may be connected with climate change in the region. Climate change is a well known threat and should be considered a challenge for the sustainable development at a global level. The Protected Area may be affected by drought, wildfires, heat waves, reduction of vegetation and water resources. Thus, fauna and flora must adapt to changing conditions, in order to be able to change the ecosystem structure. New unknown species may appear by colonizing and causing the extinction of other species.

It is crucial to take into account the sensitivity of marine and coastal systems and the balance of social, economic and cultural aspects of the traditional groups of interest in this context under pressure, in order to guarantee both the regeneration capacity of these ecosystems and promotion of sustainable practices for the use of renewable resources.

The Protected Area and the sensitivity of its natural and cultural resources is mostly influenced by easy access to perform illegal activities, presence of a favorable infrastructure, strict criteria to business activities for natural resources, and impossibility to control the territory.





## III. PROTECTED AREA MANAGEMENT

### 3.1 Vision and Objectives

#### 3.1.1 Vision

Protected Area becomes a key destination for biodiversity conservation, known for its land, marine and coastal environment and landscapes, where the contact of people with nature is considered a natural and cultural heritage and identity, where preservation of integrated interaction is vital to the protection of area and its respective values, through a well balanced integration in a prosperous ecosystem for the local population.

##### **Mission**

Conservation and protection of biodiversity, promotion of a sustainable development of the local population, and further promotion of cooperation between the interested parties.

##### **Functions**

###### **a. Nature Protection**

The territory includes several areas of prosperous conditions with multiple biodiversity and esthetic values. This feature includes the preservation of marine and coastal ecosystems, habitats and threatened and endangered species. Their protection is not based on the prohibition of use of natural values, but it is made in accordance with a sustainable development concept of the protected area.

###### **b. Tourism**

The area has exceptional conditions for the development of activities specifically for marine water sports, but also for entertainment and recreation of citizens and tourists in nature. Favorable climatic conditions, configuration, historical and cultural values enable the development of tourism during all the year.

###### **c. Cultural function**

Natural beauties and characteristic clothes, habits and customs, well confirmed polyphony songs and folk dance of the Coast area represent extraordinary cultural experience for all visitors and tourists. There are a number of ancient objects and places of worship and monuments of historical importance to the local population.

###### **d. Scientific function**

The area has a number of preserved original features that present very interesting objects and places for scientific

research with special value on natural development of the region. Above all, it is worth mentioning the endemic species and flora and fauna relicts of marine and coastal areas and other scientific issues, in order to fill the gap of knowledge in this field.

###### **e. Educational function**

The area is a very convenient place to practice educational, awareness and information activities. Variety of types of habitats, species of flora and fauna, settlements, population, and famous history of this region, are an added value to the educational process of school youth and young part of the population, but also for visitors.

Conservation and management objectives should be clearly defined, provide the basis of assessment of the measures to be taken for an efficient implementation of the review of management plan, and provide protection especially to:

- a. Representative species of marine and coastal ecosystems to an acceptable and reasonable extent, in order to ensure their long-term survival and maintain their biological diversity ;
- b. Habitats at risk of extinction in areas of their natural distribution or in a reduced natural area of distribution as a result of the setback in undeveloped conditions or because of their limited areas ;
- c. Habitats in critical conditions to ensure their survival, reproduction, renewal of species of endemic, endangered and threatened flora and fauna ;
- d. Areas of special importance related to scientific, esthetic, cultural and educational values.

#### 3.1.2 Programs and long-term management objectives

Based on this vision, functions, and well- known resources of marine and coastal environments, long-term objectives for the management of protected areas are focused on these priority programs:

1. Consolidation of the administration and management;
2. Conservation of the ecosystem, habitat, biodiversity and marine and coastal landscape ;
3. Sustainable use of natural coastal-marine resources including historical and cultural ones ;
4. Development of sustainable recreational, entertainment, sports and health related activities ;

- Promotion of values, scientific monitoring and research, awareness and education.

Long-term objectives are in the main focus for the management of Protected Areas, as they are specific objectives set for a 10-year period, which aim is as follows:

**Programme 1: Consolidation of administration and management of the protected area**

**Objective:** To provide good administration and management of the unique marine biodiversity, coastal landscape and maintain key ecological processes of the protected area, along with the promotion of long-term social, economic and ecotourism activities, in line with the general vision.

**Programme 2: Conservation of ecosystems, habitats, biodiversity and marine and coastal landscape**

**Objective:** To ensure long-term conservation of ecosystems, habitats, landscape and coastal marine protected area, with special emphasis on threatened and endangered types of habitats and species.

Protection of associations of Milkweed/Flomi plant formation (*Euphorbia dendroides*); vegetation of *Quercus ithaburensis subsp. macrolepis*, and types of subendemic relics such as *ACIS Ionica*, *Athamanta macedonica*, *Brassica incana subsp. egea*, etc. Likewise, it is worth mentioning marine habitats and species of conservation concern such as *Lithophylum byssoides* and meadows of *Posidonia oceanica*. Attention should be also paid to mediolitoral biocenosis of caves, associations of biocenosis with coralogens, some other types of international importance, such as a species of rare or endangered fish, sea turtles, seals, dolphins etc.

**Programme 3: Sustainable use of natural coastal-marine resources, including historical and cultural ones**

**Objective:** To ensure the consolidation of management system and long-term use of natural resources, characteristics of the landscape and historical and cultural values, in accordance with the ecological capacity of the protected area.

Most prominent places for the Protected Areas that require special attention and conservation are: Alpuni Cape, Llamani beach, Kavadari Cape, Armeridha Bay, Military Tunnel, the Cave, Peninsula and Ali Pasha Castle, formations of amphorae, formation of Euphorbia, St. Nicholas Church, St. Nicholas Bay, Panorma Cape, Grava Bay and Spinarasi Cape etc.

**Programme 4: Sustainable development of recreational, entertainment, sports and health activities**

**Objective:** To ensure the development of ecotourism, recreation, entertainment and health activities by promoting community and business activities, without affecting the overall vision and objectives of the Protected Area, bringing improved quality for visitors and local community life.

Himara area has a wide variety of tourist attractions (cultural heritage, natural resources, landscapes, traditions and food), which provide an opportunity for the development of different forms of tourism integrated with other parts of the region.

**Programme 5: Promotion of values, monitoring and research, awareness and education**

**Objective:** To ensure the promotion of environmental and cultural values, promoting research, monitoring, education and information activities in the educational process of young people and for visitors.

### 3.1.3 Short-term management objectives

Short-term management objectives are formulated in consultation with all relevant stakeholders in accordance with the vision of long-term objectives and specific actions defined for the conservation of the Protected Area.

For each of the corresponding short-term objectives related costs are calculated and allocated for a series of actions to ensure the implementation of these objectives.

**Objective 1: Creation of organizational structures and consolidation of management practices of the protected area**

The Protected Area must be duly managed through the creation of appropriate organizational structures, including local interest groups, in a sustainable process of their participation in order to contribute to the sustainable management of natural and cultural resources. Accordingly, an appropriate balance will be established between the nature conservation and human development activities.

To meet this objective, the following tasks are included in the agenda:

- Designate the area of Palermo-Llamani bay under the Protected Area status «Managed Nature Reserve (Nature Park)» IUCN category IV.
- Adopt, in accordance with the provisions of law «On Protected Areas», as amended, the Management Plan for the Protected Area «Porto Palermo-Llamani bay».
- Strengthen law enforcement, management plan, specific measures, and evaluation of potential human activities.
- Approve the establishment of the administration staff of protected landscape «Porto Palermo-Llamani Bay», in support of the organizational structure of Forest Service Directorate of Vlora (district).
- Administration staff, in cooperation with other local state institutions, civil society, NGOs and

private businesses, should develop awareness and enforcement programs of the applicable legal provisions relating to the administration, management and sustainable use of natural and cultural resources of the Protected Area.

6. Increase management system effectiveness through the implementation of awareness and enforcement plan of the Protected Area «Porto Palermo-Llamaní Bay».
7. Strengthen cooperation between the Municipality, the administration of protected area and other local groups of interest.
8. Provide the necessary working and logistic instruments for the execution of tasks of administration staff of the protected area.
9. On-site demarcation of the Protected Area and divisions of management areas.

The following specific outcomes are expected upon the implementation of the above objective:

- a. Protected Area is supervised and managed in a professional and effective way by the administration, in close cooperation with the Municipality and Management Committee.
- b. Trained staff is available to the administration with high level of management performance.
- c. Engagement of all stakeholders in a process of sustainable development with participation and contribution to consolidation of management and use of natural resources.

#### **Objective 2: Maintenance and conservation of habitats, marine and coastal biodiversity and landscape**

Maintenance of diverse habitats of the protected area, conservation of the diversity of marine and coastal fauna and flora, of special natural and biological processes, life supporting systems and proper interaction between ecosystems (land and marine).

To accomplish this objective, the following tasks are included in the agenda:

1. Take into account the vulnerability of marine and coastal systems, balance of social, economic and cultural aspects of the traditional groups of interest, to guarantee the generating capacity of these ecosystems, and the promotion of sustainable use practices of renewable resources.
2. Take necessary measures to constantly protect, maintain and manage the ecological and specific natural and cultural values of the Protected Area, and threatened or endangered flora and fauna species.
3. Develop programs for the conservation of biological diversity, maintenance of marine, coastal and land habitats, along with their flora and fauna.

4. Identify and develop inventories of the biological diversity of components (species), which is deemed important for their sustainable conservation and use.
5. Ensure that diversity of species and ecosystems processes in the protected area are not adversely affected by human activities.
6. Promote maintenance of high quality marine waters and prevent their degradation and pollution.
7. Protect marine and coastal features of ecological, geological, geo-morphological importance, especially capes, bays, caves, streams and underwater world.
8. Develop programs regulating the introduction of any non- indigenous species to the protected area, or introduction of genetically modified species, as well as introduction or re-introduction of species currently or previously existed in the protected area.
9. Develop technical projects to prevent the spread of invasive species and restoration of species and habitats occupied by them.
10. Monitor the biological diversity components, identify processes and categories of activities which have or are likely to have significant adverse effects on the conservation and sustainable use of biological diversity, and monitor their effects.

The following specific results are expected upon the fulfillment of the above objective:

- a. Approval by the interested parties that conservation, enhancement of the nature park beauty, undersea wildlife and cultural heritage are the primary objectives and guiding principles for all PA related management decisions.
- b. Improvement of the preservation, restoration and enlargement of the natural environment assets, in order to ensure proper development of wildlife and ecological systems.
- c. Attainment of a dynamic balance and sustainable coexistence of the activities of local residents and nature.
- d. Protection of sensitive ecological marine-coastal areas from disturbance and abuse for public and private interests.

#### **Objective 3: Implementation of sustainable socio-economic touristic activities**

Provision of environmental health, economic profits and equal socio-economic opportunities within the protected area.

The accomplishment of this objective aims at:

1. Implementing forms of development and management of activities, protecting natural, social and economic integrity, state of marine, maritime and cultural resources in the wake of and integration of traditional activities, mainly of artisanal fishing and ecotourism.

2. Drafting plans and programs on use of sustainable biological, maritime and marine resources and their integration in respective sectors on local scale and/or in crosscutting policies.
3. Providing new financial mechanisms that can boost funding on natural rehabilitation, offering a way to improve natural capital and ecosystem services related to sustainable use of marine and maritime natural resources in compliance with environmental carrier capacity.
4. Developing standards of facilities or tourist services that are in harmony with the character of protected area. Infrastructure related to the management of protected area must have a beautiful, natural, calm and imposing look for the identity of protected area.
5. Planning and regulating the territory through rational human use of this space in compliance with its carrier capacities.
6. Preventing discharge or disposal of waste or other substances, which can directly or indirectly violate the integrity of protected area.
7. Regulating or preventing any activities including the use and modification of land or exploitation of subsoil in parts of the territory, of the seabed or its subsoil within the protected area.
8. Regulating or preventing any activities or other acts that can potentially damage or disturb the species or threaten conservation status of the ecosystem or species or that can damage natural or cultural characteristics of the specially protected area.
9. Regulating or preventing fishing of the marine-culture, hunting of flora species and wild fauna, date mussels, corals and other protected species or destruction of habitats and rocks, as well as any other measures aimed to provide protection of ecological and biological processes and the landscape.
10. Widely promoting care by the communities, commitment on protection of biodiversity, of the landscape and sustainable use of natural and cultural resources in view of tourism development and sustainable fishing.
11. Protecting marine and maritime water quality through development of infrastructure of the sanitation system, treatment of sewage and used waters in order to provide drinking water, management and treatment of urban waste etc.

The following specific results are expected from accomplishment of the above objective:

- a. Achievement of sustainable and harmonized development of social and economic activities in the protected area.
- b. Improvement of sustainable economic services of marine and maritime ecosystem and biodiversity.

- c. Promotion of natural, social, economic, tourist and cultural values to the benefit of the community, taking care of the social and economic effects in the protected area.
- d. Enhancement of artisanal works, sales of typical food and productions of the area, organization of fairs, exhibitions, folkloric festivals, historical manifestations on local scale.

#### **Objective 4: Use for Recreational, Entertainment and Eco-touristic Purposes.**

Provision and management of use of the area for recreational and cultural purposes, in view of the co-functioning of the goals to protect nature with development of different types of eco-touristic activities.

The accomplishment of this objective aims at:

1. Achieving balance of social, economic, tourist and cultural aspects of traditional groups, taking into account the sensitivity of marine, maritime and landscape ecosystems.
2. Creating special panoramic corridors of landscape, aiming at preservation of quality and characteristics from favorable points of observation, including all views facing sea, mountain, bays, capes, slopes, gorges etc, as well as from local and national roads within the territory, or creating special locations preferred by visitors and tourists.
3. Definition of nature sightseeing, of stops upon the requests of visitors, camping, sanitary facilities, waste collection, medical service, parking, location of sport fishing and underwater diving.
4. Assessment of cultural wealth and preservation of the character of authentic historical significance through prevention or limitation of non-coherent activities in the surrounding area, connected with customs and traditions of the region.
5. Creation of museum center (tunnel, fortifications and other military constructions), re-qualification of several military fortifications (bunkers) in view of cultural tourism, archeological sites, libraries and shops related to museum, entertainment, reception of visitors, in order to promote natural and cultural resources, as well as local traditional products.
6. Ensure that recreational, entertaining and eco-touristic activities do not have an adverse impact on values of natural and cultural heritage of the protected area.

The following specific results are expected from accomplishment of the above objective:

- a. Co-existence of preservation with high quality of natural resources, cultural heritage and tourism development, supporting infrastructure, services that meet visitors' needs and generate income for the community.

- b. Information provided to visitors in order to have further knowledge on the park, walks in the open air, diving, wildlife, traditional customs of the community and cultural heritage.
- c. Enhancement of activities with traditional, natural, recreational, entertaining, sport and cultural character during all the year.
- d. Enhancement of social activities of low environmental impact.

**Objective 5: Promotion of Scientific Research and Education**

Support to scientific research on biological, landscape and cultural values of the protected area as a key contribution to education, sensitization and informing processes of nature assessment and biodiversity.

The accomplishment of this objective aims at:

1. Promoting, regulating, encouraging of scientific research related to management purposes of the protected area.
2. Research and any scientific activities to assure recognition of values, management form of the protected area, sustainable use and management of protected species.
3. Assessing activities with negative impact on species or their habitats, defining other measures to assure a favorable conservation status of protected species of wild flora and fauna and their products.
4. Contributing to the drafting of necessary monitoring programs for identification, assessment of sub-areas, protected species, effectiveness of measures taken in the implementation of management plan and improvement of conservation status, in order to maintain them in a favorable conservation state.
5. Identifying problematic habitats and species, their protection status, defining priority areas for conservation and species of interest for the community.
6. Defining measurement indicators and main standards on monitoring of environmental situation of the protected area.
7. Identifying and drafting a list of threatened, endangered species of flora and fauna and defining their protection status.
8. Defining necessary measures on regulation of international or accidental interference of species that can cause serious impact on ecosystem, habitat and/or species of the protected area.
9. Comprehensive study of distribution and defining status of different kinds of underwater rocks.
10. Improving public awareness, understanding, assessment of premises, natural resources of the protected area and potential impact of human activity on these premises.

11. Informing the public of interest, values, habitats, species of the protected area, scientific knowledge to be potentially gained in respect nature, biodiversity and other perspectives.
12. Delivering appropriate publicity to the establishment of protected area, borders, natural, traditional and cultural values, rules to be observed, protected species, their habitats and rules to be respected by private entities and visitors.
13. Drafting of education and public awareness programs.
14. Promoting public participation and other organizations for necessary actions to protect sub-areas, species and their habitats, including also the assessment of environmental impact.

The following specific results are expected from accomplishment of the above objective:

- a. Different studies and assessments of land and marine ecosystems should be conducted, including projects on local, national and international scale.
- b. Provision of an exhaustive list of studies and research to determine status of main species included in the protected area and their cartography.
- c. Continuous improvement of preservation, restoration and enhancement of the natural environmental wealth, so that wildlife and ecological systems are well-developed.
- d. A potential tourist assessment of protected area and its suburbs, as well as promotion of sustainable tourism.
- e. Good knowledge and sensitization on preservation and use of protected area by local population, users and visitors.

The management plan principles provide a firm basis for administration of the protected area. The protected area is preserved with the participation and cooperation of local community and serves to improve their life quality. This is better achieved with sensitization, understanding and involvement. Participation guarantees that persons affected directly or indirectly by the management planning are able to contribute with their knowledge, experience and ideas.

Involvement in planning and decision making processes is an important instrument that helps managers and decision-makers deliver better solutions, based on individual solutions of informed and experienced local people.

Protection of wildlife and habitats is the primary purpose of the protected area. The responsibility on protection and preservation of values lies beyond management structures on local scale, including licenses, rental fees, respective public and private authorities, visitors, neighbours and the wide community.

The framework and decision-making processes must be open and transparent. The reasons on decision-making must be made public, apart from information to be treated as confidential, when it is sensitive from the cultural or commercial perspective.

Information on the protected area, features, threats, interferences and any information regarding the management process must be distributed via flyers, manuals, exhibitions and booklets, local training programs, TV, local, regional journals and magazines, Web etc.

The effective proper management of the protected area must reflect an acceptable manageable approach to support continuous improvement and consolidation of the use of its natural and cultural resources. This includes monitoring of management results, taking into account the findings of monitoring and other research to improve management effectiveness. The management decisions must have scientific basis or rely on relevant experience. The management units must preserve, improve capacities, learn from experience, assess and train staff for expertise and take into account the inputs of other stakeholders.

The protection of natural resources must include identification, adoption of suitable measures on active avoidance and management of threats and risks.

The effective management must be based on best available information. Nevertheless, when there are potential risks or irreversible damage, the lack of entire scientific security must not be used as a an excuse to defer measure on prevention of environmental degradation or harmful concerns of natural sites.

### 3.2 Definition of Management zones

The area of Palermo-Llamani bay has no territorial division as it is an area to be newly declared under protected status. Area division strategy is the next step toward the drafting process of the management plan. The vision, principles and objectives set for preservation and use of biodiversity, land and waters must be further developed and transformed into regional space instruments of the planned activities and those which are excluded to be conducted within the territory of the protected area.

The protected area represents sensitive premises; therefore activities should be smoothly implemented, based on their supporting capacity with a low impact and always in harmony with nature. The supporting capacity represents level of the area use by visitors or other users, meeting their requests, but without permanent damage of its natural resources. This capacity in the protected area must be assessed in three aspects:

- *Supporting environmental capacity* represents the level in which an ecosystem, habitat or landscape can

welcome different social, economic effects, tourist, visitors and accompanying respective infrastructure, without causing harm or losing “the area status”.

- *Social and cultural supporting capacity* is the scale beyond which social, economic developments, tourist, number of visitors and accompanying respective infrastructure adversely affect local community and their lifestyle.
- *Psychological supporting capacity* is the scale beyond which basic qualities that people claim in the protected area can be harmed by this development.

In addition, the definition of the management sub-areas relies on fundamental planning instruments (including policies, plans and regulations) of the territory of Albania<sup>7</sup>.

The main goal of the protected area administrators is that use of these activities should be environmentally friendly. A priority for the protected area is the preservation of ecosystem, habitats, species, landscape, restoration of natural balances and supporting capacities when they fail, while development is allowed. Several activities that generally fail to adapt to the protected area are not recommended to be implemented, such as organized massive tourism, large hotels, commercial complexes, tourist villages and sport and recreational service high level units etc. Agricultural activities, agro-forestry and traditional fishing must be always allowed in compliance with rules and natural balances.

The practical objective of area division strategy is to help administrators, user and decision-makers make their choice, according to positive or negative effects for any intervention required to be made in this protected area. Pursuant to article 4/2 of the law no. 8096, dated 06.06.2002 “On Protected Areas”, as amended, it has been established that:

- Territory of the protected area is divided into sub-areas as per the importance of habitats and ecosystems therein.
- Internal area division potentially includes the central area, recreation area, traditional use area, sustainable development area and other sub-areas adapted to the territory.
- Area division conforms protection scale with sub-area features, taking into consideration nature of the area, types of human activities therein and their impact on nature.

Likewise, the Decision of Council of Ministers (DCM) declaring the protected area defines the denomination, surface and protection scale of its sub-areas.

The proposed area division is in accordance with legal framework requirements on territory division of protected areas and up to date experience practices in our country.

<sup>7</sup> DCM no. 1, dated 18.10.2013 “On drafting of National General Plan (NGP), based on law “On territory planning”, as amended.

The specific features of each sub-area are taken into consideration during the definition of area division. The methodology used to determine preservation and management sub-areas was also based on “Ecological Study of Porto Palermo Bay and surrounding areas”.

In the fieldwork, there were identified proposals, assessment of relations among physical, biological and anthropological systems, in order to provide an overall assessment on nature, biodiversity, wildlife, landscape, history and culture, but also of the variety of relations and use between community and nature.

In the assessment and definition of central and effective management sub-areas, there have been taken into account their naturalness and natural assets, little disturbed by human activity. Priority has been given to entire preservation of nature and biodiversity, types of habitats and endangered species, according to classification Nature 2000 and/or those included in the Red Book. There have been assessed also extraordinary geomorphological natural features, natural monuments, unique land and marine-maritime landscape. Activities to be exercised were defined and also those that are not contrary to protection and management objectives for which the highest preservation scale will be applied.

The assessment and identification of recreational sub-areas and those of sustainable development was also based on naturalness, constituent assets, management goal and targets as well as social, economic and tourist allowed and prohibited activities. In this regard, the sub-area must guarantee a safe harmonic interaction of nature with culture through protection of landscape quality. Furthermore, the continuous land use, waters, marine and underwater, traditionally coordinate sub-area management with sustainable development, balancing economic, social and tourist one, in order to provide economic benefits that are not contrary to other management objectives.

Likewise, based on legal requirements it has been enabled the assignment of the protection scale of the sub-areas, taking into consideration ecological and geomorphological values, biodiversity, natural, cultural construction landscapes and space, and functional characteristics included in the protected area and surrounding lands.

Characteristics of the territory division of protected area “Palermo-Llamani Bay”, which is developed for the first time is the overlapping of area subdivision layers, taking into consideration marine and underwater surface. For instance, protection sub-areas of the spread of *Posidonia* are underwater (at 5, 25 m depth and more), which will be treated according to management goals. But these objectives are different from superficial marine sub-area goals that will have different uses and protection scales from underwater one, namely, a sustainable or even recreational development. In calculating the total surface of the protected area, only the upper marine and land surface will be taken into account.

Based on the best methods and practices applied in studies, for the protected area “Porto Palermo-Llamani

Bay”, there can be used the territory division system with four management zones as below:

**Core Zone** for which first protection scale will be implemented. The natural performance is very high, with little or no disturbance by human activity. Its priority is the full preservation of nature, biodiversity, endangered types, natural monuments, unique land and marine-maritime landscape, outstanding geomorphological natural features without the need of permanent improving interventions, which are managed in a way that can preserve natural state, in support of the facilitation of scientific research and environmental monitoring.

This sub-area has the character of strict protection. Social, economic, tourist, sports, recreational activities and other related activities are fully prohibited.

**Effective Management zone**, for which a second protection scale will be implemented. The natural performance is high, with very important natural habitats or locations with rare and endangered types. Its priority is the encompassing preservation of biodiversity, natural areas, representatives of physiographic and scenic regions for spiritual, scientific and educational purposes by integrating the management of protected area with sustainable and balanced use. It is characterized by ecosystems, landscape values and other natural values in which there can be exercised activities that do not run contrary to the protection purpose and management goals. Only environmental and educational ecotourism are allowed according to clear rules and restrictions for the sub-area.

**Recreational Zone** for which a third protection scale is implemented. The natural performance is good. It is defined as a sub-area that contains appropriate land, water and underwater surfaces and must guarantee a safe harmonic natural interaction with culture through protection of landscape quality, continuous use of land, waters, coast and sea in a traditional fashion ; of construction practices and characteristic and traditional social and cultural manifestations. To prevent where available the use of land, waters, marine and sea, performance of activities that are inappropriate in proportions and content. It allows opportunity for education, recreation in open air and underwater, non-massive sport and recreational activities and facilitations that observe functions of the protected area, ecological values, natural and cultural landscape and national and local general territory planning instruments.

**Sustainable Development Zone**, for which a third protection scale is implemented. The natural performance is sufficient. Its priority is harmonization of the preservation of nature, landscape and biodiversity, in harmony with protected area management and sustainable economic and social development.

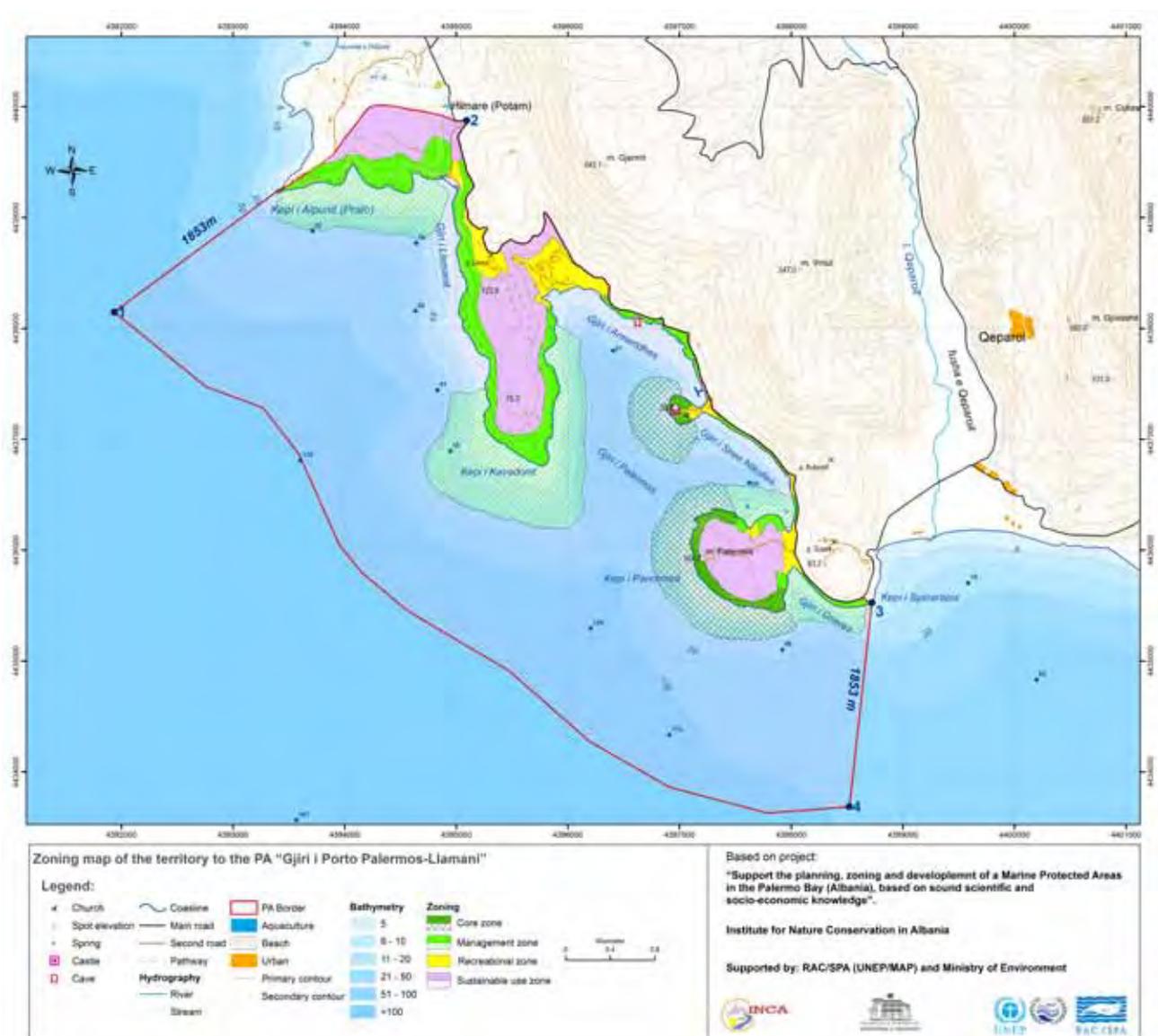
Apart from social and economic development, the sub-area must provide and maintain conditions of indispensable habitat for the protection of important types, group types, biotic communities or physical characteristics of the environment that require particular human intervention for effective management.

It supports the facilitation of scientific research and environmental monitoring of prior activities related to sustainable management of natural resources. Through sustainable and balanced long-term use, the subarea should give local population an opportunity to derive economic profits that are not contrary to other management objectives.

Urban developments of different objects or infrastructure and services for the needs of inhabitants, visitors and businesses are conducted in compliance with the management plans and development instruments approved by NTC.

Table 6: Management zones

No.	Zones	Area (ha)	%/Total
1	Core zone (CZ)	119.44	5.78
2	Effective Management Zone (EMZ)	325.83	15.76
3	Recreation Zone (RZ)	42.61	2.06
4	Sustainable Development Zone (SDZ)	1,579.87	76.41
	<b>TOTAL</b>	<b>2,067.75</b>	<b>100.00</b>



Map 4: Zoning of the Protected Area territory "Porto Palermo-Llamanii Bay"

### 3.3 Management Actions

Protective, planning and management measures applicable to each sub-area should be adequate to achieve the objectives of long-term conservation and in particular to take into account the threats posed. Also, they prepare the ground for assessing the adequacy of measures adopted, efficiency of implementation and review of the management plan. Management actions are based on sound knowledge of the elements of natural marine environment, coastal, terrestrial and social, economic and cultural factors of each sub-area.

In accordance with the applicable rules and laws, planning, management, supervision and monitoring should involve every individual sub-area. Regarding the specifics of the protected area, action measures should consider the following key aspects:

1. Development and approval of the management plan specifying the legal framework, institutional, management and protective applicable measures.
2. Concurring involvement of the maritime, coastal and land territories in respect of which coordination, administration and management should be provided as an integral process.
3. Formulation of the monitoring programme to include the identification, assessment of a number of key standards for the area, situation, collection of missing data and information, effectiveness of the protective and management measures applied.
4. Monitoring the access or re-access of the invasive species to the protected area.
5. Monitoring rules for the discharge or dumping of waste and other substances that directly or indirectly affect the protected area integrity.
6. Active participation of the local population, especially of the residents affected by the declared protected area and certain management measures.
7. Specification of mechanisms to finance the promotion of area management to carry out activities ensuring that the management is in line with the objectives of these sub-areas.
8. Regulating the activities or actions harming or disturbing species or that may endanger the conservation status of ecosystems, habitats, species that may harm natural, cultural and esthetic characteristics of the area.
9. Regulating social, economic, touristic, traditional and cultural activities in accordance with the objectives for which the protected area is declared and the relevant permit requirements.
10. Establishment and operation of the management administration under adequate authorities and human resources to prohibit and control the activities that may be contrary to the protected area objectives.
11. Training of managers, qualified technical staff for the development of appropriate infrastructure to carry out work and visitors' reception and information.

Selection of management actions in conformity with management sub-areas and all opportunities for future developments should carefully consider a number of problems related to the presence of limited natural resources. These should be clearly reflected in management actions for each component of the system: what is and what is not allowed or permitted within the protected area. Thus, action plans to protect and recover protected areas should be designed and implemented.

Form of land, slopes, vegetation quality, historical housing areas, transport and agriculture, with a high value for the image of the area, sensitivity of land and marine ecosystems and habitats, use of infrastructure and services etc., should be all carefully protected, which may largely limit the availability of the area for construction activities in the future by private businesses or administration, especially those areas with clear focus on tourism activities.

Attention should be paid to risks of natural origin or those caused by human activities, linked with current or future development processes of the protected area. In this case, social, economic and tourism activities should be based on the special character of the sub-area, and should consider activities which are both prohibited and permitted.

The objectives of conservation are combined with the best practices of nature preservation and biodiversity and a sustainable socio-economic growth. This can help create the basic living conditions, ensure the existence and enhance the life quality of local population, and strengthen local identity.

Integration of traditional activities with the protective measures should take into account the traditional living and cultural activities of local population. Exceptions could be made only if necessary to meet their needs. However, no exception should be made for the following reasons:

- a. When they threaten the preservation, destroy or damage the ecosystems, types of protected habitats and biological processes contributing to their conservation;
- b. When they cause the elimination or shortage of the number of population species of flora and fauna, especially migratory or endemic, endangered or threatened species.

Some social, economic and tourism activities, which are generally not in line with the status and conditions of the protected area, are not recommended to be applied, such as the large number of services and facilities, organization of mass tourism in the area, big hotels, complex trade centers, major resort centers, not environmentally-friendly infrastructure, high-level sports facilities and recreational services, noisy activities, associated with a large number of people and means in the same place and time, or who repeatedly disturb wildlife flora and fauna etc.

Additionally, areas designated as protected landscape sub-areas are quite suitable for environmentally sustainable recreation areas, for which special measures are required to be taken. Such areas are designated at Llamani bay, Porto Palermo Castle, the new area, «Panorama beach», fishermen center, Grava Bay area, all of them parts of Panorma peninsula.

Of course, visitors are welcome, but they can also become a heavy burden, if not well-managed and not organized. Visitors are important groups to reach the objectives for environmental education and public awareness. They are equally important for improving the economic situation and living conditions of the inhabitants. Therefore, local population and the administration should have the same interests for the attraction of visitors.

Daily visitors are welcome, and it is essential to give them the opportunities «to experience our nature, cultural values and the hospitality of local population. For this purpose, it is required to create and maintain appropriate facilities and develop an attractive area for visitors and tourists, which also support the local economy.

The central sub-area is primarily more sensitive to disturbances by human presence, and is limited to visitors. On the other hand, it is important that areas where visitors can experience the beauty of nature, monitor attractive biodiversity and other relevant characteristics of the Protected Area, should be carefully identified. The task for the administration is to establish specific infrastructure facilities for visitors, which should be sufficiently attractive to feel real characteristics of the sensitive areas.

Sightseeing landmarks and booklet information for visitors are important to guide them to move safely through the territory of the protected area with the right information. The territory is geographically divided into four main areas:

Llamani Bay, Armerida Bay, St. Nicholas Bay and Grava Bay. Amazing landscapes are Alpuni bay, Kavadoni, Panorma, Spinarisi and Castle of Porto Palermo Peninsula.

In this context, special attention should be paid to the process of environmental education, awareness of local permanent residents and newcomers, through establishment of information centers and environmental museums; visits and sightseeing in nature, diving, skiing visitors, boat sailing, rowing, swimming; flora and fauna researchers, photography and nature painting etc., with small groups, who maintain the tranquility of the area, characteristics of wild nature, land and water, and who cause no damage, disturbance and pollution to the area, based on environmental capacity standards.

Competences and responsibilities for the administration and implementation of conservation measures of the proposed areas should be clearly described in the text documents prepared for each sub-area. Also, a managing body vested with sufficient power should be appointed, together with appropriate means and human resources to prevent and/or implement all activities contrary to the objectives of the protected area.

Recruitment and job description of the staff of protected area will be based on legal provisions of the legislation in force regarding the conservation of nature, biodiversity and protected areas, through implementation of national and international best practices, sustainable use and promotion of their values with the participation of all stakeholders.

Administrators and users of the protected area should take into account these processes, where table 7 clearly specifies the management actions for each system component within the protected area.

Table 7: Zoning of Protected Area “Porto Palermo-Llamani Bay”

Nature Type/Natural and Cultural Assets	Human/Social/ Economic and Touristic Activities
Core Zone (CZ)	First Level of Protection
<p>The total area is 119.44 hectares, of which 18.76 hectares are land areas, and 100.68 hectares are marine areas.</p> <p><b>Description:</b> The Central Sub-Division area includes the entire Ali Pasha Castle peninsula, excluding existing buildings, parking square and the St. Nicholas Church and the road leading to the Castle. Also, parts of southern, western and northern Panorma peninsula are included as a geo-morphological unit with special characteristics of the protected area.</p> <ul style="list-style-type: none"> <li>• <b>Habitats and Species:</b> <ul style="list-style-type: none"> <li>- <b>Thermo-Mediterranean and pre-desert shrubs</b>, associated with milkweed plant (<i>Euphorbia dendroides</i>), which are considered the most interesting and almost unique in Albania, and as an important EC natural habitat. The area is also rich in other species such as Mediterranean oak, olive, nutmeg, pistachia, chaste tree, wild pomegranate, juniper, wild olive, hackberry, figs, brier, Redbud Judas tree, Phomis, sea onion, white oregano, etc.</li> <li>- <b>Biocenosis of low mid-littoral rocks</b>, mainly red algae (<i>Lithophyllum byssoides</i>).</li> <li>- <b>Sea grass meadows</b> composed of three plant species: <i>Posidonia oceanica</i>, <i>Cymodocea nodosa</i> and <i>Halophila stipulacea</i>. The west coast of Porto Palermo Castle lacks Posidonia meadows.</li> <li>- There is also a great diversity of fish around this sub-division, such as <i>Chelon sp.</i>, <i>Mullus surmulletus</i>, <i>Diplodus sp.</i>, <i>Coris juli</i>, <i>Serranus cabrilla</i>, <i>Oblada sp.</i>, <i>Chromis sp.</i> etc.</li> </ul> </li> <li>• <b>Cultural Values:</b> Undersea area of Amphora. Natural performance is highly developed. High priority in the area is given to the conservation of the entire natural area, biodiversity and exceptional natural geo-morphological features, slopes of Cape of Panorma Castle, cultural and archaeological values, which shall not be adversely affected by human activities.</li> </ul>	<p><b>Activities totally prohibited in this sub-division area:</b></p> <ul style="list-style-type: none"> <li>• Social-economic, touristic and construction activities, use of intensive technologies, means and methods causing changes to biodiversity, structure and functions of land and marine ecosystems.</li> <li>• Activities involving use of land and land reclamation, or use of subsoil of the territory, seabed or land area.</li> <li>• Abuse and maltreatment of wildlife, including illegal hunting, overfishing and use of prohibited means and methods in the protected area and in surrounding area.</li> <li>• Soil excavation, quarries, extraction of sand and gravel.</li> <li>• Disposal of solid waste, hazardous aggregates and other poisonous, explosive, fertilizers and pesticide materials.</li> <li>• Change of the natural state of water reserves, resources and undersea caves.</li> <li>• Introduction of any non- indigenous species, genetically modified species or re-introduction of previously existed species, damage of Posidonia meadows from the marine-culture and anchors.</li> <li>• Any activities or other actions that might damage or disturb the species or threaten the conservation of ecosystems, habitats and species, or damage the natural, cultural and landscape characteristics.</li> <li>• Hunting activities and any means of fishing and marine-culture.</li> <li>• Cutting of forest vegetation and grazing activities.</li> <li>• Intentional arsons on the coast.</li> <li>• Pollution from ships, discharge of hydrocarbons, wastewater and untreated sewage.</li> <li>• Disposal of waste and substances from ships, installations and the coast.</li> <li>• Wrecking/drowning of ships, cargo and goods of any type, barrels, metal and glass waste and other heavy materials for intended sinking at the sea floor.</li> <li>• Movement of any types of motor vehicles (except firefighters, first aid and administration vehicles).</li> <li>• Establishment of facilities for sports and recreational activities, camping, large-scale artistic and cultural activities.</li> <li>• Sailing activities for boats, canoes and other navigation means, and race activities with vehicles, motorbikes and bicycles.</li> <li>• Military drills and exercises.</li> </ul> <p><b>Activities allowed in this sub-division area:</b></p> <ul style="list-style-type: none"> <li>• Temporary recovery interventions, only in cases of natural disasters or other human origin disasters, such as fires, diseases, disposal of solid waste, plastics, aggregates, hydrocarbons, and establishment of facilities for reception and hosting visitors and tourists.</li> <li>• Daily visit within the territory of Porto Palermo Castle, according to the previously approved guides.</li> <li>• Photographing, painting nature, landscape, flora and fauna species, only in certain places assigned by the administration.</li> <li>• Research and environmental monitoring of the sub-division area, with special authorization of the administration of Protected Area.</li> </ul> <p>The staff will support the scientific research and environmental monitoring activities in sub-division area, primarily those related to a sustainable management of natural resources. Protection of the area is provided in cooperation with local authorities and other interested parties, through patrolling activities, based on strict implementation of rules or certain methodologies.</p>

Nature Type/Natural and Cultural Assets	Human/Social/ Economic and Touristic Activities
Effective Management Zone (EMZ)	Second Level of Protection
<p>The total area is 325.83 hectares, of which 96.99 hectares are land area, and 228.84 hectares are marine areas.</p> <p><b>Description:</b></p> <p>This sub-division area includes the landside steep slopes, covered with typical Mediterranean vegetation and some sumac spots, from Alpuni Cape to Allamani beach. There are also present steep slopes in South Llamani Beach down the road Himara-Qeparo up to Lera Pass, which is widely dominated by typical Mediterranean vegetation and some sumac spots.</p> <p>The northern and southern part of Kavadori Cape, down the Lera Pass, in a 200 m distance from the coast, is made of steep slopes covered with xerophytes' vegetation, mainly pastures up to the military tunnel. There are slopes along the road, from the military area to Spinarisi Cape. There are also parts of Panorma Cape and Grava bay, which are not included in Central Subdivision area. Several caves and undersea water sources are also observed at Llamani and Armerida Bays.</p> <ul style="list-style-type: none"> <li>• <b>Habitats and Species:</b> <ul style="list-style-type: none"> <li>- <b>Thermo-Mediterranean and pre-desert shrubs</b>, associated with milkweed plant (<i>Euphorbia dendroides</i>). Rich with fauna vegetation: <i>Salvia triloba</i>, <i>Lotus cytisoideis</i>, <i>Phlomis fruticosa</i>, <i>Glaucium flavum</i>, <i>Galium aparine</i>, <i>Pistacia terebinthus</i>, <i>Spartium junceum</i>, <i>Ruscus aculeatus</i>, <i>Asparagus acutifolius</i>, <i>Urginea maritima</i>, <i>Asphodelus aestivus</i>, <i>Chrysopogon gryllus</i>, <i>Acanthus spinosus</i>, <i>Trifolium angustifolium</i>, <i>Brassica incana</i>, <i>Paliurus spina-christi</i>.</li> <li>- <b>Phrygana</b>, dominated by <i>Phlomis fruticosa</i> (assoc. <i>Chrysopogono-Phlometum fruticosae</i>), and associated also with <i>Salvia fruticosa L.</i>.</li> <li>- <b>Mediterranean pseudo-steppes/prairies vegetation</b>, dominated by <i>Brachypodium ramosum</i> (assoc. <i>Brachypodietum branching</i>) on limestone rocks of degraded appearance. The vegetation of <i>Quercus ithaburensis subsp. macrolepis</i>, known as oaks of Vlora, considered a relict species dating back to the Tertiary period, which is present in spot form in the northern and eastern area of hills of Llamani bay and Kavadori Cape.</li> <li>- <b>Low Biocenosis of mid-littoral rocks</b>, mainly red algae (<i>Lithophyllum byssoides</i>).</li> <li>- <b>Biocenosis of mid-littoral caves</b>, varieties such as <i>Hildenbrandia prototypus</i>, <i>Phymatolithon lenormandii</i>, <i>Peyssonelia spp.</i> etc are grown.</li> <li>- <b>Biocenosis of infra-littoral algae</b>, associated with <i>Cystoseira amentacea</i> var. <i>spicata</i>.</li> <li>- <b>Sea grass meadows</b>, represented by three species of plants: <i>Posidonia oceanica</i>, <i>Cymodocea nodosa</i> and <i>Halophila stipulacea</i>.</li> <li>- <b>Associations of biocenosis with coralogens.</b></li> <li>- Llamani bay is represented in deep waters with macrobentics by algae mucilaginous, other photofiles, black urchins (<i>Arbacia lixula</i>) and sponges dominated by <i>Chondrilla nucula</i>.</li> <li>- Porto Palermo bay, macrobenthos is dominated by the algae population photofile, sponges (<i>Chondrilla nucula</i>) and black sea urchin (<i>Arbacia lixula</i>). <i>Cystoseira</i> is present along the northern coast. Meadows of <i>Posidonia oceanica</i> are degraded, especially in the southern part, while in the north they are in a better condition. There is a relatively large presence of sponges such as <i>Codium sp. dbe</i> <i>Pinna nobilis</i> in this area. In the south, close to the lower limit of <i>Posidonia</i> meadow, other invasive alga <i>Caulerpa racemosa</i> var. <i>cylindracea</i> (<i>Caulerpes vines</i>) are identified.</li> <li>- In the area around Panorma Peninsula and Spinarasi Cape, the mid-littoral is characterized by a continued presence of algae <i>Cystoseira amentacea</i> and other Photofiles dominated by <i>Padina</i>, <i>Acetabular</i> and <i>Dyctyota</i>. In the eastern part, near the lower border of <i>Posidonia</i>, coralogenous formations are present with high sponge and macro-algae diversity, and sponges of genus <i>Axinella</i>, <i>Agelas</i> and <i>Sponge</i>.</li> <li>- Within this sub-division area it is also found a wide variety of fish but the most common ones are <i>Chelon sp.</i>, <i>Mullus surmulletus</i>, <i>Diplodus sp.</i>, <i>Coris juli</i>, <i>Serranus cabrilla</i>, <i>Oblada sp.</i>, <i>Chromis sp.</i> etc.</li> </ul> </li> <li>• <b>Cultural Values:</b> <ul style="list-style-type: none"> <li>No specific cultural values.</li> <li>High level natural performance.</li> <li>High priority is given to entire biodiversity conservation, exceptional geomorphological natural features, slopes, scenic natural areas, cultural and archaeological values, which shall not be maltreated by human activities.</li> </ul> </li> </ul>	<p><b>Activities prohibited in this sub-division area:</b></p> <ul style="list-style-type: none"> <li>• Activities involving use of land and land reclamation, or use of subsoil of the territory, seabed or land area.</li> <li>• Any activities or other actions that might damage or disturb the species or threaten the conservation of ecosystems, habitats and species, or damage the natural, cultural and landscape</li> <li>• Any kind of construction activities along the slopes at a distance from the shore closer than 300m; no violations or changes of destination of capes and bays.</li> <li>• Spillover of oil, wastewater, sewage and untreated sanitary materials.</li> <li>• Wrecking/drowning of ships, cargo and goods of any types, barrels, metal and glass waste and other heavy materials for intentional sinking at the sea floor.</li> <li>• Introduction of any non- indigenous species, genetically modified species or reintroduction of previously existed species, damage of <i>Posidonia</i> meadows from the marine-culture and anchors.</li> <li>• Soil excavation, stone excavation plants, extraction of sand and gravel.</li> <li>• Hunting and any kind of fishing and marine-culture activities.</li> <li>• Disposal and collection of waste, construction activities in road sides and scenic places preferred by visitors.</li> <li>• Disposal of solid waste, hazardous aggregates and other poisonous, explosive, fertilizers and pesticide materials.</li> <li>• Movement of any types of motor vehicles (except firefighters, first aid and administration vehicles).</li> <li>• Pollution from ships, discharge of hydrocarbons and wastewater, untreated sewage materials.</li> <li>• Change of the natural state of water reserves, resources and undersea caves.</li> <li>• Establishment of facilities for sports and recreational activities, camping, large-scale artistic and cultural activities.</li> <li>• Damages to the natural quality of sea, land and coastal, landscape, including the associated biological resources and cultural values.</li> <li>• Cutting of forest and vegetation activities and intentional arsons along the coast.</li> <li>• Damage and abuse of wildlife, including illegal hunting, overfishing and use of prohibited means and methods in and around the protected area.</li> <li>• Military drills and exercises.</li> <li>• Socio-economic, tourism, trade, and construction activities, and use of intensive technologies, tools and methods adversely affecting changes in biodiversity, structure and functions of land and marine ecosystems.</li> <li>• Boat, canoe and other sailing activities, and organization of massive car, motorbike and bicycle racing activities in the area.</li> </ul> <p><b>Activities allowed in this sub-division area:</b></p> <ul style="list-style-type: none"> <li>• Peaceful activities, visits to cultural heritage sites and use of gastronomic traditions through organized guide tours or limited groups, which do not disturb the area tranquility, characteristics of wild nature, and promotion of ecotourism development from specialized and approved agencies.</li> <li>• Nature and education-oriented ecotourism, according to the rules and clear limitations of the specific sub-division area.</li> <li>• Activities of photographing, painting nature and landscape, or even diving, only in certain places assigned by the administration staff.</li> <li>• Creation and establishment of necessary infrastructure facilities for the reception and information of visitors, mainly at entry points, attractive areas and assembly points in accordance with the environmental capacity.</li> <li>• Construction of small harbors for boats and speedboats, and parking places at certain points as assigned by the administration of Protected Area.</li> <li>• Temporary recovery interventions only in cases of natural disasters or those caused by human activity, such as fires, diseases, removal of solid waste, plastics, glass, iron and hydrocarbon materials, etc.</li> <li>• Discovery, sightseeing and entertainment of natural areas (walking through the permitted paths and trails, free or guided sightseeing visits, study of land and sea flora and fauna, study the special value landscapes with geo-morphological and geological forms, caves, etc.).</li> </ul> <p>The staff will support the scientific research and environmental monitoring activities in the sub-division area, primarily those related to a sustainable management of natural resources.</p> <p>Area protection is provided in cooperation with local authorities and other interested parties through patrolling activities, based on strict implementation of rules or certain methodologies.</p>

Nature Type/Natural and Cultural Assets	Human/Social/ Economic and Touristic Activities
Sustainable Development Zone (SDZ)	Third Level of Protection
<p>The total area is 1,579.87 hectares, of which 157.00 hectares is land area and 1,422.87 hectares is marine area.</p> <p><b>Description:</b></p> <p>The land area of this sub-division includes all the territory remaining from Central Sub-division Area, Efficient Management Sub-division area and Recreation Area, mainly the upper side of Alaupi Cape, Llamani beach, central part of Kavadori, Panorma and Spinarisi Cape, and slopes along the motor-road. All the undersea marine water area, water resources under Armerida bay and other caves are also included.</p> <ul style="list-style-type: none"> <li>• <b>Habitats and Species:</b> <ul style="list-style-type: none"> <li>- <b>Thermo-Mediterranean and pre-desert shrubs</b>, consisting of associations milkweed plant (<i>Euphorbia dendroides</i>), to Panorma Cape. Floristic composition of this community mostly consists of <i>Salvia triloba</i>, <i>Lotus cytisoides</i>, <i>Limonium anfractum</i>, <i>Elymus pycnanthus</i>, <i>Desmazeria marina</i>, <i>Lotus cytisoides</i>, <i>Phlomis fruticosa</i>, <i>Glaucium flavum</i>, <i>Galium aparine</i>, <i>Pistacia terebinthus</i>, <i>Spartium junceum</i>, <i>Ruscus aculeatus</i>, <i>Asparagus acutifolius</i>, <i>Urginea maritima</i>, <i>Asphodelus aestivus</i>, <i>Chrysopogon gryllus</i>, <i>Acanthus spinosus</i>, <i>Trifolium angustifolium</i>, <i>Brassica incana</i>, <i>Paliurus spinachristi</i>.</li> <li>The following species: <i>Crithmum maritimum</i>, <i>Limonium anfractum</i>, <i>Elymus pycnanthus</i>, <i>Desmazeria marina</i>, <i>Lotus cytisoides</i>, etc. represent endemic communities of <i>Crithma-Limonietum anfracti</i>, <i>Capparis orientalis</i>, <i>Putoria calabrica</i>, <i>ephedra foemina</i>, etc. Further, <i>Acis Ionica</i>, <i>Athamanta macedonica</i>, <i>Brassica incana subsp. egaea</i>, etc., represent rare vegetation and some sub-endemic relict species.</li> </ul> </li> <li><b>Marine benthic communities and habitats</b> <ul style="list-style-type: none"> <li>- <b>Low Biocenosis mid-littoral rocks</b> are usually made of red algae (<i>Lithophyllum byssoides</i>).</li> <li>- Biocenosis of mid-littoral caves, grown varieties such as <i>Hildenbrandia prototypus</i>, <i>Plymatolithon lenormandii</i>, <i>Peyssonelia spp.</i>,</li> <li>- <b>Biocenosis of infra-littoral algae</b></li> <li>- <b>Associated with <i>Cystoseira amentacea</i> var. <i>spicata</i>.</b></li> <li>- <b>Sea meadows</b> are usually made of three plant species: <i>Posidonia oceanica</i>, <i>Cymodocea nodosa</i> and <i>Halophila stipulacea</i>.</li> <li>- <b>Coralogen Biocinosis is associated with</b> Llamani bay is dominated by mucilaginous algae, other photofiles, black urchins (<i>Arbacia lixula</i>) and sponge species dominated by <i>Chondrilla nucula</i>. In Porto Palermo, macrobentos is dominated by algae photofile population, sponges (<i>Chondrilla nucula</i>) and black sea urchins (<i>Arbacia lixula</i>). In the northern part, Posidonia meadow is in a good condition with a significant presence of <i>Codium sp.</i> and <i>Pinna nobilis</i>. While in the south, many other invasive alga <i>Caulerpa racemosa</i> var. <i>cylindracea</i> (<i>Caulerpes vines</i>) are also identified.</li> <li>- The mid-littoral area of Panorma Peninsula - Spiranasi Cape is characterized by a continued presence of algae <i>Cystoseira amentacea</i> and other photofiles dominated by <i>Padina</i>, <i>Acetabular</i> and <i>Dyctyota</i>.</li> <li>- The north-west and east, near the lower border of Posidonia, is populated with rich coralogene formations and sponges and makro-algae species such as <i>Axinella</i>, <i>Agelas</i> and <i>Spongia</i>.</li> <li>- Area of Porto Palermo-Llaman is quite diverse and has a diversity of fish, the most common of which are as follows: <i>Chelon sp.</i>, <i>Mullus surmulletus</i>, <i>Diplodus sp.</i>, <i>Coris Juli</i>, <i>Serranus cabrilla</i>, <i>Oblada sp.</i>, <i>Chromis sp.</i> etc.</li> </ul> </li> <li>• <b>Cultural Values:</b> <p>There are not any special cultural values.</p> <p>Normal natural performance.</p> <p>Priority is given to the harmonization of nature conservation, landscape and biodiversity, coordinating the management of protected area and a sustainable economic and social development.</p> </li> </ul>	<p><b>Activities prohibited in this sub-division area:</b></p> <ul style="list-style-type: none"> <li>• Activities involving use of land and land modification, or use of subsoil of the territory, seabed or land area.</li> <li>• Any activities or other actions that might damage or disturb the species or threaten the conservation of ecosystems, habitats and species, or damage the natural, cultural and landscape characteristics.</li> <li>• Spillover of oil, wastewater, sewage and untreated sanitary materials.</li> <li>• Wrecking/drowning of ships, cargo and goods of any types, barrels, metal and glass waste and other heavy materials for intentional sinking at the sea floor.</li> <li>• Introduction of any non- indigenous species, genetically modified species or reintroduction of previously existed species, damage of Posidonia meadows from the marine-culture and anchors.</li> <li>• Soil excavation, rock excavation plants, extraction and displacement of sand and gravel.</li> <li>• Hunting activities and any means of fishing and marine-culture activities out of the rules of management.</li> <li>• Disposal and collection of urban waste, construction activities along the roads and scenic places preferred by visitors.</li> <li>• Disposal of solid waste, hazardous aggregates and other poisonous, explosive, fertilizers and pesticide materials.</li> <li>• Pollution from ships, discharge of hydrocarbons, wastewater and untreated sewage.</li> <li>• Use of Porto Palermo harbor by big fishing boats.</li> <li>• Damage of the natural quality of coastal, sea and land landscape, including the associated biological resources and cultural values.</li> <li>• Cutting of forest vegetation and activation of intentional arsons along the coastline.</li> <li>• Abuse and maltreatment of wildlife, including illegal hunting, overfishing and use of prohibited means and methods in and around the protected area.</li> <li>• Military drills and exercises.</li> </ul> <p><b>Activities allowed in this sub-division area:</b></p> <ul style="list-style-type: none"> <li>• Peaceful activities, visits to cultural heritage sites and use of gastronomic traditions through organized guide tours or limited groups, which do not disturb the area tranquility, characteristics of wild nature, and promotion of ecotourism development from specialized and approved agencies.</li> <li>• Sustainable activities and controlled traditional fishing, gradually removing the marine-culture activity from the Protected Area.</li> <li>• Activities that do not affect the ecological ecosystem integrity cannot be applied unless an environmental license is issued.</li> <li>• Social-economic seasonal activities, grazing, collection of medicinal plants, and use of land for agricultural products.</li> <li>• Creation and establishment of necessary infrastructure facilities for the reception and information of visitors, mainly at entry points, attractive areas, assembly points, in accordance with the environmental capacity.</li> <li>• Seasonal livestock grazing and their traditional breeding activity (except goats), along with the creation and maintenance of shelter and nutrition facilities.</li> <li>• Support of lifestyles and economic activities in harmony with nature, preserving the spiritual and cultural constitution of local population.</li> <li>• Maintenance and treatment of urban waste, sewerage and wastewater, mainly in specific areas for visitors.</li> <li>• Construction of small harbors and parking facilities at certain points by the administration of the Protected Area.</li> <li>• Temporary recovery interventions only in cases of natural disasters or those caused by human activity such as fires, diseases, disposal of solid waste, plastics, glass, iron and hydrocarbon materials etc.</li> <li>• Construction of infrastructure for sports activities, entertainment, water sports and diving, water motor activities, boats, speedboats (within a limited areas assigned by the administration), sport fishing, and outdoor sightseeing tours as determined by the administration.</li> <li>• Long-term sustainable and balanced use of natural land, sea and seabed resources of the area for economic benefits of local population, which are not in conflict with the general management goals of the area.</li> <li>• Use of Porto Palermo dock for a limited number of tourist boats and speedboats for artisanal fishermen boats, first aid boats and other authorities in the sea area.</li> <li>• Discovery, sightseeing and entertainment of natural areas (walking through the permitted paths and trails, free or guide sightseeing visits, study of land and sea flora and fauna, study of special value landscapes with geo-morphological and geological forms, caves, etc.).</li> </ul>

Nature Type/Natural and Cultural Assets	Human/Social/ Economic and Touristic Activities
Sustainable Development Zone (SDZ)	Third Level of Protection
	<ul style="list-style-type: none"> <li>Urban development of various facilities and infrastructure supporting the needs of residents and businesses will take place in support of the management plan and Urban Development and Planning Instruments adopted by the Territory Council.</li> </ul> <p>The staff will support the scientific research and environmental monitoring activities in sub-division area, primarily those related to a sustainable management of natural resources. Besides the social-economic development, the area has to provide and preserve habitat conditions required for the protection of important species, and groups of species, biotic communities or environmental physical characteristics. This requires special human intervention for a sustainable management.</p> <p>Protection of the area is provided in cooperation with local authorities and other interested parties, through patrolling activities, based on strict implementation of rules or certain methodologies.</p>
Recreation Zone (RSDA)	Third level of protection
<p>Total land area is 42.61 hectares.</p> <p>Distance for use by recreation visitors should not exceed 150-200 meters, and is limited up to the sea floating anchor, in order to alert and restrict their use by boats, speedboats, water motors and other vessels threatening the life of visitors.</p> <p><b>Description:</b> It includes all present centers used by business and visitors and tourists in Llamani, Armerida, Saint Nichols', and Grava Bays, as well as all military premises to be reclassified and used for recreation and touristic purposes.</p> <ul style="list-style-type: none"> <li><b>Habitats and species:</b> Not any habitats and species.</li> <li><b>Cultural values:</b> Porto Palermo Castle and St. Nichols' Church.</li> </ul>	<p><b>Activities prohibited in this sub-division area:</b></p> <ul style="list-style-type: none"> <li>Activities including the misuse or modification of certain parts of land, underground or seabed areas.</li> <li>Discharge of hydrocarbons, wastewater, sewerage and untreated sanitation waters.</li> <li>Wrecking/drowning of ships, charges and goods of any type, as well as barrels, metal and glass wastes and other heavy wastes that may be submerged at the bottom of sea.</li> <li>Soil excavation, rock excavation plants, extraction and movement elsewhere of sand and gravel.</li> <li>Hunting activities and any means of fishing and marine-culture activities out of the rules of management.</li> <li>Disposal and collection of urban waste, construction activities along the roads and scenic places preferred by visitors.</li> <li>Disposal of solid waste, hazardous aggregates and other poisonous, explosive, fertilizers and pesticide materials.</li> <li>Pollution from ships, discharge of hydrocarbons, waste waters and untreated sewage.</li> <li>Use of Porto Palermo harbor by big fishing boats.</li> <li>Damage of the natural quality of coastal, sea and land landscape, including the associated biological resources and cultural values.</li> <li>Cattle grazing and breeding activities of the sub-division area.</li> </ul> <p><b>Activities allowed in this sub-division area:</b></p> <ul style="list-style-type: none"> <li>Creation and establishment of necessary infrastructure facilities for the reception and information of visitors, mainly at entry points, attractive areas, assembly points, in accordance with the environmental capacity.</li> <li>Evaluation and reclassification of the existing military buildings in order to transform them to resort facilities, recreation areas and reception areas for tourists and visitors.</li> <li>Maintenance and treatment of urban waste, sewerage and wastewater, mainly in the recreation areas.</li> <li>Temporary recovery interventions only in cases of natural disasters or those caused by human activity such as fires, diseases, removal of solid waste, plastics, glass, iron and hydrocarbon materials etc.</li> <li>Construction of small harbors and parking facilities as defined by the administration of protected area.</li> <li>Construction of residential or touristic facilities in this sub-division area will take place only after the assignment of parcels for public use, including the road corridors of communal infrastructure and green areas, as well as a belt of 10-50 meters from the seashore for installing tents and light units of services for tourists and visitors.</li> <li>Constructions of facilities for public use, sports tracks and playgrounds, water and diving sports, use of water motors, boats, speedboats, sports fishing facilities, watch-towers, sightseeing in specific paths, subaqueous museum, parking lots, camps, those for spiritual purposes, cultural activities, libraries, fairs, exhibitions, public activities, photographing, nature and landscape painting, coastal roads, food facilities or entertainment places for visitors and tourists etc.</li> <li>The touristic activity in the former military properties should not have a high density and not be bordered by buildings affecting the forms of landscape. Further, a detailed regulatory plan has to be adopted by the National Territory Council, in full compliance with the defined objectives and management priorities of the protected area.</li> <li>Social-economic, touristic, commercial and service activities in support of tourists and visitors.</li> </ul> <p>The staff will support scientific research and environmental monitoring activities in the sub-division area, primarily those related to the sustainable management of natural resources. Protection of the area is provided in cooperation with local authorities and other interested parties, through patrolling activities, based on strict implementation of rules or certain methodologies.</p>

### 3.4 Action Plan

The action plan supports the full implementation of the management plan, programs, long term and short-term objectives set for the management of protected area, deadlines and responsible units to deal with their implementation.

**Strengthening of the protected area administration and management** ensures the administration and management of unique marine, coastal and landscape biodiversity, and maintains the underlying ecological processes of the protected area, thus allowing long-term social, economic and eco-touristic activities in accordance with its vision.

The action plan sets out measures to be launched for the establishment and operation of the administration upon the declaration of protected area. Measures for the participants and stakeholders for recognition, implementation of the applicable legal provisions, management plan. Need for further capacity development, solid cooperation with Himara Municipality and other local groups of interest. These measures also require the provision of necessary working and logistics tools for the task performance of the protected area administration personnel.

**Maintenance of ecosystem, habitats, biodiversity and marine and coastal landscapes.** The objective is for their long-term conservation, particularly with regard to types of habitats and threatened and endangered species. Action measures consist in the management of flora and fauna species, in order to maintain them in a favorable state of conservation. This will be achieved through the identification, preparation of lists for the types of habitats of threatened and endangered species, based on their protection status. Action measures should arrange, and when it is necessary, prohibit activities that have negative effects on species or their habitats, and perform other management measures to ensure a favorable state of their conservation. At the same time, action measures should be formulated and implemented in order to protect, renew and improve their threat status, including migratory species, through the development of a specific action plan.

Another important measure in the protected area should be taken to regulate the inflow in natural habitats of purposeful or accidental non-indigenous or genetically modified species, and to prevent the access of those species with severe effects on ecosystems, habitats or species, such as Agave (*Agave americana* L.), nutmeg (*Ailanthus altissima* (Mill.) Swingle), *Caulerpa racemosa* var. *cylindracea*, *Halophila stipulacea*, Crabs (*Pernon gibbesi*) etc.

**Sustainable use of natural coastal-marine resources, including historical and cultural ones.** This action is in support of security, consolidation of management system, long-term use of natural resources, characteristics of the landscape and historical and cultural values, in accordance with the ecological capacity of the protected

area. They regulate, according to specific sub-areas, concrete actions for a better use of these resources, provide income for the improvement of living conditions of local communities, and offer a sustainable improvement of ecosystem services through financial mechanisms that can boost funding for nature regeneration and service related activities.

The main economic activity within the protected area is marine-culture activity, as agricultural activities, sylvo-pastoral and cattle breeding activities remains very limited. Fishing in Porto Palermo is relatively a less important activity. The action measures consist in the development of artisanal fishing in groups, with limited local fishermen and touristic fishing.

Another important measure is the enforcement of monitoring, inspection and surveillance, in order to ensure proper fishery management, prohibit this activity in Porto Palermo bay and illegal collection of destructive date mussels (*Lithophaga*), which has caused damages to the rocky coast. Protected Area management process will include local fishermen and artisanal fishing groups (small business fishermen).

The action plan provides that all private businesses whose marine-culture permit/license expires in 2018 and 2021, have to adopt their activities in line with the new status of the area, outside the territory of the area, based on the new law on aquaculture and protective status concerning the Protection of Natural and semi-natural habitats of wild fauna and flora.

Conservation and employment measures are also provided for the cultural resources of Ali Pasha Castle, St. Nicholas Church, those underwater archaeological values and the museum.

**Development of sustainable recreational, entertainment, sports and health related activities.** These measures are in support of the development of ecotourism, recreation, entertainment, health and cultural activities. They also support the promotion of community and business activities, without affecting the vision and objectives of the Protected Area, bringing improved quality of life to residents and visitors, closely linked with the conservation of nature and landscape, upon development of different types of ecotourism activities.

Action measures encourage certain forms of development and management of activities, which preserve the natural integrity, social and economic development and the state of marine and coastal resources of cultural continuity.

The aim of these measures is also to develop standard facilities or tourist services that are in harmony with the character of the Protected Area. Infrastructure facilities should be related to its management and guests, tourists and visitors should enjoy beautiful, attractive, natural and peaceful landscapes, in harmony with the identity of the protected area.

Another target is also the development of ecotourism and recreational tourism-sport fishing, as a way to increase income and interest of fishermen regarding the specific values of the area.

Concrete actions should be taken to protect marine-coastal water quality by means of infrastructure development of sewerage system, treatment of sewage and wastewater, provision of drinking water, management and treatment of urban waste etc.

Promotion of monitoring and research, public awareness and education values. This activity helps to promote environmental and cultural values, fostering research, monitoring, education and information activities in the educational process of young people and in the interest of visitors.

These measures should encourage and promote scientific research for a sustainable use of sub-area particularly related to the management of protected habitats and species. The implementation of these measures will improve the monitoring programme for scientific research, management techniques, and assessment of effectiveness of measures of the management plan and human activities.

Important value is also attached to the action measures taken for proper public information on protected areas, especially in recognition of ecological values, natural resources, biodiversity, landscape, cultural traditions, area boundaries, certain rules of management, allowed and prohibited activities, protected species, their habitats, visitor management rules, with a variety of cultural and tourist publications.

An important topic is the public information related to issues of specific interest, values of the protected area, especially for species, habitats and scientific knowledge to be obtained from the perspective of nature conservation and culture. This information should have a special place in educational and public awareness programs.

Action measures give also a special emphasis and promotion to public participation efforts, non-governmental organizations, schools, mass media, private business, for the necessary steps for the protection and sustainable development of the protected area and recognition of human activity effects.

Table 8 provides all action measures of the Action Plan and their implementation timeframe.

Table 8: Main management actions

MANAGEMENT ACTIONS	RESPONSIBLE INSTITUTION	SCHEDULE	MANAGEMENT SUB-AREAS	INDICATORS
<b>PROGRAMME 1: CONSOLIDATION OF ADMINISTRATION AND MANAGEMENT OF THE PROTECTED AREA</b>				
Approval of Palermo-Llamani area as a Protected Area, under the status of "Nature park".	Ministry of Environment (MoE) NAPA	2015	Protected Area	Professional and effective monitoring and management is in progress.
Approval of the Management Plan of the Nature park "Porto Palermo-Llamani bay".	MoE / NAPA	2015	Protected Area	Key documents for the management of protected area are made available.
Approval of the administration staff of the protected area of "Porto Palermo-Llamani bay".	MoE / NAPA	2015	Protected Area	Recruitment of professional staff for the management of the protected area is made.
Formulation and implementation of activities on information and public awareness of the applicable legal provisions on administration, management and sustainable use of natural and cultural resources of the protected area.	Forest Service Direct. / PA Administration, (SIEF)	Every Year	Protected Area	Law enforcement, reduction of cases of criminal and administrative contraventions.
Information and implementation of the management plan of the protected area "Porto Palermo-Llamani bay".	PA Administration	Every Year	Protected Area	Performance related to management of protected area is improved.
Capacity building and strengthening of cooperation between the Municipality, administration of the protected area and other local groups of interest.	PA Administration Municipality	Every Year	Protected Area	Interested parties are involved in the consolidation of management process and use of natural resources.
Training of administration staff on information and data management on marine and coastal ecosystems.	MoE / NAPA Research Institutes	Every Year	Protected Area	Scientific level for marine and coastal ecosystems is increased.
Training local members on the management, activities and their responsibilities in the protected area.	MoE / NAPA / RAPA Municipality	Every Year	Protected Area	Knowledge and responsibilities on implementation of protected area activities are consolidated.
Demarcation of protected area and on-site management sub-areas.	RAPA / Municipality	2015-2016	Protected Area	Demarcation of land and marine protected area.
Drafting and implementation of the regulation on responsibilities of the administration staff of the protected area.	MoE / NAPA / RAPA	2015	Protected Area	Tasks, rights and responsibilities of personnel for law enforcement activities are assigned.
Inspection of social, economic, touristic and services activities within the territory of the protected area.	SIEF / RAPA	2015 Ongoing	Management Sub-Areas	Authority in all sub-areas for all social – economic activities is exercised.
Inspection and arrangement of the fishing and marine-culture activities, based on the management sub - areas.	SIEF / RAPA	2015 Ongoing	Management Sub-Areas	Artisanal fishing and gradual removal of marine-culture activities is being established.
Inspection of illegal hunting activities of flora and fauna wild species in the marine and coastal area.	SIEF / RAPA	2015 Ongoing	Management Sub-Areas	Wild land and marine flora and fauna species within the territorial protected area prohibited.

MANAGEMENT ACTIONS	RESPONSIBLE INSTITUTION	SCHEDULE	MANAGEMENT SUB-AREAS	INDICATORS
Inspection of fires of pastures, pollution of marine and coastal waters, solid waste, sewage system and untreated wastewater, any type of waste disposal and wrecking/drowning of boats/vessels.	SIEF / RAPA	2015 Ongoing	Management Sub-Areas	Quality of marine waters and sub-waters and landscape is increased.
Provision of all available logistic and working tools for the accomplishment of mission by the personnel of the protected area (personnel facilities, equipment and furniture, personal computers, printers, photocopies, scanners, uniforms, motorbikes, binoculars, camera, telescope, speedboats).	MoE / NAPA / RAPA	Every Year	Protected Area	Performance of administration staff and inspection for the implementation of tasks and management plan are increased.
<b>PROGRAMME 2. CONSERVATION OF ECOSYSTEM, HABITATS, BIODIVERSITY AND MARINE AND COASTAL LANDSCAPE</b>				
Drafting of action plan for the conservation of biological diversity, for the preservation of land, marine and coastal habitats.	MoE / National Environment Agency (NEA) / NAPA Research Institutes	2015 Ongoing	According to Sub-Areas	Quality and status of the types of habitats and endangered species under protection is improved.
Identification and formulation of lists of the biological biodiversity components, types of threatened habitats and endangered species, based on their level of protection status.	MoE / NEA / NAPA Research Institutes	2015-2018	Protected Area	Lists with complete data for species, habitat types are made and creation of a protected area database is designed.
Drafting and implementation of action plan for the protection, recovery and the improvement of their level of endangered status, including migratory species.	MoE / NEA Research Institutes	2015-2020	Protected Area	Status of protection of endangered species is improved.
Identification of processes and action categories, which might have a significant adverse impacts on the conservation and sustainable use of biologic diversity, and monitoring activity of their effects.	MoE / NEA / NAPA Research Institutes / RAPA / Municipality	2015-2020	Protected Area	Necessary data for social, economic and touristic activities are available.
Arrangements on intentional or accidental introduction of non-local or genetically modified species in the natural habitats of the protected area.	MoE / NEA Research Institutes	2015 Ongoing	Protected Area	Access of invasive species is prohibited to protected area.
Preservation of high quality of sea waters and seabed waters, prevention of their degradation and destruction.	NAPA / NEA / Municipality	Every Year	Protected Area	Preservation of water quality of marine ecosystem and underwater sources is maintained.
Preservation of marine and coastal characteristics of the ecological, geological, geo-morphological importance, capes, bays, caves, tunnel, water sources and underwater wildlife.	NAPA / RAPA / Municipality	Every Year	Protected Area	Conservation of ecologic vulnerable coastal – marine species from disturbances and misuse is under control.
Formulation of a specific programme for the conservation of meadows with <i>Posidonia (Posidonia oceanica)</i> .	MoE / NAPA / NEA Research Institutes	2015-2017	Protected Area	Increase of the surface area with <i>Posidonia</i> is in progress and management of species is consolidated.
Development of programs for observation and fight against invasive species, <i>Agave americana L. and Ailanthus altissima (Mill.) Swingle</i> , and <i>Caulerpa sp.</i> , of <i>Grabs algae (Perenon gibbesi) etj.</i>	MoE / NAPA / NEA Research Institutes	2015-2017	Protected Area	Access of invasive species to the protected area is denied. (land and sub water area)
<b>PROGRAMME 3: SUSTAINABLE USE OF MARINE AND COASTAL NATURAL RESOURCES, INCLUDING HISTORIC AND CULTURAL ONES.</b>				
Implementation of development forms and management of activities for the conservation of natural, social and economic integrity of marine and coastal natural and cultural resources.	RAPA / Municipality	2015 Ongoing	Protected Area	Sustainable development of social economic activities in the protected area is in progress.

MANAGEMENT ACTIONS	RESPONSIBLE INSTITUTION	SCHEDULE	MANAGEMENT SUB-AREAS	INDICATORS
Promotion of new financial tools to increase investments for the natural recovery, biodiversity, and sustainable use of marine and coastal natural resources, in conformity with the environmental capacity.	RAPA / Municipality	2015 Ongoing	Protected Area	Natural resources of landscapes and services of marine and coastal ecosystems are improved.
Development of standards for the facilities or touristic services in harmony with the characteristics of the protected area, infrastructure of the management, and presentation of the protected area identity.	RAPA / Municipality	2015 Ongoing	Protected Area	Sustainable economic services of ecosystem and marine and coastal biodiversity are improved.
Territory planning adjustment, rational use of the territorial area, based on the area capacity and urban planning instrument.	RAPA / Municipality	Every Year	Protected Area	Territory planning standards and construction activities are in accordance with the capacity and the status of protected area.
Development of sewage infrastructure facilities, treatment of waste and wastewater, supply with running water, urban waste management and treatment etc, in the interest of the protection of marine and coastal area water quality.	MoE / NAPA / Line Ministries, Municipality / PA Administration	2015 Ongoing	Protected Area	The number of visitors, sales and typical local products and landscape quality are increased.
Arrangements on discharge or waste disposal or other substances causing direct or indirect damages to the protected area integrity.	SIEF / PA Administration Municipality	Ongoing	Protected Area	Environmental performance of the protected area is increased.
Arrangement of prohibition of any illegal activities or modification of land and waters, or underground activities of the land, seabed, marine and coastal territory within the protected area.	SIEF / PA Administration Municipality Research Institutes	Ongoing	Protected Area	Sustainable management of land, water and marine and coastal landscapes is being improved.
Arrangement or prohibition of any type of other activities damaging or disturbing the life of species or threatening the conservation status of the ecosystem or damaging the natural and cultural characteristics of the protected area.	SIEF / PA Administration Municipality Research Institutes	Ongoing	Protected Area	Landscape quality is improved, the number of wild marine and underwater fauna species is increased, and the number of visitors is in progress.
Arrangement or prohibition of fishing and hunting of the wild flora and fauna, date mussels, corals and other protected species or destruction of habitats of marine and coastal rocky area.	SIEF / PA Administration, Municipality Research Institutes	Ongoing	Protected Area	Collection of protected species is prohibited, fish quantity for trade is increased, and damages to the coastline rocky area and landscape are diminished.
Removal of marine-culture from the territory of protected area, based on the new status, and promotion of artisanal and recreational fishing.	MoE / SIEF / RAPA / Ministry of Agriculture, Rural Development and Water Administration (MARDEWA), Municipality Research Institutes	2018-2021	Armerida and St. Nichols' Bays	Quality of marine and undersea waters is preserved, fish natural resources and eco-touristic recreation fishing is being positively preserved.
Development and implementation of technical projects for the conservation of necessary sub-water areas for the preservation of fish species and their peaceful cultivation (specific obstacles for fishing boats according to the specific marine relief), development of tourism and sub-water museums.	PA Administration Municipality / Research Institutes	2017-2024	Central Sub-Areas	Eco-touristic development in the protected area is in positive progress.
Conservation of cultural values and preservation of their historic original characteristics.	Ministry of Culture / NAPA Municipality / PA Administration	2016-2018	Protected Area	List of all cultural, historic, archeological, and spiritual values of the protected area is drafted.
Implementation of technical projects on conservation, maintenance and use of cultural resources, such as Porto Palermo Castle, St. Nichols' Church, sub-water archeological values, and museum institutionalization.	Ministry of Culture / NAPA Municipality / PA Administration	Every Year	Sub-Areas of Cultural Values	Cultural values, fair and exhibition events, folk festivals, historic shows of local value are being promoted.

**PROGRAMME 4: DEVELOPMENT OF ENTERTAINMENT, SPORTS, HEALTH AND RECREATIONAL ACTIVITIES.**

MANAGEMENT ACTIONS	RESPONSIBLE INSTITUTION	SCHEDULE	MANAGEMENT SUB-AREAS	INDICATORS
Promotion and implementation of eco-touristic activities, such as entertainment, recreation, health and cultural activities, supported by the private sector and local community, in line with the vision and objectives of the protected area.	PARA / Municipality Private Sector	Every Year	Protected Area	Improvement of services, quality of life of local residents and increase of the number of visitors is in progress.
Assignment of the sightseeing itineraries in nature, sightseeing areas and places according to tourist and visitors' interest, camping areas, cabins and cottages, sanitary facilities, waste disposal places, medical health facilities, parking areas, sport fishing areas, horse riding paths, docks etc.	PARA / Municipality	2015-2017	Protected Area	Conditions for information and reception of visitors and guests are being improved.
Promotion of businesses and community for the specific development forms and activity management types in support of the natural, social, cultural and economic activity and the preservation of marine and coastal resources in the area.	PARA / Municipality Private Sector	Every Year	Protected Area	Joint collaboration of interested parties for a sustainable development of natural and cultural resources is increased.
Construction of facilities for guest visitors in natural landscape attractive areas, peaceful places in conformity with the identity of the natural features of the protected area, to be preferred by tourists and based on approved technical projects.	PARA / Municipality	2015-2019	Protected Area	Reception conditions of protected area are in line with the best standards for attraction and increase of the number of visitors and tourists is showing a better performance.
Specification of the areas for eco-touristic sea and underwater activity (diving areas, boat sailing, sport fishing, wild life sightseeing in the sea and coastal area etc).	RAPA / Private Sector	2015 - 2016	Protected Area	Infrastructure and services supporting the needs of visitors and tourists are generating more income for local communities and businesses.
Placing and maintaining the waste disposal containers according to waste types in most populated beach areas by the visitors.	PARA / Municipality Private Sector	2015 Ongoing	Protected Area	Quality of solid waste management and treatment is improved.
Publishing tourist and visitor guides such as natural and ecological leaflets and booklets for various groups of interest.	Municipality / NGOs	2015 Ongoing	Protected Area	Information and management performance for visitors is better provided.
Establishment of a museum center, archeological areas, libraries and shops related to recreation and culture, reception of visitors, guests, promotion of natural and cultural resources and local traditional products.	PARA / Municipality Private Sector	2015-2020	Protected Area	Information for promotion of natural, traditional, cultural and spiritual values is better transmitted to visitors.
<b>PROGRAMME 5: PROMOTION OF VALUES, SCIENTIFIC RESEARCH AND MONITORING, PUBLIC AWARENESS AND EDUCATION.</b>				
Promotion of research and other scientific activities in support of the information of values, the management form of protected area, sustainable use, management of habitats and protected species.	MoE / NAPA / NEA / Research Institutes / PA Administration	Every Year	Protected Area	Studies and assessments of land and marine eco-systems are conducted.
Study and assessment of activities with negative effects on species and their habitats, identification of measures for a favorable situation of the conservation of protected species and their products.	MoE / NAPA / NEA / Research Institutes / PA Administration	2016-2017	Protected Area	List of measures for the improvement of favorable situation of the conservation of species and habitats is available.
Drafting monitoring programs for the identification and assessment of sub-areas, the effectiveness of measures of the action management plan, and improvement of status of protection of protected species.	MoE / NAPA / NEA / Research Institutes / PA Administration	2016-2017	Protected Area	Conservation status of species based on the sub-area management is improved.
Study, identification and formulation of the list of endangered and threatened flora and fauna species and identification of the status of their protection level.	MoE / NAPA / NEA / Research Institutes / PA Administration	2016-2017	Protected Area	List of endangered and threatened species of wild fauna and flora is made available.

MANAGEMENT ACTIONS	RESPONSIBLE INSTITUTION	SCHEDULE	MANAGEMENT SUB-AREAS	INDICATORS
Study and identification of habitats and their problematic species, their status of protection, specification of priority areas for the conservation of species of community interest.	MoE / NAPA / NEA / Research Institutes / PA Administration	2016-2018	Protected Area	List of all habitats and priority areas of conservation of species of EC interest is provided.
Identification of measuring indicators and main monitoring parameters of the environmental situation of protected area.	MoE / NAPA / NEA Research Institutes	2016-2017	Protected Area	Situation of natural environment is improved.
Case Study on expansion of the invasive species and their impact on the natural ecosystem of protected area.	MoE / NAPA / NEA Research Institutes	2016-2018	Protected Area	List of situation of non-local invasive species is available.
Comprehensive study on the distribution and specification of status of various types of sub-water rocky area.	MoE / NAPA / NEA Research Institutes	2016-2018	Protected Area	List and status of types of all sub-water rocky sections is designed.
Appropriate measures for the arrangement of intentional or accidental introduction of other non-local species, or other genetically modified species, in natural habitats and prohibition of other species threatening the eco-system, habitat, or species of protected area.	MoE / NAPA / NEA / Research Institutes / PA Administration	2016-2017	Protected Area	Impact of non-resident species in land and marine eco-systems is reduced.
Study, identification and assessment of the effectiveness of protection and management measures, implementation of the management plan, and improvement of protection status of species and their habitats.	MoE / NAPA / NEA / Research Institutes / PA Administration	Every Year	Protected Area	Performance of the implementation of management plan is increased.
Formulation of education-awareness programme for public awareness of the protected area, and further information on ecological, natural, biodiversity, landscape, traditional and cultural values. Also, information on border areas, rules of management, permitted and prohibited activities, and rules to be applied by private subjects and visitors.	PA Administration Municipality / NGOs	2016	Protected Area	Education and Public Awareness plan is made available.
Improvement of the public awareness process, understanding, assessment of the protected area environment and potential impact of human activities in these areas.	PA Administration Municipality / NGOs / Mass-media	Every Year	Protected Area	Assessment of the potentials of protected area for a sustainable use of human activities is conducted.
Support of local environmental NGOs and media for the public awareness supporting activities.	PA Administration Municipality NGOs, Mass-media	Every Year	Protected Area	Participation of community, NGO-s, and private sector for a better management of natural and cultural resources is improved.
Training sessions and seminars on sustainable use of the natural and cultural values.	PA Administration Municipality / NGOs	Every Year	Protected Area	Staff knowledge and capacities for the protected area management is increased.
Formulation of booklets, leaflets, posters, albums, DVD, CD, commercial TV spots, short documentary films, caps and blouses bearing protected area logos, and natural and landscape and cultural values, etc.	PA Administration Municipality / NGOs	Every Year	Protected Area	Publishing of various materials for public information, awareness and presentation of protected is made.
Public information for the interest and values of protected area, species and scientific values related to nature protection, biodiversity and other components.	PA Administration Municipality / NGOs	Every Year	Protected Area	Transparency for implementation of management plan, and rational use of natural and cultural resources is increased.
Promotion of public participation, NGOs, schools, mass-media, businesses and private actors, for necessary steps on protection and sustainable development of protected areas.	PA Administration Municipality / NGOs	Every Year	Protected Area	Concrete activities with the participation of all interested parties are conducted.



## IV. FINANCIAL PLAN

The financial plan is based on the management actions set out in the Part 3. This plan also includes needs for human resources.

The Ministry of Environment and NAPA, through the RAPAs, is responsible for the PA network management and administration in Albania. It also remains the authority that prepares programs and financial plan (PBA) in the field of nature conservation, including the PA network and diversity.

Every year the relevant units of the Ministry of Environment, in collaboration with its basic units and the Ministry of Finance, prepare the investment plan under the approved programs apart from the calculations of income, salaries, social insurance and operational expenses.

Based on the project fiches scheduled to be executed in the PA under a standard form, calculations will be made in conformity with the basic law of the “State’s Budget” and articles included therein. Expenses for the permanent staff salaries, social insurance and other operational costs shall be directly borne by the Ministry of Environment out of the state’s budget.

As already proposed, the organizational structure of the Regional Forest Service Directorate of Vlora should include the administration of the Protected Landscape with a limited staff number of 6 persons.

Salary structure and level are based on the DCM no. 522, dated 11.8.2012 “On some additions and amendments to DCM no. 455, dated 18.7.2007 “On salaries and bonuses of forest service personnel”, as amended (Attachments 1 and 2), administratively divided into categories (I or II), monthly Class and Basic Salary. This table specifies the salary of the Head of PA Unit, PA Inspector (high level, middle level), the Head of Rangers, Environmental Ranger Guards (high level, middle level) and of the PA observers or service workers. Personnel salaries and social insurance are not included in calculations under the following table as they are completed within the framework of the Regional Forest Service Directorate.

Funds are requirement for task performance for a small workshop (one-storey, with four rooms) for the staff, office supplies, 3 computers with all relevant accessories, one photocopier, digital camera for taking photographs and shooting, a car, 5 motorcycles, a speedboat, 5 binoculars and a telescope.

Regarding the investment plan preparation, due account is taken of the provisions proposed in the approved management plan and specific actions. All actions foreseen as per relevant years are considered in the proposed project fiches.

This is subject to the budget and/or partial actions, those of higher importance for the management plan implementation with its objectives and goals, outcomes/activities to be carried out and monitoring, calculating the periodical capital costs (expenses (current expenses), income, including donor funding.

Drafting of technical designs for the rehabilitation of natural environment of the protected area biodiversity must be integrated with infrastructure upgrading for the reception and information of visitors, creating conditions for recreation, leisure and sport activities that support sustainable development and enhance the community life quality.

The project fiches generally aim at:

1. Cleaning of PA natural environment and installation of wastebins, especially in the visitor stops ;
2. Opening and maintenance of paths and routes for the passage of visitors and tourists ;
3. Building and maintenance of infrastructure for the reception of visitors, and installatio of billboards, stools, tables, watchtowers, Belvedere, faucet construction and other similar components of various shapes and sizes, attraction and adaption to the PA natural values ;
4. PA demarcation with distinguishing and meaningful signs ;
5. Small piers for mooring simple navigation vessels of plastic material ;
6. Landscaping to provide proper conditions for the parking of vehicles, for the installation of caravans, tents and visitors’ rest stops ;
7. Preparatio of leaflets, flyers, posters, albums, DVD, CD, publicity spots, short films, T-shirts and caps bearing PA logo etc.

The total cost for the Management Plan implementation amounts to 585,840 USD for a 10-year period. Given that the management plan is divided into programs and activities, a rough cost estimate is made for each individual activity. The total cost for the management plan implementation is not equally shared for the period 2015-2024. Plan implementation requires more funding for the first five-year period than for the next one.

Funding is allocated for the annual operational budgets, capital investment, further protection, tourism development, personnel training, public awareness, scientific research and other related activities. Higher expenses are needed for the programme “Strengthening of the protected area management system”.



Nr.	Programme/Actions	Total cost (USD)	Cost per year:									
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>III. Programme 3: Sustainable Use of marine and coastal natural resources, including historic and cultural ones</b>												
1	Develop inventory of all nature and cultural monuments.	800	800	x	x	x	x	x	x	x	x	x
2	Assesment of culturl richness, preservation of original and historic features.	4000	400	400	400	400	400	400	400	400	400	400
3	Implementation of technical projects on conservation, maintenance and use of cultural resources.	48,000	12,000	4000	4000	4000	4000	4000	4000	4000	4000	4000
4	Trainings with anglers on sustainable development of traditional and recreational fishing.	8,000	800	800	800	800	800	800	800	800	800	800
5	Organisation of fairs on the promotion of agriculture, diary, fish and other local artiercrafts, celebration of local religious festivals.	80,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000
	<b>TOTAL III.</b>	<b>140,800</b>	<b>22,000</b>	<b>13,200</b>								
<b>IV. Programme 4: Development of entertainment, sports, health and recreational activities</b>												
1	Definition of itineraries, establishment and maintenance of trails and visitor facilities.	6,000	2,400	400	400	400	400	400	400	400	400	400
2	Definition of camping sites, sanitation services, medical services, parking lots, sport fishing sites, horse riding trails, docks and their maintenance.	5,440	4,000	160	160	160	160	160	160	160	160	160
3	Built visitor infrastructure (info tables, signs, benches, belvederes, watch tower, etc.) and maintenance.	30,400	16,000	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
4	Construction of a small dock for boats/jet skis and angling platform.	4,000	4,000	x	x	x	x	x	x	x	x	x
5	Development and promotion of underwater tourism.	4,000	400	400	400	400	400	400	400	400	400	400
6	Placing and maintaining the waste disposal containers according to waste types in most populated beach areas by the visitors.	12,000	12,000	x	x	x	x	x	x	x	x	x
7	Publishing tourist and visitor guides such as natural and ecological leaflets and booklets for various groups of interest.	8,000	800	800	800	800	800	800	800	800	800	800
8	Establishment of a museum center, archeological areas, libraries and shops related to recreation and culture, reception of visitors, guests, promotion of natural and cultural resources and local traditional products.	100,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000
	<b>TOTAL IV.</b>	<b>169,840</b>	<b>55,600</b>	<b>19,360</b>								
<b>V. Programme 5: Promotion of values, scientific research and monitoring, public awareness and education</b>												
1	Study and identification of biodiversity components, list of habitat types, endangered species and updating of these lists.	2,400	800	x	x	x	x	x	x	x	x	x
2	Study and identification of habitats and their problematic species, their status of protection, specification of priority areas for the conservation of species of community interest.	2,400	800	x	x	x	x	x	x	x	x	x
3	Case Study on expansion of the invasive species and their impact on the natural ecosystem of protected area.	2,400	800	x	x	x	x	x	x	x	x	x

Nr.	Programme/Actions	Total cost (USD)	Cost per year:											
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024		
4	Comprehensive study on the distribution and specification of status of various types of sub-water rocky area.	2,400	800	x	x	x	x	800	x	x	x	x	x	800
5	Conduct studies and periodic monitoring of water quality on the whole marine and coastal ecosystem	4,000	400	400	400	400	400	400	400	400	400	400	400	400
6	Study, identification and assessment of the effectiveness of protection and management measures, implementation of the management plan, and improvement of protection status of species and their habitats.	1,600	160	160	160	160	160	160	160	160	160	160	160	160
7	Development of educational awareness raising programs (best practices) for NGOs, schools, fishermen, business and local community.	1,600	160	160	160	160	160	160	160	160	160	160	160	160
8	Training sessions and seminars on sustainable use of the natural and cultural values.	4,000	400	400	400	400	400	400	400	400	400	400	400	400
9	Formulation of booklets, leaflets, posters, albums, DVD, CD, commercial TV spots, short documentary films, caps and blouses bearing protected area logos, and natural and landscape and cultural values, etc.	56,000	20,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
10	Development and update of habitat and species map according to NATURA 2000.	2,400	800	x	x	x	x	800	x	x	x	x	x	800
11	Support of local environmental NGOs and media for the public awareness supporting activities.	16,000	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
	<b>TOTAL V.</b>	<b>95,200</b>	<b>26,720</b>	<b>6,720</b>	<b>6,720</b>	<b>6,720</b>	<b>6,720</b>	<b>10,720</b>	<b>6,720</b>	<b>6,720</b>	<b>6,720</b>	<b>6,720</b>	<b>6,720</b>	<b>10,720</b>
	<b>TOTAL BUDGET (Σ I-V)</b>	<b>585,840</b>	<b>192,880</b>	<b>49,440</b>	<b>37,440</b>	<b>41,440</b>								





## V. MONITORING AND ASSESSMENT OF MANAGEMENT

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Management Plan (MP) is not an invariable instrument but it changes in tandem with the economic conditions and innovative processes. MP should be annually assessed to take into account any information and new opportunities, while a comprehensive review is required every ten years. This time schedule is regarded as a normal period to revise a similar plan. That process aims to regularly assess the level/status of plan implementation and should not be mistaken with the monitoring of components of the system referred to in part 3.3, monitoring and scientific research programs.

A number of methods are applied in the process of management monitoring and assessment. The Management Effectiveness Tracking Tool, referred to as METT<sup>8</sup>, is applied in Albania. METT helps the managers track the progress for implementation of specific measures for the protected areas ranging from the Rapid Assessment to the Methodology of Priorities under the Convention for Biological Diversity. The method is generally applied in cases where it may help monitoring the progress for the improvement of management effectiveness.

In the case of PA “Palermos-Llamani Bay” for MP monitoring and assessment, we should consider the method of “Monitoring of Management Effectiveness (MME)” as a rapid, simple and precise instrument to monitor the protected area management as per the program, objectives and actions.

The monitoring and assessment process helps the managers assess the effectiveness of management strategies and retrieve data required for the implementation of proper management measures. Monitoring and assessment should measure the level of success of biodiversity conservation, contribution to the mitigation of major threats, implementation of activities or duties and results of the management practices.

If deemed necessary, plan amendments may be made on the basis of these periodic assessments. However, these changes should not affect its overall objectives and goals. If appropriate, prior to the amendments a public consultation

should take place regarding the interventions proposed in MP for the next five years.

Efficient implementation of the management plan is a challenge for managers, taking into account the existing legal and institutional arrangements for protected area, conditions and threats existing in nature and for cultural assets. Some indicators to be monitored and assessed are built in order to measure the effectiveness of the implemented actions.

The Assessment of Management Effectiveness should display the level of enforcement of actions referred to in the management plan, based on the “Implementation” (0= not started, 1= ongoing, 2= completed), based on the group of criteria and indicators, with the involvement of the interested parties and active in the protected area.

Organisation of the assessment and revision is a responsibility of the management plan administrators, who should conduct a precise assessment of the results of actions interfering with the ecological situation within the protected area (achievement of the expected results, adverse effects, unexpected or adverse outcome etc). Also, the proposals for necessary corrections in the management plan are of paramount importance.

The Table of Monitoring of the Protected Area Management Effectiveness is completed by in-local, foreign and independent experts:

- Staff of the protected area.
- Members of the supervisory authorities (Ministry and NAPA).
- Members of the Management Committee.
- Independent experts.

Following the table monitoring, assessment and completion, the team of experts made proposals for corrections in the management plan to the competent and decision-making bodies. All types of comments and proposals should be incorporated in separate annexes.

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<sup>8</sup>) Management Effectiveness Tracking Tool: Progress Report on Protected Areas. Second Edition, revised and published by the World Fund for Wildlife Preservation (WWF), July 2007..

Table 10 : "Follow-up of the Effectiveness of the Management of PA Management Plan"

Programme / Objectives/Actions	Indicators	0 = not started, 1 = ongoing, 2 = completed				
		Implementation			Assessment / Corrections / Notes	
		0	1	2		
<b>Programme 1: Strengthening of the protected area management and administration</b>						
Long-term objectives	<b>To ensure the administration and management of unique marine, coastal and landscape biodiversity and maintain the key ecological processes of the protected area, while allowing the social, economic and eco-touristic long-term activities in accordance with its vision.</b>					
Short-term objectives	<b>Establishment of units and solid protected area management.</b>					
Actions	Announcement of the region of Palermo-Llamani Bay as a protected area under the status of "Protected Landscape", Fifth Category.	Enlargement of the marine and coastal protected surface area of PA District Network and Albania.				
	Creation of the administration of the protected landscape "Porto Palermo-Llamani Bay".	Increase of PA administration performance.				
	Introduction to and enforcement of the legal provisions and bylaws of PA management plan and administration.	Increase of the effectiveness of PA management system.				
	Upgraded capacities and solid cooperation between the Municipality, protected area administration and other local groups of interest.	Ensuring the participation of the concerned parties for PA administration process.				
	Administration personnel training for information and data management on marine and coastal ecosystems.	Consolidation of knowledge and responsibilities for information management.				
	On-site definition of PA boundaries and of management sub-areas.	Installation of distinguishing signs for the terrestrial and marine border of the Protected Area.				
	Preparation and implementation of the regulation on operation and responsibilities of PA administration.	Definition of tasks, responsibilities and rights of the staff in exercising their duties.				
	Control of social, economic, touristic and service activities within the PA territory.	Control exercised as per the sub-areas for all socio-economic activities.				
	Control and regulation of fishing and marine-culture as per the management sub-areas.	Management of artisanal fishing and gradual eradication of marine-culture.				
	Control of fires in pastures, pollution of marine and coastal waters, solid waste, wastewater and untreated sanitary water discharge, disposal of any wastes and wrecking/drowning of sailing vessels.	Higher quality of landscape and of sea and undersea waters.				
	Provision of necessary work and logistics tools to perform the duties of personnel of the protected area administration (personnel building, office supplies and furniture, complete PC, printer, photocopier, scanner, uniforms, motorbikes, binoculars, camera, telescope , speedboat)	Enhanced performance of the administration and control for accomplishment of tasks and management plan.				
<b>Programme 2: Conservation of ecosystem, habitats, biodiversity and marine and coastal landscape</b>						
Long-term objectives	<b>To ensure the conservation of ecosystem, habitats, marine and coastal landscape of the protected area, especially of the types of threatened and endangered habitats and species.</b>					
Short-term objectives	<b>Maintenance and preservation of habitats, marine and coastal biodiversity and landscape.</b>					
Actions	Formulation of programs for the conservation of biological diversity, maintenance of marine, coastal and terrestrial habitats.	Status improvement for the types of endangered and threatened habitats and species.				
	Identification and drafting of the lists of biological diversity components, types of endangered and threatened habitats and species as per their protection status.	Delivery of lists with full data on species, types of habitats and creation of PA database.				
	Identification of the processes and categories of activities which have or are likely to have negative significant effects on the conservation and sustainable use of biological diversity and monitoring of their effects.	Tracking of data required for social, economic and tourist activities.				
	Regulation of the intentional or accidental introduction of non-local and genetically modified species to PA natural habitats.	Prohibition of the introduction of invasive species.				

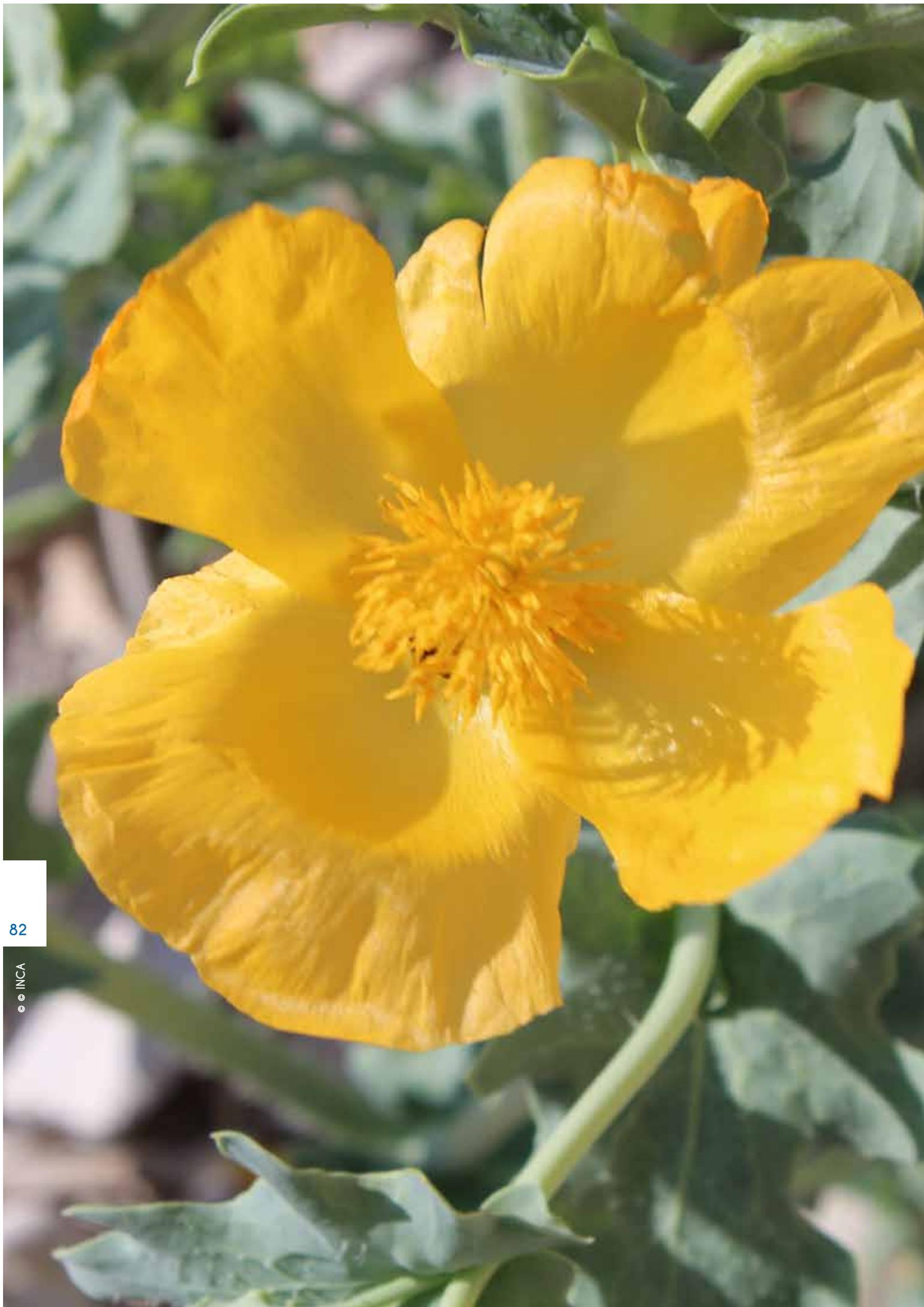
Programme / Objectives/Actions		Indicators	0 = not started, 1 = ongoing, 2 = completed			
			Implementation			Assessment / Corrections / Notes
			0	1	2	
	Preservation of the marine and coastal characteristics of ecological, geological, geomorphologic importance, capes, bays, caves, tunnel, springs and subaqueous world.	Preservation of the ecological marine-coastal sensitive components due to disturbance and misuse.				
	Maintenance of the high quality of marine waters and undersea resources, prevention of their degradation and destruction.	Preservation of the quality of marine ecosystem waters and of undersea aqueous resources.				
	Formulation of a special programme for the conservation of meadows with Posidonia ( <i>Posidonia oceanica</i> ).	Enlargement of the surface area with Posidonia and species management consolidation.				
	Formulation of programs for the supervision and fighting of invasive species, <i>Agave americana L. and Ailanthus altissima (Mill.) Swingle.</i> , algae <i>Caulerpa sp.</i> , Crab ( <i>Percnon gibbesi</i> ) etc.	Keeping the PA surface area free (terrestrial and undersea) from invasive species.				
<b>Programme 3: Sustainable use of the natural marine-coastal resources, including the historical and cultural ones</b>						
Long-term objectives	<b>To provide a more solid management system and long-term use of natural resources, landscape peculiarities and of cultural and historical values, in harmony with the ecological capacity of the protected area.</b>					
Short-term objectives	<b>Implementation of sustainable socio-economic activities</b>					
Actions	Application of the forms of development and management of activities constantly preserving the natural, social and economic integrity of the natural marine-coastal and cultural resources .	Sustainable development of socio-economic activities in the protected area.				
	Development of the standards of facilities or tourist services in harmony with PA character, management infrastructure and PA identity presentation.	Improvement of sustainable economic services of the ecosystem and marine and coastal biodiversity.				
	Development of the infrastructure of sewer system, wastewater and used water treatment for drinking water security, management and treatment of urban waste etc, under the protection of coastal marine water quality.	Increase of the number of visitors, sales of typical area products and landscape quality.				
	Regulation of the discharge or disposal of wastes or other substances that may directly or indirectly affect the protected area integrity.	Enhanced PA environmental performance.				
	Regulation or prohibition of any exploitation activities and land reclamation or use of underground in specific parts of the territory, seabed or its underground within the protected area.	Sustainable management of land, waters and sea and undersea landscape.				
	Regulation or prohibition of fishing and hunting, wild flora and fauna, date mussels, corals and other protected species or rock habitat destruction.	Prohibition of the collection of protected species, increase of the number of fish used for trade, reducing the damage of rocky coasts and landscape.				
<b>Programme 4: Implementation of sustainable, leisure, sports and health activities</b>						
Long-term objectives	<b>To ensure the implementation of eco-touristic, entertainment, leisure and health activities through the promotion of community and businesses, without affecting PA vision and objectives, improving the life quality of local residents and visitors.</b>					
Short-term objectives	<b>Use for entertainment, leisure and eco-touristic purposes.</b>					
Actions	Promotion and implementation of eco-touristic, entertainment, leisure, health and cultural activities through the support of private sector and community, without affecting PA vision and objectives.	Enhancement of services, life quality of local residents and increase of the number of visitors.				
	Identification of itineraries for nature activities, stays of visitors upon request, camps, caravans, sanitary facilities, waste collection points, medical service, parking lot, sports fishing facilities, horse riding, piers etc.	Proper conditions for receiving and informing visitors.				
	Promotion of business and community to apply forms of development and management of activities preserving the natural, social, economic and cultural integrity and the status of marine-coastal resources.	Joint interaction of the concerned parties for the sustainable development of natural and cultural resources.				

Programme / Objectives/Actions	Indicators	0 = not started, 1 = ongoing, 2 = completed			
		Implementation			Assessment / Corrections / Notes
		0	1	2	
Establishment of infrastructure for the reception of visitors, with beautiful, attractive, still nature scenery enjoyed by tourists and representative of the protected area identity as per the technical designs.	Introduction of PA reception conditions as per the best standards for the attraction and increase of the number of visitors and tourists.				
Identification of the areas of eco-touristic sea and undersea activities (diving, sailing, sports fishing, aqueous bird observation etc).	Establishment of infrastructure and services satisfying the needs of visitors and generating income for the community.				
Placement and maintenance of containers for waste treatment and separation at source in the centers of beaches and those preferred by visitors.	Management and treatment of solid wastes.				
Preparation of natural guides/eco-guides that are suitable for different groups of interest.	Provision of information and enhanced performance of visitor management.				
Establishment of the museum center, archeological areas, libraries and shops in relation to the entertainment, reception of visitors and promotion of natural-cultural resources and local traditional products.	Provision of information to promote natural, traditional, cultural and spiritual values offered to the visitors .				

**Programme 5: Promotion of values, monitoring and scientific research, public awareness and education**

Long-term objectives	<b>To ensure the promotion of environmental and cultural values, scientific research and monitoring of public awareness and information activities in the educational process of youth, population and visitors.</b>				
Short-term objectives	<b>Support to the scientific research on the biological, landscape and cultural values of the protected area as a key contribution to the educational, public awareness and information process, nature assessment and biodiversity.</b>				
Actions	Study and assessment of the activities with negative effects on their species or habitats, adoption of measures to provide a favorable status of conservation of the protected species and their products.	Delivery of the list of measures for improving the favorable status of the conservation of species and their habitats.			
	Formulation of monitoring programs for the identification, assessment of sub-areas, effectiveness of measures for the implementation of management plan and improvement of the status for conservation of the protected species.	Improvement of the status for species conservation as per the management sub-areas.			
	Study, identification and formulation of the list of flora and fauna threatened and endangered species, and identification of the species protection status.	Delivery of the list of flora and wild fauna endangered and threatened species.			
	Study, identification of habitats and problematic species, their protective status, identification of high priority areas for the conservation of species of interest to the community.	Delivery of a list of habitats and high priority areas for the conservation of EC-relevance species.			
	Identification of measuring indicators and of main parameters to monitor PA environmental situation.	Improvement of the natural environment status.			
	Study on knowledge for the spread of foreign species and their impact on PA natural ecosystems.	List for the distribution of foreign invasive species.			
	Comprehensive study for the distribution and identification of the status of various types of reefs.	List and status of the types of reefs.			
	Study, identification and assessment of the effectiveness of protective and management measures, implementation of the management plan, improvement of the status for preservation of species and of their habitats.	Enhancement of the performance of management plan implementation.			
	Formulation of the educational-public awareness programme on PA publicity, knowledge on the ecological, natural, biodiversity, landscape, traditional and cultural values, boundaries, management rules, permitted and prohibited activities, and rules to be applied by private companies and visitors.	Delivery of educational and public awareness programme.			
	Organisation of public awareness seminars and training sessions on the sustainable use of natural and cultural assets.	Acquisition of knowledge and further capacity development for PA management.			
	Preparation of leaflets, posters, albums, calendars, tourist guides and maps, DVD, CD, publicity spots, short films, T-shirts and caps bearing the logo of PA, natural, landscape and cultural values etc.	Various publicity events, public awareness and introduction materials for the Protected Areas.			

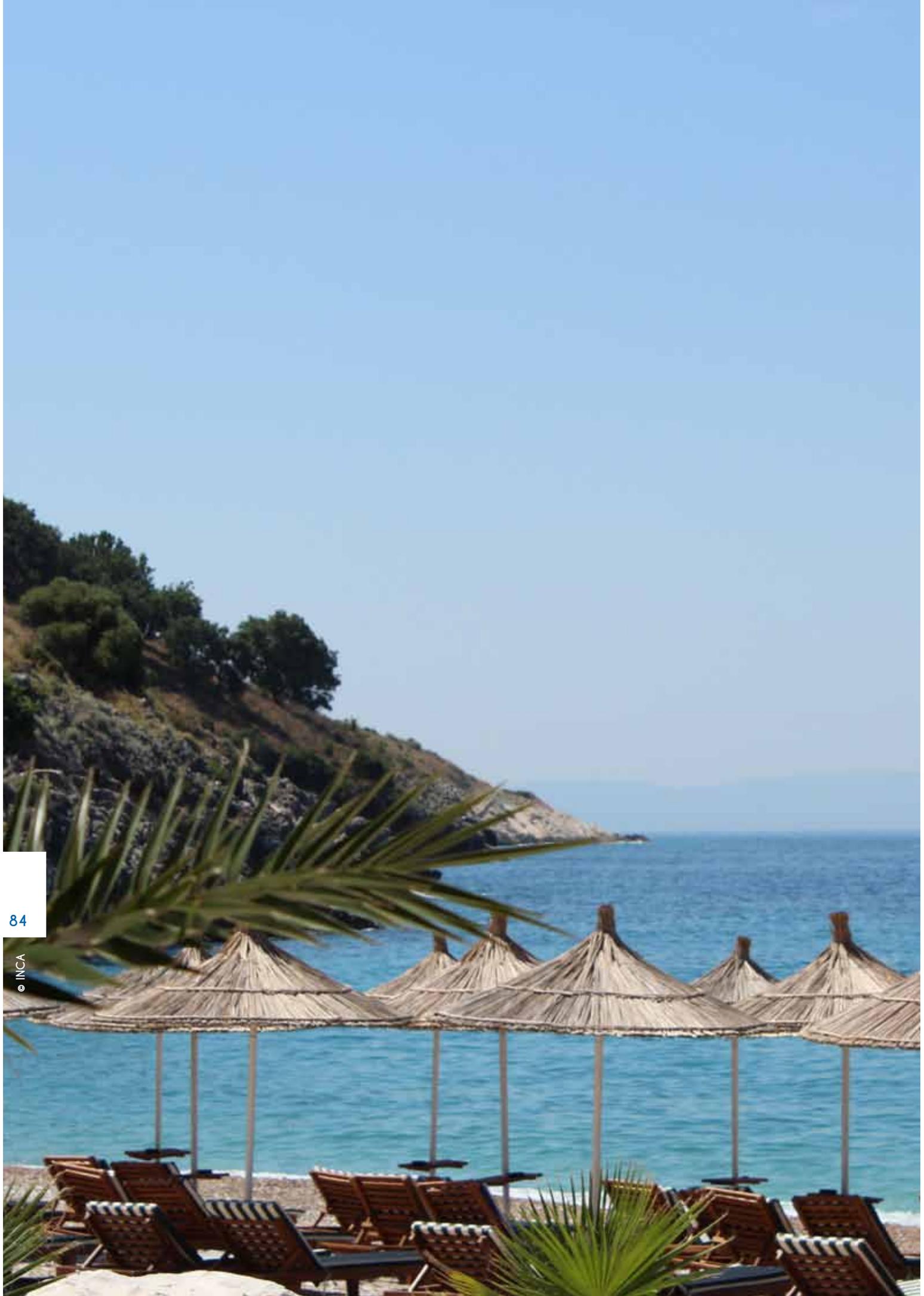
Programme / Objectives/Actions		Indicators		0 = not started, 1 = ongoing, 2 = completed			
				Implementation			Assessment / Corrections / Notes
				0	1	2	
	Public information about the interest and values of the protected area, species and scientific knowledge from the perspective of nature conservation, biodiversity and other related aspects.	Increase of transparency for the implementation of management plan, rational use of natural and cultural resources.					
	Promotion of public participation, NGO-s, schools, mass-media, business and private concerned parties to launch proper steps required for the protection and sustainable development of the protected areas.	Implementation of concrete activities with participation of the concerned parties.					



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# ANNEXES

Annex 1: Species of plants registered in the area of Porto Palermo

No.	NAME OF SPECIES
1	<i>Acanthus spinosus</i> L.
2	<i>Acis ionica</i> Bareka, Kamari & Phitos
3	<i>Agave americana</i> L.
4	<i>Ailanthus altissima</i> (Mill.) Swingle
5	<i>Aira elegantissima</i> Schur
6	<i>Anagyris foetida</i> L.
7	<i>Anogramma leptophylla</i> (L.) Link
8	<i>Aristolochia sempervirens</i> L.
9	<i>Arisarum vulgare</i> Targ-Tozz.
10	<i>Asparagus acutifolius</i> L.
11	<i>Asphodelus aestivus</i> Brot.
12	<i>Asplenium ceterach</i> L.
13	<i>Athamanta macedonica</i> (L.) Sprengel
14	<i>Biscutella didyma</i> L.
15	<i>Brasica cretica</i> Lam. subsp. <i>aegaea</i> (Heldr. & Hald.) S. Snogerup, M.A. Gust. & Bothmer
16	<i>Capparis orientalis</i> Veillard
17	<i>Calicotome villosa</i> (Poirlet) Link
18	<i>Celtis australis</i> L.
19	<i>Cerintho major</i> L. var. <i>purpurescens</i>
20	<i>Colchicum cupanii</i> Gussone
21	<i>Cheilanthes fragrans</i> (L.) Webb & Berth.
22	<i>Chrysopogon gryllus</i> (L.) Trin.
23	<i>Crithmum maritimum</i> L.
24	<i>Cynosurus echinatus</i> L.
25	<i>Desmazeria marina</i> (L.) Druce
26	<i>Diplotaxis viminea</i> (L.) DC.
27	<i>Ephedra foemina</i> Forssk.
28	<i>Euphorbia dendroidea</i> L.
29	<i>Galium aparine</i> L.
30	<i>Glaucium flavum</i> Crantz
31	<i>Heteropogon contortus</i> (L.) P. Beau.
32	<i>Limonium anfractum</i> (Salm.) Salm.
33	<i>Lotus cytisoides</i> L.
34	<i>Malcolmia gaea</i> subsp. <i>bicolor</i> (Boiss. & Heldr.) Stork
35	<i>Medicago disciformis</i> DC.
36	<i>Olea europaea</i> L. var. <i>sylvestris</i>
37	<i>Ophyoglossum lusitanicum</i> L.
38	<i>Origanum vulgare</i> L.
39	<i>Paliurus spina-christi</i> Mill.
40	<i>Parietaria judaica</i> L.
41	<i>Pistacia terebinthus</i> L.

No.	NAME OF SPECIES
42	<i>Phlomis fruticosa</i> L.
43	<i>Prasium majus</i> L.
44	<i>Prunus webbii</i> (Spach) Vierh.
45	<i>Punica granatum</i> L.
46	<i>Quercus ithaburensis</i> subsp. <i>macrolepis</i> (Kotschy) Hedge & Yalt.
47	<i>Rhamnus alaternus</i> L.
48	<i>Ruscus aculeatus</i> L.
49	<i>Salvia fruticosa</i> Mill.
50	<i>Silene vulgaris</i> (Moench) Garcke
51	<i>Spartium junceum</i> L.
52	<i>Trifolium angustifolium</i> L.
53	<i>Drimys maritima</i> (L.) Stearn
54	<i>Valantia muralis</i> L.

#### Annex 2: List of important species in the area of Porto Palermo.

No.	NAME OF IMPORTANT SPECIES
1	<i>Acis ionica</i> Bareka, Kamari & Phitos - Sub-endemic (Southern Albania, Ionian islands of Greece)
2	<i>Aristolochia sempervirens</i> L. - Area known for the prevalence of <i>Aristolochia sempervirens</i> as an autochthonous species, including Algeria, Sicilia, Crete, Peloponnesus, Cyprus, Turkey, Lebanon, Syria and Israel (Mahfoud 2010)
3	<i>Athamantia macedonica</i> (L.) Sprengel - Balkan endemic.
4	<i>Brasica cretica</i> Lam. subsp. <i>algaea</i> (Heldr. & Hald.) S. Snogerup, M.A. Gust. & Bothmer
5	<i>Diploaxis viminea</i> (L.) DC. - Mediterranean species (IUCN -LR).
6	<i>Euphorbia dendroides</i> - Mediterranean species, tertiary relicts of Macaronesian origin
7	<i>Malcolmia graeca</i> subsp. <i>bicolor</i> -sub-endemic (Albania, Greece)
8	<i>Medicago disciformis</i> DC. -Steno-Mediterranean species
9	<i>Ophioglossum lusitanicum</i> L. - It is classified under difficulties by IUCN (2001)
10	<i>Prunus webbii</i> (Spach) Vierh. - E-Steno-Medit.

#### Annex 3: Species of Porto Palermo seaweed

No.	NAME OF SEAWEEDS
<b>Blue-green algae – Chlorophyta</b>	
1	<i>Acetabularia acetabulum</i> (Linnaeus) P.C.Silva
2	<i>Anadiomene stellata</i> (Wulfen) C.Agardh
3	<i>Bryopsis plumosa</i> (Hudson) C. Agardh
4	<i>Caulerpa racemosa</i> (Forsskål) J. Agardh var. <i>cylindracea</i>
5	<i>Cladophora prolifera</i> (Roth) Kützing
6	<i>Codium effusum</i> (Rafinesque) Delle Chiaje
7	<i>Codium bursa</i> (Linnaeus) C. Agardh
8	<i>Flabellia petiolata</i> (Turra) Nizamuddin
9	<i>Halimeda tuna</i> (J. Ellis & Solander) J.V. Lamouroux
10	<i>Ulva intestinalis</i> v. <i>intestinalis</i> Linnaeus
11	<i>Ulva lactevirens</i> Areschoug
12	<i>Valonia utricularis</i> (Roth) C. Agardh
<b>Brown Algae – Phaeophyta</b>	
1	<i>Cladostephus spongiosum</i> (Hudson) C. Agardh f. <i>verticillatum</i> (Light foot) <i>Prud'home van Reine</i>
2	<i>Cyrtoseira amentacea</i> (C. Agardh) Bory var. <i>spicata</i> (Ercegovic) Giaccone
3	<i>Cyrtoseira barbata</i> (Stackhouse) C. Agardh
4	<i>Cyrtoseira compressa</i> (Esper) Gerloff & Nizamuddin
5	<i>Cyrtoseira corniculata</i> (Turner) Zanardini
6	<i>Cyrtoseira crinita</i> Duby
7	<i>Diczyopteris polipodioides</i> (A. P. De Candolle) J.V. Lamouroux

No.	NAME OF SEAWEEDS
8	<i>Dictyota dichotoma</i> (Hudson) J. V. Lamouroux var. <i>dichotoma</i>
9	<i>Dictyota dichotoma</i> (Hudson) J. V. Lamouroux var. <i>intricata</i>
10	<i>Dictyota linearis</i> (C. Agardh) Greville
11	<i>Halopteris filicina</i> (Grateloup) Kützting
12	<i>Padina pavonica</i> (Linnaeus) J. V.
13	<i>Scytosiphon lomentarius</i> (Lyngbye) Link
14	<i>Stypocaulon scoparium</i> (Linnaeus) Kützting
<b>Red Algae – Rhodophyta:</b>	
1	<i>Aerosymphyton purpuriferum</i> (J. Agardh) G. Sjöstedt
2	<i>Amphiroa rigida</i> J. V. Lamouroux
3	<i>Botryocladia botryoidea</i> (Wulfen) Feldmann
4	<i>Callithamnion granulatum</i> (Ducluzeau) C. Agardh
5	<i>Chondrophyceus papillosus</i> (C. Agardh) Garbary & J. Harper
6	<i>Corallina elongata</i> J. Ellis & Solander
7	<i>Gelidium bipectinatum</i> G. Furnari
8	<i>Grateloupia filicina</i> (J. V. Lamouroux) C. Agardh
9	<i>Hildenbrandia rubra</i> (Sommerfeld) Meneghini
10	<i>Jania rubens</i> (Linnaeus) J. V. Lamouroux var. <i>rubens</i>
11	<i>Jania rubens</i> (Linnaeus) J. V. Lamouroux var. <i>corniculata</i> (Linnaeus) Yendo
12	<i>Liagora distenta</i> (Merthens ex Roth) J. V. Lamouroux
13	<i>Lithophyllum byssoides</i> (Lamarck) Foslie
14	<i>Lithophyllum incrustans</i> Philippi
15	<i>Lithophyllum trochanter</i> (Bory) H. Huve ex Woelkerling
16	<i>Lithophyllum stictaeforme</i> (Areschoug) Hauck
17	<i>Nemalion helminthoides</i> (Vellay) Batters
18	<i>Neogoniolithon mammosum</i> (Hauck) Setchell & L. R. Mason
19	<i>Osmundaria volubilis</i> (Linnaeus) Norris
20	<i>Peyssonelia squamaria</i> (S. G. Gmelin) Decaisne
21	<i>Peyssonelia rubra</i> (Greville) J. Agardh
22	<i>Phyllophora crispa</i> (Hudson) P. S. Dixon
23	<i>Pterocladia capillacea</i> (S. G. Gmelin) Santelices & Hommersand
24	<i>Sphaerococcus coronopifolius</i> Stackhouse
25	<i>Tenarea tortuosa</i> (Esper) Me. Lemoine
26	<i>Wrangelia pemicillata</i> (C. Agardh) C. Agardh

Annex 4: List of species as per the “Red Book of Wild Flora and Fauna in Albania”.

No.	Name of Species and Threat Status
1	<i>Acis ionica</i> Bareka, Kamari & Phitos – CR (A1c)
2	<i>Aristolochia sempervirens</i> L. – EN (A1b)
3	<i>Athamantha macedonica</i> (L.) Sprengel - EN (A1b)
4	<i>Brasica cretica</i> Lam. subsp. <i>aegaea</i> (Heldr. & Hald.) S. Snogerup, M.A. Gust. & Bothmer VU (A1b) as <i>Brasica incana</i>
5	<i>Capparis orientalis</i> VU (A1b)
6	<i>Colchicum cupanii</i> Gussone EN (A1b)
7	<i>Desmazeria marina</i> VU (A1b)
8	<i>Euphorbia dendroidea</i> - LR (cd)
9	<i>Limonium anfractum</i> (Salm.) Salm. LR (nt)
10	<i>Lotus cytisoides</i> EN (A1b)
11	<i>Malcolmia graeca</i> subsp. <i>bicolor</i> –EN (A1b) as <i>Malcolmia bicolor</i>
12	<i>Origanum vulgare</i> L. - EN (A1b)
13	<i>Prunus webbii</i> (Spach) Vierh.- VU (A1b)

Annex 5: List of marine species as per the International Conventions

No.	SPECIES	Barcelona Protocol		Bonn Convention		CITES Convention	Berne Convention
		Sht.II	Sht.III	App.1	App.2		
	<b>Magnoliophyta</b>						
1	<i>Posidonia oceanica</i>	+					+
	<b>Phaeophyta</b>						
2	<i>Cystoseira amentacea</i> var. <i>spicata</i>	+					+
	<b>Rhodophyta</b>						
3	<i>Lithophyllum byssoides</i>	+					
4	<i>Lithophyllum trochanter</i>	+					
	<b>Spongia</b>						
5	<i>Geodia cydonium</i>	+					
6	<i>Hippospongia communis</i>		+				+
7	<i>Spongia officinalis</i>		+				+
8	<i>Petrobiona massiliana</i>						+
	<b>Mollusca</b>						
9	<i>Ranella olearia</i>	+					+
10	<i>Pinna nobilis</i>	+					
	<b>Crustacea</b>						
11	<i>Homarus gammarus</i>		+				+
12	<i>Maja squinado</i>		+				+
13	<i>Scyllarides latus</i>		+				+
14	<i>Palinurus elephas</i>		+				+
	<b>Echinodermata</b>						
15	<i>Paracentrotus lividus</i>		+				+
16	<i>Ophidiaster ophidianus</i>	+					+
	<b>Pisces</b>						
17	<i>Hippocampus hippocampus</i>	+				+	+
18	<i>Lamna nasus</i>		+			+	+
19	<i>Isurus oxyrinchus</i>		+				+
20	<i>Sciaena umbra</i>		+				+
21	<i>Umbrina cirrosa</i>		+				+
22	<i>Syngnathus abaster</i>						+
23	<i>Rostroraja alba</i>		+				
24	<i>Xiphias gladius</i>		+				
25	<i>Hippocampus guttulatus</i>					+	
26	<i>Sphyrna zygaena</i>					+	
27	<i>Carcharodon carcharia</i>	+		+	+	+	+
	<b>Reptilia</b>						
28	<i>Caretta caretta</i>	+		+	+		+
	<b>Cetacea</b>						
29	<i>Ziphius cavirostris</i>	+					+
30	<i>Delphinus delphis</i>	+		+	+		+
31	<i>Tursiops truncatus</i>	+			+	+	+

Annex 6: List of economically important fish species

No.	SPECIES	ENGLISH NAME	ALBANIAN NAME
1	<i>Boops boops</i>	Bogue	Vopa
2	<i>Dentex</i>	Common dentex	Dentali
3	<i>Diplodus annularis</i>	Annular seabream	Sargu bishtzi
4	<i>Diplodus puntazzo</i>	Sharpsnout seabream	Sharan
5	<i>Diplodus sargus</i>	White seabream	Sargu
6	<i>Diplodus vulgaris</i>	Common two-banded seabream	Sargua
7	<i>Epinephelus aeneus</i>	White grouper	Kem i bardhë
8	<i>Epinephelus caninus</i>	Dogtooth grouper	Krem i hirtë
9	<i>Euthynnus alletteratus</i>	Little tunny	Trup
10	<i>Merluccius merluccius</i>	European hake	Merluci
11	<i>Mullus barbatus</i>	Red mullet	Barbuni i shkëmbit
12	<i>Mullus surmuletus</i>	Surmullet	Barbuni i baltës
13	<i>Pagellus acarne</i>	Axillary seabream	Mormuri i egër
14	<i>Pagellus bogaraveo</i>	Blackspot seabream	Spalce e kuqe
15	<i>Pagellus erythrinus</i>	Common pandora	Pagri
16	<i>Pagrus pagrus</i>	Red porgy	Pagri i kuq
17	<i>Polyprion americanus</i>	Wreckfish	Kerr fundi
18	<i>Sarda sarda</i>	Atlantic bonito	Palamiti
19	<i>Sardina pilechardus</i>	European pilchard	Sardelë
20	<i>Sardinella aurita</i>	Round sardinella	Sardinele
21	<i>Scomber japonicus</i>	Chub mackerel	Skumbër
22	<i>Serranus cabrilla</i>	Comber	Kerr i thëllësisë
23	<i>Serranus hepatus</i>	Brown comber	Kerr i gurit
24	<i>Serranus scriba</i>	Painted comber	Kerr bilbil
25	<i>Sparus aurata</i>	Gilthead seabream	Koce
26	<i>Xiphias gladius</i>	Xiphias gladius	Peshku shtizë

**Regional Activity Centre  
for Specially Protected Areas (RAC/SPA)**

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