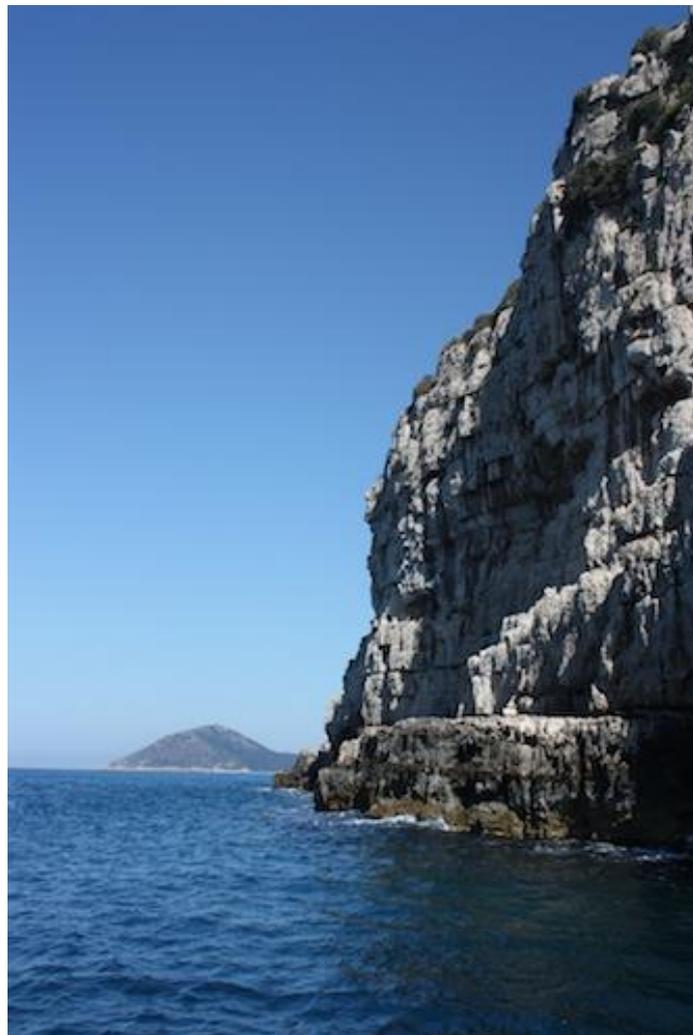




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# Management Plan for National Marine Park Karaburun-Sazan

Final Draft



December 2014

Developed by:



## **Management Plan for National Marine Park Karaburun-Sazan**

December 2014

The Management Plan has been produced based on the Grant Agreement between UNDP Albania and WWF Mediterranean Program from 07/04/2014.

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## Abbreviations and acronyms

ACCOBAMS	Agreement on the Conservation of Cetacean of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area
ATA	Agency of Tourism
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSO	Civil Society Organisation
EIA	Environmental Impact Assessment
GEF	Global Environment Facility
IBA	Important Bird and Biodiversity Area
INCA	Institute for Nature Conservation in Albania
IUCN	International Union for Conservation of Nature
METT	Management Effectiveness Tracking Tool
MCPA	Marine and Coastal Protected Area
MoE	Ministry of Environment
MPA	Marine Protected Area
NBSAP	National Biodiversity Strategy and Action Plan
NCTA	National Council of Territorial Adjustment
NEA	National Environmental Agency
NMP	National Marine Park
OMP	Fisheries Management Organization
PA	Protected Area
RAC/SPA	Regional Activity Centre for Specially Protected Areas
SAC	Special Areas of Conservation
SPA	Special Protected Areas and Special Protection Areas
SPMCPAs	Strategic Plan for Marine and Coastal Protected Areas
UNDP	United Nations Development Programme
WWF MedPO	WWF Mediterranean Program

## INTRODUCTION

Management Plan for Karaburun-Sazan Marine and Coastal Protected Area (MCPA) has been developed within the framework of the United Nations Development Programme (UNDP) project “Improving Coverage and Management Effectiveness of Marine and Coastal Protected Areas” (herein after referred to as: MCPA Project). The MCPA Project has been supporting the operational and functioning phase of the first MCPA in Albania. It started in January 2011 and will last until April 2016. Financing of the MCPA Project is secured by the Global Environment Facility (GEF) and co-financing by the Ministry of Environment (MoE) and the UNDP. Development of the Management Plan for Karaburun-Sazan is only one of the activities of the MCPA Project and the Management Plan has been prepared throughout 2014.

The Management Plan has been developed through participatory approach, including four stakeholder workshops, meetings, questionnaires, etc. This was the first time that the Management Plan has been prepared in a way that stakeholders were consulted during the process of Management Plan development and not at the end of the process. The approach raised interest among stakeholders who actively participated and contributed to the process. It will be up to the management administration to try to maintain the ownership and the trust that has been created during the Management Plan development.

A Grant Agreement between UNDP Albania and WWF Mediterranean Program (WWF MedPO) was signed 07/04/2014. The Grant Agreement was signed in the form of the Memorandum of Understanding and lasts from 1 January to 31 December 2014. The Management Plan has been developed jointly by the WWF MedPO and the Institute for Nature Conservation in Albania (INCA). Zeljka Rajkovic from WWF MedPO and Genti Kromidha from INCA were leading the process of the Management Plan development and both of them have experience in management planning.

Structure of the Management Plan follows the “Standard Structure of Protected Areas Management Plans in Albania” which was approved by the Ministry on Environment, Forest and Water Administration on 21 February 2013 (Order No. 148).

First part of the Management Plan deals with description of the National Marine Park (NMP), where all relevant data on location, legal status, policies and legislation are listed. This part also contains an analysis of stakeholders and description of PA natural system, of existing PA facilities and current visitor use, of socio-economic system, current and foreseen governance structure, cultural landscape and heritage, as well as studies and scientific research related to the marine protected area (MPA).

After the description, an evaluation of the protected area and assessment of institutional framework give insight into the values, threats and current institutional framework. Part dealing with management of protected area states the vision of the MPA and then goes into Management Plan themes and then management zones of the NMP. As stated, the Plan is divided into a number of themes, each of which has a goal that the Plan aims to achieve. The goals have a series of objectives with indicators that can be monitored to determine whether objectives and goals are being achieved. Each objective has a list of prioritized activities that are to be implemented and these activities also have their indicators, monitoring of which shows if the Plan is being implemented. Zoning includes description of each zone, a zoning map and a table of activities in each zone, with regulation of activities.

For each activity an estimate of financial costs is given in the financial plan. After the financial plan, the monitoring and evaluation of management is described. At the end there is a list of references and annexes, which contain different lists of species, maps, etc.

The Management Plan is addressed to all stakeholders of the Karaburun-Sazan MCPA and is to be implemented by the Karaburun-Sazan Management Administration, which still has to be established. The Plan was developed by taking into account opinions and needs of local communities, local and regional governments, as well as central government. This has been ensured through the participatory stakeholder process that was taking place throughout 2014.

The Management Plan defines and describes how a protected area is managed according to the best practices known at the time of its drafting. However monitoring activities, new information and new impacts could require a change in management practices. The Plan should therefore be flexible in order to adapt planned activities to any changes.

It is intended for the Management Plan to be a strategic planning document of the Management Administration for the next 10 years. The changes occurring over those ten years should be included in the review of management actions. The possibility to change existing actions enables the Park to be flexible and, at the same time, to continue following the guidelines defined by the vision and the goals of the Management Plan.

As the Management Plan vision is a long-term goal of the protected area, its lifespan is longer than the duration of the Plan. If there is no change in the protected area status, the vision remains the same thus ensuring continuity in management. Similarly, if there are no significant changes, the objectives of the Plan should remain unchanged at least for the next ten year period.

After five years, Management Plan implementation and the results achieved are analysed, and the Plan is revised accordingly. If necessary, management actions are partially changed or completely revised. As for monitoring, an analysis should be made of previous actions to explain what has been done

or not, the reasons why a specific action was not implemented and the knowledge and experience used during the revision process.

## SUMMARY

### Background information and description of the Karaburun-Sazan MCPA

National Park of the marine natural ecosystem near Karaburuni Peninsula and Sazani Island has been proclaimed on 28 April 2010 by the Council of Ministers, upon the proposal of the Minister of Environment, Forestry and Water Administration. The total area of National Park Karaburun-Sazan is 12,570.82 ha, with marine area near Karaburuni having 9,848.95 ha and marine area near Sazani island having 2,721.87 ha. Figure 1 shows the map of the Karaburun-Sazan MPA.



**Figure 1: Map of the Karaburun-Sazan MPA**

Source: Website of the “Improvement of coverage and management of MCPA in Albania”<sup>1</sup>

### Values and threats

Values that were identified are the following:

- Natural values: Posidonia meadows, Coralligenous communities and other vulnerable marine habitats, Fish species, Geological formations, Endangered and protected species (including charismatic species), and Landscape
- Socio-economic values: Artisanal fisheries, Tourism, and Beaches
- Cultural and historical values: Archaeological and historical remains, Caves with historical scripts, and Historical military remnants

<sup>1</sup><http://mcpa.iwlearn.org/protected-areas/map-of-protected-areas/view>

Threats that were identified are the following: Degradation of Posidonia meadows, Degradation of coralligenous communities, Decreased fish stocks

Degradation of geological formations, Intensive aquaculture, Pollution, Invasive species, Unused potential, and Degradation of archaeological and historical sites.

Values and threats were linked into the conceptual model, where also user groups associated with threats, behaviour causing threat and root cause of behaviour were identified.

### MCPA vision, objectives and activities

**Karburun-Sazan is well-managed marine area of outstanding naturalness, where resources are used sustainably to support diversity of tourist offer.**

Five management themes, each with a goal and a number of specific objectives under each theme. In total, 13 specific objectives were identified and 60 activities that are distributed among those objectives. Management themes, goals and objectives are listed in the Table 1.

**Table 1: Management themes, goals and objectives**

<b>THEME: BIODIVERSITY CONSERVATION</b>
<b>GOAL:</b> Maintain and protect valuable marine species and habitats by regulating activities at the sea and improving knowledge on importance of biodiversity.
<b>OBJECTIVES:</b>
Reduce degradation and maintain the size and status of Posidonia meadows in front of beaches (western part) during management plan timeframe (10 years)
Stop degradation and maintain the status of coralligenous communities and other vulnerable marine habitats during management plan timeframe (10 years)
Preserve favourable status of endangered and protected marine species and ensure safe passage of charismatic species (marine turtles, monk seals, dolphins and whales) through corridor during management plan timeframe (10 years)
<b>THEME: CULTURAL HERITAGE AND LANDSCAPE</b>
<b>GOAL:</b> Maintain and preserve well-known cultural and historical features and outstanding geological formations by improving regulations and promoting good practices.
<b>OBJECTIVES:</b>
Preserve aesthetic value of the landscape during management plan timeframe (10 years)
Preserve geological formations by stopping degradation on cliffs and in caves (Haxhi Ali, Grama Bay, etc.) in the next 5 years
Preserve actual state of underwater archaeological remains at archaeological sites during management plan timeframe (10 years)
<b>THEME: SUPPORTING LOCAL COMMUNITIES AND SUSTAINABLE USE OF NATURAL RESOURCES</b>
<b>GOAL:</b> Support local community development by promoting viable fishing and sustainable tourism practices that ensure wise use of natural resources.
<b>OBJECTIVES:</b>
Improve fish stocks through maintaining number of species and increasing fish population

abundance in the next 5 years
Diversified and quality tourist offer & achieved sustainable level of tourism on beaches, caves and diving sites during management plan timeframe (10 years)
Quality tourist experience, including clean, not overcrowded and quiet natural beaches during management plan timeframe (10 years)
<b>THEME: AWARENESS AND EDUCATION</b>
<b>GOAL:</b> Raise awareness and improve knowledge on the importance of biodiversity conservation and sustainable use of natural resources, and promote values and benefits of MPAs.
<b>OBJECTIVES:</b>
Raise awareness about MPA values among visitors and general public
Educate stakeholders on issues related to their contribution to improved MPA management
<b>THEME: MANAGEMENT, ADMINISTRATION AND SUSTAINABILITY</b>
<b>GOAL:</b> Ensure effective management of MPA by building capacities, providing necessary human and financial resources, and improving communication and cooperation with relevant stakeholders.
<b>OBJECTIVES:</b>
Establish a Management Administration, hire staff, raise their level of knowledge and skills and adequately equip them in relation to the existing state in 2014.
Improve communication and cooperation of the Management Administration with the local residents and authorities.

## Zoning

Zoning map of the NMP Karaburun-Sazan is shown in Figure 2.

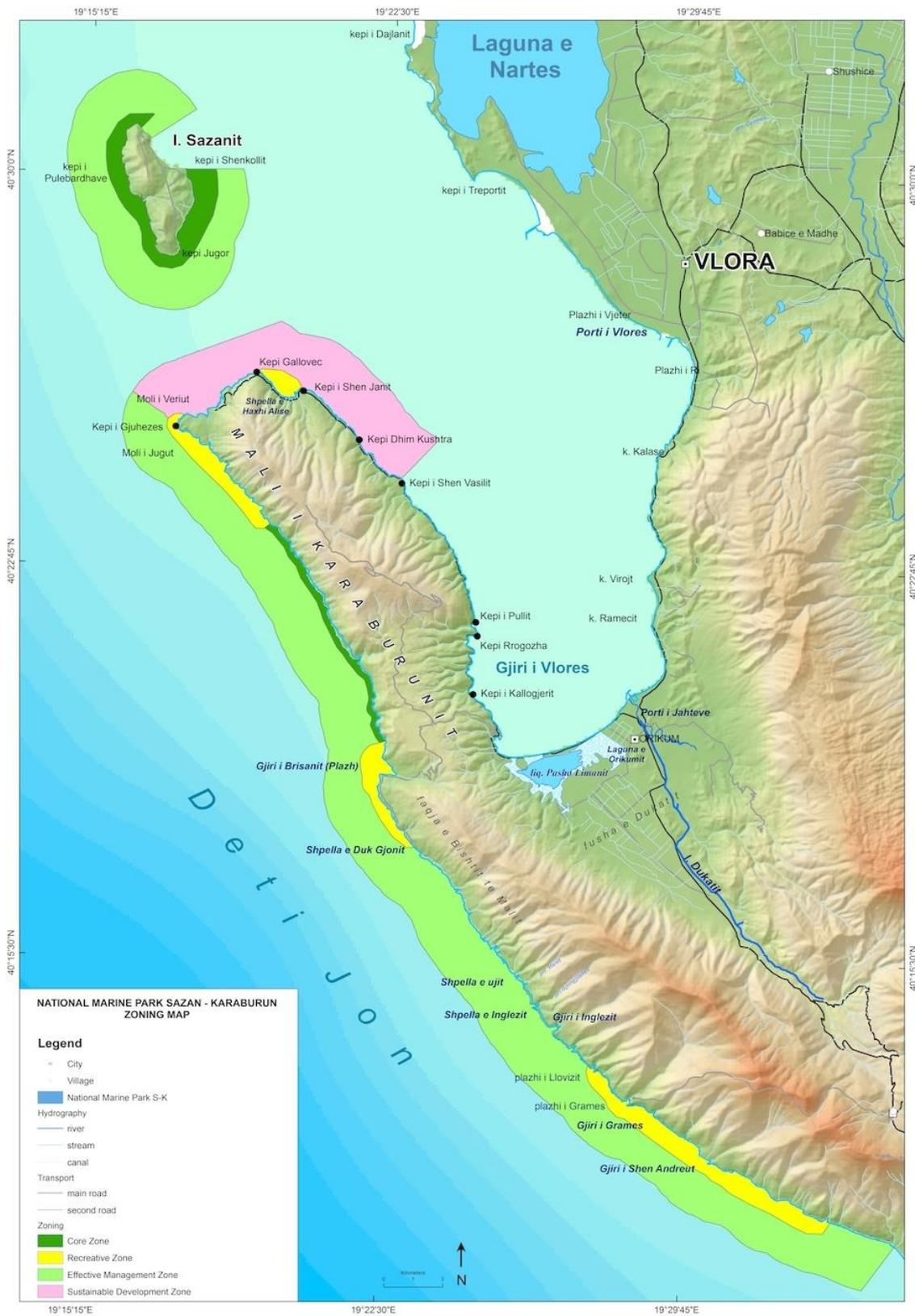


Figure 2: Zoning map of the National Marine Park Karaburun-Sazan

Table 2 shows management zones and regulation of activities in each zone.

**Table 2: Zones and regulation of activities**

Legend: Y – ALLOWED; N – PROHIBITED; R – REGULATED

ACTIVITY	CZ	EMZ	RZ	SDZ	Regulation of activities
Scientific research	R	R	R	R	Special permit by PA administration for all zones. CZ & EMZ - special permit and limited numbers of scientists allowed.
Monitoring	R	R	R	R	Special permit by PA administration for all zones. CZ – special permit and limited monitoring allowed.
Diving	N	R	R	R	Diving sites should be specified and diving is allowed only at those specific sites. Diving allowed only with guides. Limited number of divers. Monitoring of diving activities by PA administration. Taking photos and videos is allowed.
Swimming and snorkelling (beaches and sun bathing)	N	N	Y	Y	Taking photos and videos is allowed.
Visitation	R	R	Y	Y	CZ - guided tours at specified routes only under guidance of PA administration; strictly limited in numbers and sites. EMZ – guided tours, limited in numbers.
Wildlife watching	N	R	R	R	Code of conduct for wildlife watching has to be respected.
Fishing	N	N	R	R	Special permit for fishing (Law on Fisheries). Only sport and traditional fishing is allowed, commercial fishing is not allowed.
Boating (excursions)	N	R	R	R	Special permit by PA administration for boats accessing the area. Limited and guided boat excursions – time and access to the area should be defined; carrying capacity study for number of boats should be defined.
Anchoring	N	N	Y	Y	Until assessment for mooring system is made and, if necessary, mooring system is installed, anchoring is allowed in RZ and SDZ.
Mooring	N	R	Y	Y	Moorings, small docks and platforms - "light" construction only. All moorings should have environmental friendly image.
Sailing	N	R	Y	Y	Special permit by PA administration for boats. EMZ - some areas should be off limits (such as diving sites), signs for boats should be put. No waste discharges (regulated by Law). Carrying capacity study for number of boats should be defined.
Kayaking	N	R	Y	Y	Special permit by PA administration.
Water sports	N	R	Y	R	No use of jet skies in any zone. Other motor water sports are allowed only in RZ. EMZ & SDZ – only non-motor water sports. Clear division of water sport zones and swimming areas.
Infrastructure development	N	N	R	R	Infrastructure development should be in accordance with Development Plans and Management Plan. No permanent buildings, only "light" infrastructure is allowed (moorings, small docks, platforms).
Maritime traffic	N	N	N	N	1 NM away by Law.

ACTIVITY	CZ	EMZ	RZ	SDZ	Regulation of activities
Mineral extraction	N	N	N	N	
Collection of plants, minerals, stones, paleontological findings	N	N	N	N	
Aquaculture	N	N	N	N	
Military activities	N	N	N	N	

## Monitoring and evaluation of management

Monitoring of achieving objectives will be done through indicators of objectives which are developed for each of the 13 objectives.

Monitoring of implementation of activities will be done through implementation indicators which are developed for each of the 60 activities.

In addition, management effectiveness will be regularly assessed through the application of the Management Effectiveness Tracking Tool (METT).

# DESCRIPTION OF THE PROTECTED AREA

## Location, boundary and legal status

The National Marine Park Karaburun-Sazan is situated at the border between Adriatic and Ionian Sea. Location of the NMP is shown in Figure 3.

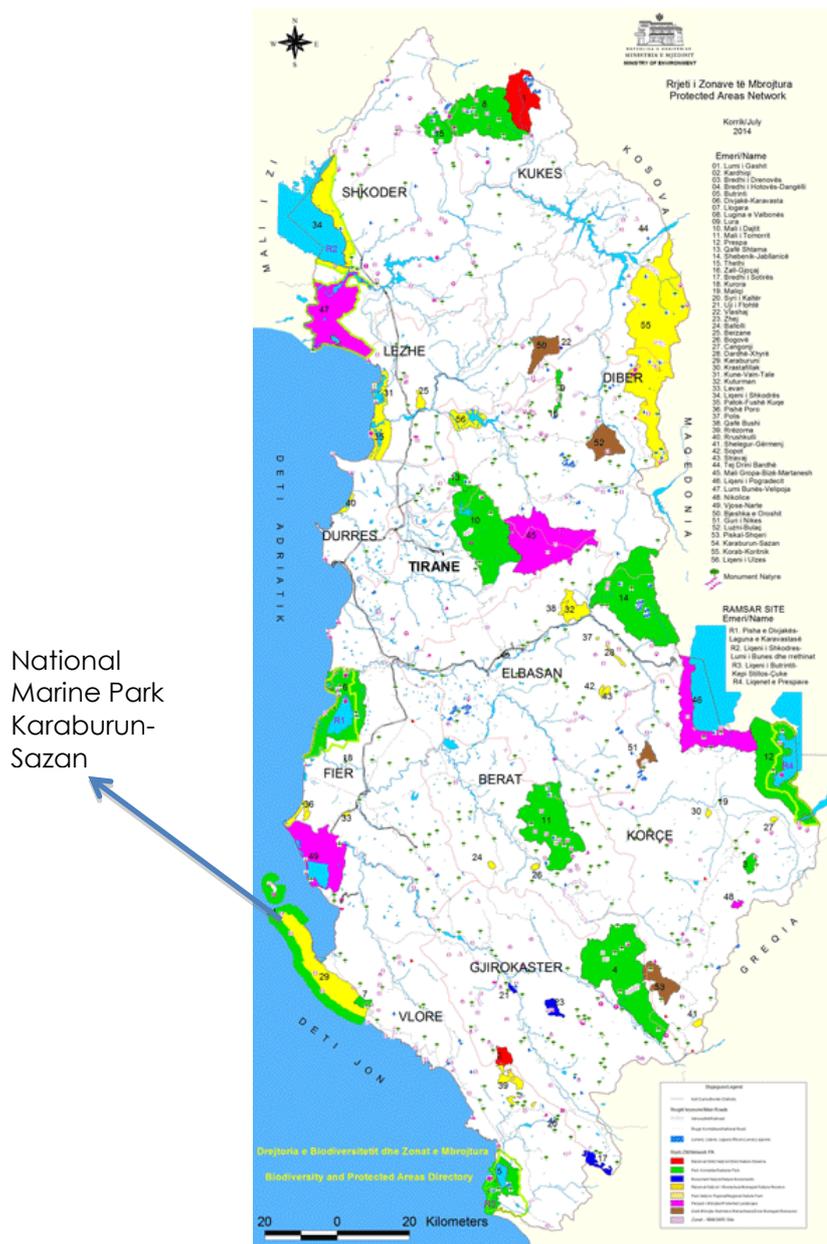


Figure 3: Map of Protected Areas

Source: Website of the "Improvement of coverage and management of MCPA in Albania"<sup>2</sup>

<sup>2</sup><http://mcpa.iwlearn.org/protected-areas/map-of-protected-areas/view>

The National Marine Park Karaburun-Sazan covers marine area along the coastlines of Karaburuni peninsula and Sazani island and is situated in Vlore County. Karaburuni peninsula is part of the Orikum Municipality and Sazani island is part of the Qender Commune.

National Park of the marine natural ecosystem near Karaburuni Peninsula and Sazani Island has been proclaimed on 28 April 2010 by the Council of Ministers, upon the proposal of the Minister of Environment, Forestry and Water Administration. The total area of National Park Karaburun-Sazan is 12,570.82 ha, with marine area near Karaburuni having 9,848.95 ha and marine area near Sazani island having 2,721.87 ha.

The borders of the NMP have been defined by the above-mentioned Decision on Proclamation. The marine area near Karaburuni has the following borders:

- North: Point 1 (situated in the sea) with a distance of 1 marine mile (1852 m) from Gjuhëza Cape with these coordinates 4353018.48 N and 4478005.72 E, up to point 2 (situated in the sea) with a distance of 1 marine mile (1852 m) from Saint Vasil Cape with coordinates 4363780.19 N and 4477378.71 E;
- East: Point 2 (situated in the sea) with a distance of 1 marine mile (1852 m) from Saint Vasil Cape with coordinates 4363780.19 N and 4477378.71 E, which continues further along the coastal line from 'Saint Vasil' Cape, 'Dhim Kushte' Cape and 'Saint Jani' cape and bay, 'Gjuhëz' cape, follows the western coastal line of Karaburuni mountain, 'Gjinara' coast, slope of 'Bishti i Malit', Rrezen e Kanalit, slope of 'Langadhe' up to point 3 with coordinates 4379221.15 N and 4449696.28 E;
- South: Point 3, with coordinates 4379221.15 N and 4449696.28 E, up to point 4 (situated in the sea) with a distance on 1 marine mile (1852 m) from 'Langadhe' slope with coordinates 4378104.94 and 4448193.75 E;
- West: Point 4 (situated in the sea), with a distance of 1 marine mile (1852 m) from 'Langadha' slope, with coordinates 4378104.94 and 4448193.75 E, which follows the isobath up to point 1 (in sea), with a distance of 1 marine mile (1852 m) from 'Gjuhëza' cape, with coordinates 4353018.48 N e 4478005.72 E.

The marine area near Sazani island has the following borders:

- Point 1, with coordinates 4354004.14 N and 4487718.40 E;
- Point 2 with coordinates 4355536.33 N and 4486707.03 E;
- Point 3, with coordinates 4351587.21 N and 4485140.06 E;
- Point 4, with coordinates 4357134.42 N and 4486668.09 E;
- Point 5, with coordinates 4355142.57 N and 4486658.75 EL.

Map of NMP Karaburun-Sazan is shown in Figure 4.



Figure 4: Map of the Karaburun-Sazan MPA

Source: Website of the "Improvement of coverage and management of MCPA in Albania"<sup>3</sup>

<sup>3</sup><http://mcpa.iwlearn.org/protected-areas/map-of-protected-areas/view>

Karaburun-Sazan is a national park, IUCN<sup>4</sup> Category II. Law on Protected Areas makes a link between national and IUCN PA categories.

## Policies and legislation

### International legislation

List of international legislation relevant for the NMP Karaburun-Sazan is provided in the Table 3.

**Table 3: International legislation relevant for the NMP Karaburun-Sazan**

International legislation	Year <sup>5</sup>	Objectives and implication relevant to the PA management
Convention on Biological Diversity (CBD 1992)	1994	Aims to conserve biological diversity, sustainable use of its components and fair and equitable sharing of benefits arising from genetic resources
CBD Aichi targets (to be met by 2020) <ul style="list-style-type: none"> <li>• Target 11</li> <li>• Target 12</li> </ul>	2010	Target 11. Include 17% of terrestrial and inland water, and 10% of coastal and marine areas in systems of protected areas Target 12. Prevent extinction of threatened species and improve their conservation status
Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (1975, amended in 1995)	1990 (2001 amendments)	Aims to protect the Mediterranean marine and coastal environment while boosting regional and national plans to achieve sustainable development
Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD) (1995)	2001	Aims to promote the conservation and sustainable management of marine and coastal areas with natural or cultural values and to promote the conservation of endangered or threatened species
Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area (ACCOBAMS Agreement 2001)	2001	Provides for the establishment of MPAs in areas which serve as habitats for cetaceans and/or which provide important food resources for them
Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)	1999	Aims to conserve wild flora and fauna and their natural habitats and to promote European cooperation
Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979)	2001	Aims to conserve terrestrial, aquatic and avian migratory species throughout their range
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES, 1975)	2003	Aim to ensure that international trade in wild animals and plants does not threaten their survival

<sup>4</sup> IUCN is the International Union for Conservation of Nature.

<sup>5</sup>Year of accession or ratification by Albania.

## EU legislation

Considering that Albania is a candidate country for European Union, EU directives will have to be transposed into Albanian national legislation. The process has already started, but, considering the complexity of the *aquis communautaire*<sup>6</sup>, it is expected to last until the Albania joins the EU.

Nature Directives are EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive 92/43/EEC) and EU Directive on the Conservation of Wild Birds (Birds Directive 2009/147/EC). Natura 2000 is the centrepiece of EU nature and biodiversity policy. It is a EU wide network of nature protection areas established under the 1992 Habitats Directive. The aim of the network is to assure the long-term survival of EU's most valuable and threatened species and habitats. It is comprised of Special Areas of Conservation (SAC) designated by Member States under the Habitats Directive, and also incorporates Special Protection Areas (SPAs) which they designate under the 1979 Birds Directive. So, Natura 2000 applies to Birds Sites and to Habitats Sites, which are divided into biogeographical regions; it also applies to the marine environment.<sup>7</sup>

Two additional EU directives that are relevant for the marine environment are the EU Directive Establishing a Framework for The Community Action in the Field of Water Policy (Water Framework Directive 2000/60/EC) and Marine Strategy Framework Directive (Marine Directive 2008/56/EC). The Water Framework Directive commits EU member states to achieve good qualitative and quantitative status of all water bodies (including marine waters up to one nautical mile from shore) by 2015. The aim of the Marine Directive is to protect more effectively the marine environment across EU. It aims to achieve Good Environmental Status (GES) of the EU's marine waters by 2020 and to protect the resource base upon which marine-related economic and social activities depend. In order to achieve its goal, the Directive establishes European marine regions and sub-regions on the basis of geographical and environmental criteria.

## National legislation

List of national legislation relevant for the NMP Karaburun-Sazan is provided in the Table 4.

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<sup>6</sup>Accumulated legislation, legal acts, and court decisions which constitute the body of European Union law

<sup>7</sup>Source: [http://ec.europa.eu/environment/nature/natura2000/index\\_en.htm](http://ec.europa.eu/environment/nature/natura2000/index_en.htm)

**Table 4: List of national legislation relevant for the NMP Karaburun-Sazan**

National legislation	Year <sup>8</sup>	Objectives and implication relevant to the PA management
<b>Strategic documents</b>		
National Biodiversity <b>Strategy and Action Plan</b> (NBSAP), 2000 and Action Plans for Conservation of Cetaceans (2007), <i>Posidonia oceanica</i> meadows (2007) and Marine turtles and their natural habitats (2012)	2000  2007-2012	Valid for the period 2000-2015; The most significant progress achieved in PA coverage
<b>Working plan and the strategy</b> for increasing the surface and strengthening the administration of protected areas in Albania, in Biodiversity enabling Activity, 2007	2007	Provided details for improving the coverage of PA and laid the grounds for the establishment of the first Marine Protected area in Albania
<b>Strategic Plan</b> for Marine and Coastal Protected Areas (SPMCPAs), April 2013	2013 (Final draft)	Includes situation analysis related to MCPAs, reviews criteria to identify MCPAs and identifies MCPAs, as well as proposes activities for the implementation of the SPMCPAs
<b>Laws</b>		
<b>Law</b> No.8906, dated 06.06.2002 "On protected areas" amended by Law No. 9868, dated 04.02.2008	2002 (2008 amendments)	Establishes the legal framework for the declaration, planning, administration, management and use of protected areas and their natural and biological resources
<b>Law</b> No. 9587, dated 20.07.2006, "On biodiversity protection", amended by Law No. 37/2013	2006 (2013 amendments)	Aims at preserving and protecting biological diversity by regulating the sustainable use of its elements through the integration of the main elements of biodiversity in the strategies, plans, programs and all levels of decision-making
<b>Law</b> No. 10006, dated 23.10.2008, "On wild fauna protection" amended by Law No. 41/2013	2008 (2013 amendments)	Aims to protect, manage and control wild fauna to ensuring the conservation of species, populations and their habitats
<b>Law</b> No. 64/2012, dated 31.05.2012, "On Fisheries"	2012	Regulates fisheries, its management, provides protection for marine life and internal waters, and regulates "fishing protected areas"
<b>Additional legislation related to protected areas</b>		
<b>Decision</b> no. 266, dated 24.04.2003 "Concerning the administration of Protected areas"	2003	Specifies the tasks and functions of the PA administrations, especially for national and parks and managed natural reserves / areas of habitat and species management (IUCN PA categories II and IV)
<b>Decision</b> No. 267 concerning procedures regulating proposal and declaration of protected and buffer zones, dated 24.04.2003	2003	Regulates procedure for the declaration of protected and buffer areas

<sup>8</sup>Year of adoption and subsequent amendments, where relevant.

National legislation	Year <sup>8</sup>	Objectives and implication relevant to the PA management
<b>Decision</b> No. 897, dated 21.12.2011 approving the rules for the proclamation of the special protected areas	2011	Proclamation of the special protected areas (SPAs) is done according to the Law on Protected Areas. SPAs are related to PAs that have Ramsar status as wetlands of international importance, or the Bern status as areas of great importance for the flora and fauna protection.
<b>Regulation</b> No. 86, dated 11.02.2005, "For the Establishment of Management Committees for Protected Areas"	2005	Regulates the creation, functions and operation of the PA management committees
<b>Order</b> No. 148, dated 21.02.2013, "On approval of Standardized Structure of Management Plan for the Protected Area"	2013	Establishes the contents of the management plans of protected areas
<b>Order</b> No. 1280, dated 20.11.2013, "On approval of the Red List of Wild Fauna and Flora"	2013	Review and updated of the existing Red List compiled for the first time in Albania in 2007
<b>Regulation</b> No 1, dated 29.03.2005, "For application of the legislation on fishery and aquaculture"	2005	Prohibits fishing around river mouths, fishing and aquaculture in the outer part of Karaburun (up to 1 nm or up to 50 m depth), trawl and pelagic trail nets in Vlora bay, fishing in the lagoon channels
<b>Regulation</b> No. 8, dated 11.11.2009, "Concerning management measures for the sustainable exploitation of fishery resources in the Sea"	2009	Prohibits use of bottom gears within 3 nm from the coast or up to 50 m depth, towed gears within 1.5 nm from the coast, hydraulic dredges 0.3 nm from the coast, and gillnets/purse seine 300 m from the coast
<b>Regulations related to NMP Karaburun-Sazan</b>		
<b>Decision</b> No.289, dated 28.04.2010, proclaiming Natural Park the natural maritime ecosystem at the Sazan island Park and the Karaburun peninsula, amended by Decision No. 444, dated 28.04.2010	2010	Declare the maritime natural ecosystem of Sazan island and Karaburun peninsula as Marine National Park
<b>Order</b> No. 446, dated 16.08.2012, on the Establishment of the Management Committee of the National Park Llogara, Marine National Park Karaburun-Sazan and Natural Complex Karaburun-Rreza e Kanalit-Orikum-Tragjas-Dukat	2012	Defines members of the Management Committee based on the Regulation for the Establishment of Management Committees for Protected Areas

## Stakeholders

### Roles and responsibilities of stakeholders

Both governmental and non-governmental stakeholders were identified and subsequently analysed. They were grouped (please see Table 5), relations between each stakeholder and the NMP were defined, and for each stakeholder the level of their engagement was determined.

**Table 5: Roles and responsibilities of stakeholders**

Stakeholders	Relation between stakeholders and NMP	Level of engagement
<b>Ministries / National authorities</b>		
Ministry of Environment	Responsible for legal framework for PA management; authority to design the PA standards; supervises PA management	Kept satisfied / engage closely – high power and responsibility related to PAs
Ministry of Urban Development and Tourism	Responsible for setup, implementation and monitoring of the National Tourism Strategy; legal framework for tourism development, related planning and development process; support for regional administration and tourism organization at the national, regional and local level	Kept satisfied – high power; moderate interest
Ministry of Defence	Military base located at Karaburun peninsula and Sazani island	Keep satisfied – high power, low interest
National Spatial Planning Agency	Develop planning standards and supervise implementation of spatial planning instruments	Keep informed
National Coastal Agency	Coastal protection, promotion and monitoring of projects for the development of the coastal zone	Kept satisfied / engage closely – role and quite high power in promoting and protecting the coastal areas
National Urban Planning Inspectorate	Law enforcement related to spatial planning and constructions	Keep informed
National Tourism Agency – NTA	Carry on the functions related to promotion and marketing in tourism, e.g. production and distribution of promotional publications, official tourism portals, familiarization tours, PR, tourism trade fairs, etc.	Engaged closely / keep informed – importance in taking and evaluating touristic data and developing touristic strategies and information packages
<b>State organisations</b>		
Regional Directorate of Forestry Service	Responsible for the management of PAs (including Karaburun-Sazan)	Engage closely – moderate power and interest

Stakeholders	Relation between stakeholders and NMP	Level of engagement
Regional Environment Inspectorate	Law enforcement, controlling illegal activities; fire protection	Monitor / keep informed – moderate power, low interest
Regional Environment Agency – ARM	Present in each Prefecture; implementing procedures related to environmental licenses; collecting environmental data	Just monitor– low power and competencies not so relevant
Inter Institutional Marine Operations Centre	An inter-sectoral institution responsible for monitoring the marine area of Albania and planning and coordinating sea related activities	Keep informed
Fisheries Inspectorate Vlora	Responsibility for surveillance of fisheries activities, including the NMP	Monitor – could have power, but low interest at the moment
Border Police and Immigration	Responsibility in NMP as well (controlling access to the area)	Monitor – have power, but low interest at the moment
<b>Local/Regional administration</b>		
Vlora Prefecture	Supervises legal framework implementation and controls local government authorities	Keep satisfied – high power over some issues, moderate interest
Vlora County Council	Develops and implements regional policies and coordinates with central and local government authorities	Keep satisfied – high power over some issues, moderate interest
Vlora Municipality	Decides over local development (businesses); NMP visitors are mostly staying in Vlora	Keep satisfied – high power over some issues, moderate interest
Orikum Municipality	Responsible for the local administration of the area, local tourism development and management; urbanistic studies; Development Plan up to 2013	High interest for the local tourism development and quite high power on local level
Qender Municipality	Responsible for Sazan island, but Military is still present there	Keep satisfied – high power over some issues, moderate interest
<b>Public entities / enterprises</b>		
Harbour Master Vlora	Once the entrance into the NMP is regulated, it could become more important	Monitor – low power and low interest
Harbour District Vlora	Port authority in Vlora, at the moment does not provide moorings for nautical tourists	Monitor – low power and low interest
<b>User associations</b>		
Chamber of Commerce and Industry, Vlora	Association of private businesses in Vlora, potential for promotion	Monitor – low power and low interest at the moment
Fisheries Management Organisation – OMP	UNDP has signed an agreement with OMP to	Keep informed – interested and some power

Stakeholders	Relation between stakeholders and NMP	Level of engagement
	provide for 3 rangers, fuel and logistics, who in turn write weekly reports; rangers can only record illegal activities	
<b>Tourism services</b>		
Organisation of Touristic Operators	Tourism agencies	Engage closely – important for tourism development; directly engaged with the NMP
Marina of Oriku	Private marina, cca 600 berths, fully equipped, organises regattas	Monitor / keep informed – low power and potentially moderate interest
OaziBlu	Diving CSO	Engage closely – important for tourism development; directly engaged with the MP
<b>Civil Society Organisations (CSOs)</b>		
Organisation for Environmental Education – SEEP	Environmental CSO	Keep informed / engage closely – high interest, limited power
Association for Vlora Bay Protection		
Centre for Research, Cooperation and Development - CRCDC		
Auleda Centre		
Human Rights and Environment		
Aulona Centre		
Aarhus Organisation		
Ownership		
Agribusiness		
BioAdro		
Dukati		
Oriku		
PineFlag		
Himara's Intellectuals Organisation		
<b>Research institutions</b>		
University "Ismail Qemali"	Natural science and Tourism Departments, conducting research in the MPA	Moderate position – important role and contribution in scientific research, but not as much in PA management, moderate interest
<b>Local community</b>		
Fishermen	Users of the NMP, commercial artisanal fishermen	Keep informed – will be informed through OMP, some interest
<b>Media</b>		
Local radio stations	Information on the MPA activities, promotion of the MPA, awareness raising, etc.	Keep informed
Local TV stations		
Newspapers		

Stakeholders	Relation between stakeholders and NMP	Level of engagement
National media		
<b>Educational institutions</b>		
Primary schools	Education activities in the MPA, awareness raising about the MPA	Keep informed
High schools		
University		
Public libraries		
<b>International organizations / Donors / Development Aid</b>		
European Union Information Centre Vlora – EUIC Vlora	Facilitates the dissemination of information on EU and Albania	Keep informed; low power high interest
European Commission	Supporting biodiversity conservation in the country	
UNDP	Supporting the establishment and management of the MPA	
World Bank	Supporting biodiversity conservation in the country	
WWF	Supporting capacity building for protected areas	
MedPAN	Supporting MPA regionally	

### Stakeholder engagement matrix

Figure 5 shows the stakeholder engagement matrix, where stakeholders are analysed based on their power and interest. This helps determine the impact that stakeholders in relation to the NMP and helps select the proper communication approach / engagement level for each stakeholder group.

Stakeholders with high power and low interest are to be kept satisfied. Those with low interest and low power should only be monitored with minimum effort. Stakeholders with low power and high interest are to be keep informed and finally the high power, high interest stakeholders should be closely engaged.

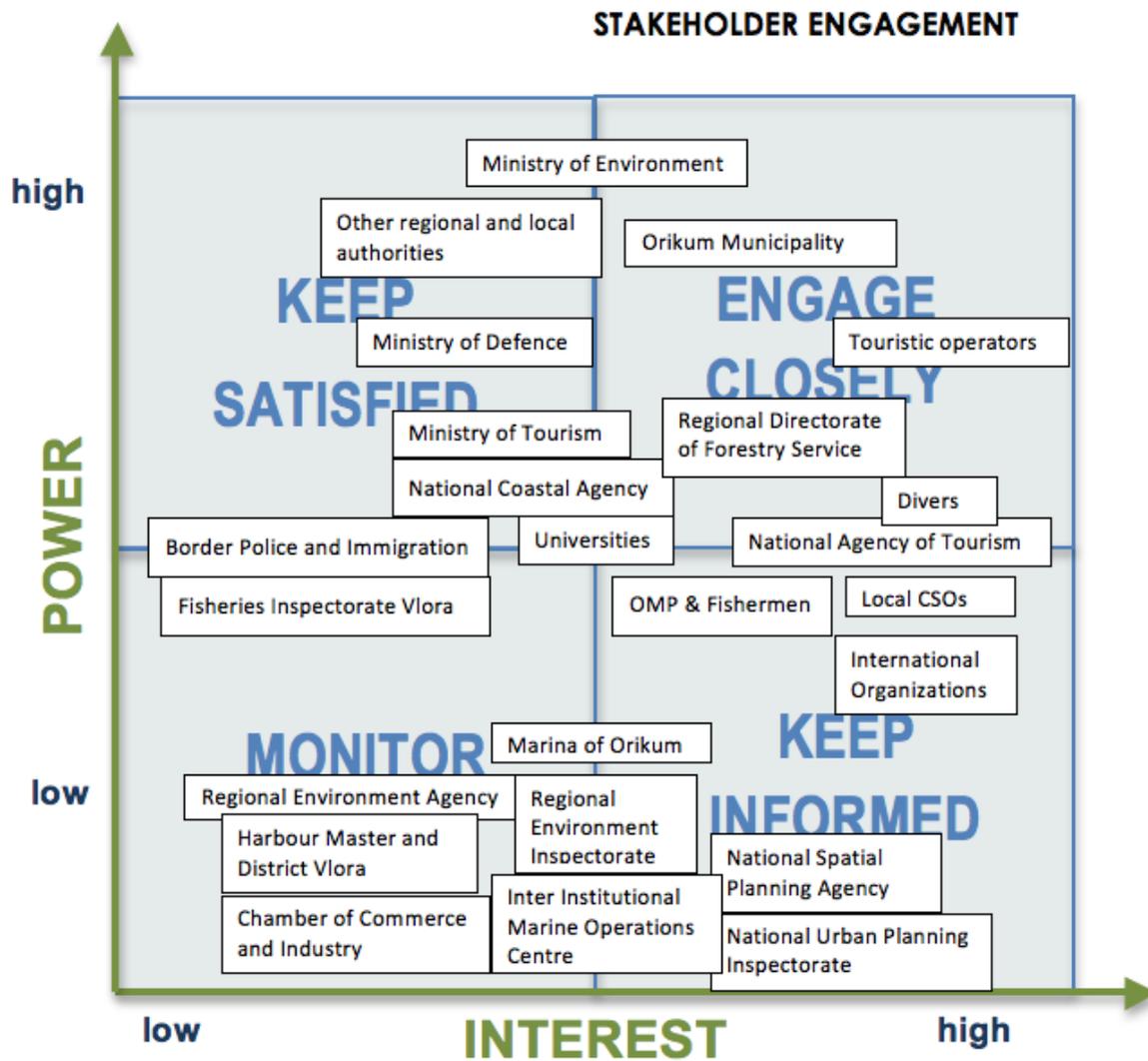


Figure 5: Stakeholder engagement matrix

### Description of the PA natural system

The following documents have been consulted for the description of the NMP Karaburun-Sazan:

- Management Plan. Complex: Llogora-Rrëza e Kanalit-Dukat-Orikum-Tragjas-Radhimë-Karaburun (UNDP/GEF and Ministry of Environment 2005a);
- Proposal for a Marine protected Area in Albania (Tilot 2009);
- PA Gap Assessment, Marine Biodiversity, Legislation on PA and MPA (Kashta, 2010); and
- Priority Action Plan for Sazani – Karaburuni Marine Protected Area (Bequiraj *et al.*, 2010).

## Introduction

The National Marine Park Karaburun-Sazan is designed to provide a pragmatic approach aiming at establishing equilibrium between sustainable economic development and natural resource conservation ensuring long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to support coastal communities' development. The main objectives of its designation are:

- To protect and maintain the biological diversity and other natural values of the area in the long term.
- To promote sound management practices for sustainable production purposes.
- To protect the natural resources from being alienated for other land-use purposes that would be detrimental to the area's biological diversity.
- To contribute to the regional and national development.

Karaburuni peninsula was declared a natural reserve in July 27, 1977, but has been heavily impacted by fires, overgrazing, intensive hunting and military practice. Sazani island is separated from the northern tip of the Karaburuni peninsula by the Mezokanali strait. This island is a natural recreational/touristic zone with remarkable cliffs and landscapes.

The whole area displays the highest biodiversity values in the country (NEA, 1999) due to its diversity of habitats and its richness in flora and fauna species. Many of them have a conservation concern at international, national and regional level.

Except for the wetlands, the coastal area is mainly rocky with, in some places, important calcareous limestone cliffs covered by typical Mediterranean vegetation and locally along the coast, pocket beaches of pebbles and sand. Rocky coasts are usually covered by a typical Mediterranean maquis, which is still quite abundant on Sazani island and along Rreza e Kanalit - Karaburuni. The coastal wetlands and dunes are covered mainly by halophytes, psamophytes and other brackish and freshwater associations. This entire rocky coast presents exceptional scenic quality especially by boat when visiting caves, canyons and small bays, e.g., Shpella e Haxhi Alisë and Duk Gjoni caves (Fremuth, 2000; Pergent, 2002; Qiriazhi and Sala, 2006; Sala *et al.*, 2006; Tilot and Jeudy de Grissac, 1994).

The underwater landscape is also of exceptional quality with cliffs, submarine caves and associated fauna and flora, and in some places archaeological remains (Tilot and Jeudy de Grissac, 1994; Upton, 2006). This area is certainly the best and most impressive part of Albanian coast for the development of nautical activities such as scuba diving, which is not well developed in Albania.

The biological diversity is relatively high in the marine waters of the area with rare species and the littoral benthos much developed with a typical

Mediterranean physiognomy characterized by the abundance of Mediterraneo-Atlantic species. *Posidonia oceanica* meadows host a relatively high biodiversity of benthic macrofauna including sponges, cnidarians, bryozoans, molluscs, annelids, crustaceans, echinoderms and ascidians (Beqiraj *et al.*, 2008).

Coralligenous algae, a biogenic formation building a rim, which can extend locally to more than 1 m in width, are present at the mediolittoral stage along the western coasts of Karaburuni, Sazani island and Rreza e Kanalit area.

Three globally endangered marine turtles, with high threatening status (IUCN Red List of Threatened Species, 2014<sup>9</sup>) are present in Albanian waters: loggerhead turtles (*Caretta caretta*), green turtles (*Chelonia mydas*) and much more rarely leatherback turtle (*Dermochelys coriacea*). The area is also a potential monk seal habitat (monk seals were reported in Karaburuni in 1982 and Sazani in 1991). Five species of cetaceans are reported in Albanian waters among which the short-beaked common dolphin (*Delphinus delphis*), the common bottlenose dolphin (*Tursiops truncatus*) and the sperm whale (*Physeter macrocephalus*) which have been identified by ACCOBAMS as being in the greatest danger of disappearing from the Mediterranean.

According to Birdlife International (2014), the area of Vlora bay, Karaburuni peninsula and Cika mountain is listed as an Important Bird and Biodiversity Area (IBA) for Albania (IBA assessment was done in 2000)<sup>10</sup>. About 70 species of water birds have been recorded among which the Dalmatian pelican (*Pelecanus crispus*) and the pygmy cormorant (*Phalacrocorax pygmaeus*).

The area is also important for fisheries. Artisanal fishing exists along the coasts of Rreza e Kanalit-Karaburuni and Sazani. Professional fishermen use mainly lines and trawling. The fish fauna of commercial interest is made of several demersal species and groups, small and big fishes, crustacean and molluscs.

Historical and archaeological values of the sites are unique and would attract national and international tourism. Several archaeological and historical remains are present in the area in Orikumi lagoon, Vlora bay, Karaburuni, e.g. Grama bay and some caves.

The establishment of NMP Karaburun-Sazan requires the development of a management plan including the definition of the role and functions of the management unit, of the detailed regulations for each zone and for each activity allowed in the area, the recruitment and training of staff, the definition and installation of necessary infrastructures and the preparation of research, monitoring and communication plans. The plan will have to remain adaptive to change in local and regional conditions and responsive to new challenges and opportunities.

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<sup>9</sup> <http://www.iucnredlist.org/>

<sup>10</sup> <http://www.birdlife.org/datazone/sitefactsheet.php?id=2908>

## General Description

On the western side, the coastline of the Karaburuni peninsula extends to Rreza e Kanalit. It varies in altitude, from 15-30 m to 887 m at Mount Bitrit in Karaburuni and 1500 m above sea level at Mont Shendelliut, (1499.5 m) in Rreza e Kanalit. The slopes of Karaburuni peninsula are locally very steep on the western side and culminating in the central part. The western coast of the peninsula is incised by caves and deep canyons ending rarely by gravel or sand pocket beaches. It is characterized by high vertical cliffs that continue underwater at great depths. These cliffs are quite eroded and numerous caves, mostly underwater, can be seen where freshwater springs often percolate.

Karaburuni peninsula is the most evident site of Mediterranean quality. It is characterized by a very low level of disturbance. The mediolittoral environment is characterized by coralligenous formations sometimes over a meter large built by coralligenous algae *Lithophyllum lichenoides*, a protected species, which is exceptional geomorphologically, biologically and in a touristic aspect, as it may be extremely spectacular.

The island of Sazani (16 km long and 3-5 km wide), in front of Vlora and north of Karaburuni peninsula, has an ellipsoid form oriented NNW-SSE and culminates at 345 m with Gryka e Djallit.

The western side is characterized by high vertical cliffs that are incised by deep canyons extended by caves that appear mostly underwater as observed in Karaburuni peninsula. The most important canyons are at cape Pëllumbave and at Gryka e Ferrit.

On the eastern side, the coastline is lower and is formed in the SW by slanted folds of limestone plunging into the sea.

Most settlements are built in the centre of the island in prolongation of the canyon of Gryka e Ferrit, crossing the island up to the well-protected harbour on the bay of Shë n Nikolla.

## Climate

The area is characterized by a Mediterranean climate with mild winters and abundant precipitation and hot and dry summers. Mean annual precipitations vary between 1000 – 1200 mm and occur mostly in winter, from November to April. The annual solar radiation for the area is about 1540 kwh/m<sup>2</sup> with a peak in July (216.5 kwh/m<sup>2</sup>). The mean annual air humidity is 66% and the mean annual temperature is 17°C varying between 24-26°C in July and 10°C in January. In winter, winds occur mainly from the North East and South with a mean velocity of 7.2m/s with peaks of southern winds reaching 40 m/s (UNDP/GEF and Ministry of Environment, 2005c).

## Geology, topography, and geomorphology

The area encompasses two geomorphological units, terrigen formations which can be heavily eroded (flysh, e.g. and quaternary deposits of molas)

and carbonate rocks (limestone and limestone-dolomite, with rudists or globotruncana, of upper-Cretacea, e.g. karstic mountains of Rreza e Kanalit-Karaburuni) (UNDP/GEF and Ministry of Environment, 2005b).

Rreza e Kanalit-Karaburuni is characterized by a narrow and steep platform. Cliffs plunge vertically reaching rapidly great depths, with 20 m and more at 200 m from the shoreline. The eastern side of Karaburuni peninsula is a succession of rocks of different ages, from Jurassic and Neogene (Aquitanean, Helvetian, Tortonian and Pliocene) eras. The southern part is mainly constituted of Pliocene rocks and recent sediments. The eastern coast is from the upper cretaceous era, essentially composed of limestones. The western part of Sazani island is composed of Upper Cretaceous rocks (massive limestones or rudists and globotruncana) and the eastern part is composed of rocks of Burdigalian age (lithographic limestones).

### **Hydrology, drainage and water resources**

The limestone formations in the area are characterized by a porous structure and often percolating waters run underground without any obstruction. Groundwaters are rich as displayed by the karstic springs flushing freshwater into the lagoons, e.g. Orikumi lagoon. Along Karaburuni peninsula, freshwater springs can be seen along the coastline, discharging colder water from the sea bottom to the surface. However, the inner part of the peninsula is desolate and waterless.

### **Biodiversity Resources**

Both marine and terrestrial parts of Sazani island and Karaburuni peninsula have high values of biodiversity and natural habitats. In the following sections the main features, characteristics and reasons that distinguish the area Sazani island and Karaburuni peninsula from the other coastal areas are summarized and highlighted.

### **Mediterranean maquis and rocky coasts**

Rreza e Kanalit-Karaburuni and Sazani island host principally xero-Mediterranean sclerophyllic *maquis* with a dominance of *Pistacia lentiscus*, *Quercus coccifera*, *Juniperus phoenicea* and *Brachypodium ramosus*. The *maquis* and Mediterranean forest is the original Albanian vegetation that grows up to the edge of the coast. The eastern side of Karaburuni has more areas deforested by fires in a landscape of *maquis* with a few pines and cypresses shaped by the wind. Eastern side is not as wild as the western part of Karaburuni, however the vegetation comes very close to the sea level. Small dry river canyons fall into the sea almost vertically.

The rocky coastline of Rreza e Kanalit-Karaburuni and Sazani island, mostly on the western side, is characterized by a high diversity of landscapes, with steep and inaccessible cliffs, fissures, caves, capes, small beaches and bays (bays of Bristan, Dafina, Grama etc.). These formations are attractive for the visitors and have additional values due to the well-developed vegetation, which covers almost the whole peninsula from the mountaintop until the coast.

Forest of *Quercus ithaburensis* subsp. *macrolepis* in the Karaburuni peninsula is considered as the best preserved forests of this oak tree in Albania. Gryka e Xhenemit and Sazani island are other important habitats for the extended beds of *Euphorbia dendroides* and the alliance *Oleo-Ceratonion*, which has scientific values in the biogeographical and ecological aspects.

A high diversity of vegetation types characterizes the hill slopes and other habitats of the peninsula and the island. Some of the most interesting are: broadleaved evergreen forests (Assoc. *Orno-Quercetum ilicis*); plant communities dominated by *Quercus coccifera* (Assoc. *Orno-Quercetum cocciferae*); plant communities dominated by *Euphorbia dendroides* and *Pistacia lentiscus* (Assoc. *Pistacio-Euphorbietum dendroides*); as well as the forests dominated by *Quercus ithaburensis* subsp. *macrolepis* (known as Valona oak). The last one is considered as a relict species, together with the laurel *Laurus nobilis*, which is also present in natural conditions in this area.

A considerable number of terrestrial plant species, which belong to the Red List of the Albanian Flora 2007 are present in this area, such as: *Athamanta macedonica*, *Brassica oleracea* subsp. *oleracea*, *Brassica incana*, *Laurus nobilis*, *Origanum vulgare*, *Prunus webbii*, *Quercus ilex*, *Limonium anfractum*, *Lotus cytisoides*, *Desmazeria marina*, *Capparis spinosa*, *Prasium majus*, *Ephedra distachia*, *Orchis* sp.div., and *Daphne gnidium*.

Eastern side of the Sazani island, which is more protected, is covered by evergreen forest of *Cupressus sempervirens* in association with *Quercus ilex*, *Quercus pubescens* and *Pinus* spp. The shrub layer (covering 50-60%, at the height of 1-2 m) is dominated by the species such as: *Myrtus communis*, *Pistacia lentiscus*, *Laurus nobilis*, *Rubus* spp., *Phillyrea angustifolia*, *Olea olaster*, etc. The herb layer is generally rare with representative species as: *Chrysopogon gryllus*, *Asparagus acutifolius*, *Dactylis glomerata*, *Desmazeria rigida* (UNDP/GEF and Ministry of Environment, 2005b).

### **Coastal and marine habitats**

**Coastal cliff vegetation** is present on the Sazani island and the Karaburuni peninsula, where most of shores are rocky. Sandy or gravel shores occur in small areas only. Vertical cliffs of 200-300 m are present in some areas (Gryka e Xhenemit, Shpella e Haxhi Aliut, etc.).

The lower belt (up to 5-6 m above sea level) is dominated by xero-halophytic *Crithmo-Limonietea* communities. It is characterized by the following species: *Crithmum maritimum*, *Limonium anfractum*, *Elymus pycnanthus*, *Desmazeria marina*, *Lotus cytisoides*, etc.

The upper belt is inhabited by the alliance *Capparo-Putorion* Lov. The characteristic taxa of this belt are: *Capparis spinosa*, *Putoria calabrica*, *Ephedra distachia*, etc.

**Marine habitat types** identified in NMP Karaburun-Sazan until 2014 are shown in the Table 6.

**Table 6: Marine habitat types identified in NMP Karaburun-Sazan**

Coastal littoral zones	Subdivision of zones	Biocenoses
Mediolittoral	Mediolittoral hard beds and rocks	Biocenosis of the lower mediolittoral rocks
		Biocenosis of mediolittoral caves
Infralittoral	<i>Posidonia oceanica</i> meadows	Biocenosis of the <i>Posidonia oceanica</i> meadows (=Association with <i>Posidonia oceanica</i> )
	Infralittoral hard beds and rocks	Biocenosis of infralittoral algae
Circalittoral	Circalittoral hard beds and rocks	Coralligenous biocenosis
		Biocenosis of semi-dark caves

### Mediolittoral

#### **Biocenosis of the lower mediolittoral rocks**

The mediolittoral is characterized by calcareous algae of *Lithophyllum* sp., which are good biological indicators of superficial pollution and fluctuant sea levels. *Lithophyllum byssoides*, present in both Sazani island and Karaburuni peninsula, is a characteristic species of Western Mediterranean and Adriatic Sea, which grows slightly above mean sea level, in small caves, corridors and along cliffs. In this area it has created small cushions (hemispheric concretions) and rarely builds rims, usually known as “trottoirs”.

#### **Biocenosis of mediolittoral caves**

Another biocenosis in the mediolittoral is that of mediolittoral caves, which correspond to crevices or the entrances of caves that are partially out of the water. There are several of these places along the western side of peninsula, where species like *Catenella caespitosa*, *Hildenbrandia prototypus*, *Phymatolithon lenormandii*, etc. grow.

Four underwater caves at the tip of the Karaburuni peninsula have been studied (Belmonte *et al.*, 2006) and have shown very specific fauna different from the other side of the Adriatic. In particular a population of *Hypsichomus stichophthalmus* (Polychaeta) was present in the Haxhi Ali cave with abundant fishes, echinoderms, worms, crustaceans. At about 40 m deep, red cartilaginous algae *Fauchea* sp., are exuberant and very often seen with brightly coloured sponges.

Some of these caves are monumental (up to 50 m high) with stalactites along the walls and hosting freshwater fauna (kingfishers, mosquitoes, bats), such as the one located in the bay of Veriu. Freshwater resurgence happens very often in the caves and along the canyons.

### Infralittoral

Seagrass communities (also called seagrass beds or meadows), mainly *Posidonia oceanica*, *Cymodocea nodosa* and *Zostera noltii*, often characterize sandy and muddy infralittoral in Vlora bay.

#### **Biocenosis of the *Posidonia oceanica* meadows**

In the infralittoral stage the most important biocenosis is that of *Posidonia oceanica* meadows. *Posidonia oceanica* meadows (=Association with *Posidonia oceanica*) are considered priority habitat by the EU Habitats Directive and are also listed in the Annex II of the Barcelona Convention (as an endangered or threatened species).

Patches of *Posidonia oceanica* meadows occur at 6-10m depth and deeper in sheltered sites of the rocky coastline of Rreza e Kanalit-Karaburuni and Sazani island. On the eastern side of the island, *Posidonia* beds are found closer to the coast at shallower depths. On the western coast, *Posidonia oceanica* grows generally on rocky substrates and rarely on sandy seabeds, in front of small beaches. On the western side of Sazani island a rocky substrate is found prolonging the island, some patches of *Posidonia oceanica* are located in sheltered areas where the depth does not increase as much as along Karaburuni.

Fragmented *Posidonia oceanica* meadows have been observed along the eastern coast of Karaburuni and these beds with coverage of 50% extend from 6 m to 15-18 m depth.

Along with the regression of the *Posidonia oceanica* beds, there is a mass growth of the invasive *Caulerpa racemosa*, which is developed mainly on "dead mattes" from 2 m to 15 m depth. After its first record in Albania in 2002, this invasive alga seems to be common in wide ranges of depths and substrata along the coast of Vlora bay. (Kashta *et al.*, 2005)

In Vlora bay there is *Halophila stipulacea*, which originates from the Indian Ocean and is an invasive species in the Mediterranean (Kashta, 1992-93).

#### **Biocenosis of infralittoral algae**

In the hard beds and rocks of the infralittoral, perennial brown algae are dominant over extensive parts of shallow hard substrata in the western side of Karaburuni and Sazani. The most important group is that of the brown algae *Cystoseira*, represented with 5 species (*Cystoseira amentacea* var. *spicata*, *C. barbata*, *C. compressa*, *C. crinita* and *C. spinosa*). The *Cystoseira* communities together with the *Posidonia* meadows are the main supporters of biodiversity in shallow water.

Association with *Cystoseira amentacea* var. *spicata* is located in the first meter of the infralittoral (from -20 to -30 cm) and creates belts in the photophilic biotopes, where there is a strong wave action and the rocky

substratum is subvertical. *Cystoseira amentacea* is an indicator of the upper limit of the infralittoral stage and represents a threatened species (Annex II of the Barcelona Convention). This association, including many strata, is characterized by big species richness; it shelters epibiont organisms and other benthic organisms mainly belonging to the algae, polychaetes, molluscs and crustaceans.

Other important associations are those with *Cystoseira crinita*, *Dictyopteris polypodioides*, *Corallina elongata* and facies with *Cladocora caespitosa*.

### Circalittoral

#### **Coralligenous biocenosis**

In the circalittoral zone, on hard substrata, the most important biocoenosis is the coralligenous, with calcareous red seaweeds, gorgonians and bryozoans. This biocenosis is well developed on the western side of Sazani island and Karaburun peninsula.

#### **Biocenosis of semi-dark caves**

Another important biocenosis is that of semi-dark caves, where the red coral *Corallium rubrum* and several species of sponges live. The red coral (*Corallium rubrum*), a species of great interest, is listed in the Annex III of the Barcelona Convention (as a species whose exploitation is regulated) and is also listed in the Annex III of the Bern Convention (as protected fauna species).

Habitat Map of the NMP Karaburun-Sazani is shown in Figure 6.



Figure 6: Habitat map of the NMP Karaburun-Sazani

### **Fish species and commercially important crustaceans**

The underwater fauna is quite diversified and relatively abundant, especially on the western side of Rreza e Kanalit-Karaburuni and around Sazani island. Pelagic fish communities are composed of *Merluccius merluccius*, *Trachurus trachurus*, *Parapenaeus longirostris*, *Mullus surmulletus*, and *Exocoetus volitans*. On rocky substrates closer to the coast, the following communities are present: *Diplodus sargus*, *D. vulgaris*, *D. annularis*, *Serranus cabrilla*, *Spicara maena*, *Coris* sp., *Thalassoma pavo*, a school of *Boops boops*, in cavities there are *Anthias anthias*, *Phycis phycis*, large groupers *Epinephelus* sp. and moray eels. Other interesting species of large size, such as *Mola mola* and *Xiphias gladius* have been recorded.

Noteworthy fish species of Karaburuni waters, included in the Annex III of Barcelona Convention are: the dusky grouper (*Epinephellus marginatus*), the Atlantic bluefin tuna (*Thunnus thynnus*) and the swordfish (*Xiphias gladius*).

Some important crustaceans like lobster (*Homarus gammarus*), the crawfish (*Palinurus elephas*), the greater locust lobster (*Scyllarides latus*), and the spiny spider crab (*Maja squinado*) live in this area. These species are involved in the Annex III of the Barcelona Convention, as species whose exploitation is regulated.

### **Charismatic species**

Albanian marine and littoral habitats are frequently visited by the rare marine mammals. The Monk seal (*Monachus monachus*) is a very rare, occasional visitor to the Albanian coastal waters. The canyons and caves of the area, often inaccessible, represent an ideal habitat for monk seals which were reported in Karaburuni peninsula in 1982 and Sazani island in 1991 (Vangeluwe *et al.*, 1996). Clear evidence of the presence of the monk seal was found in some caves i.e. impressions in the sand corresponding to a large body and excrement (Antolovic J. *et al.*, 2005). It would seem that the caves along the Albanian coastline, especially those of the western coast of the Karaburuni peninsula, could serve as a bridge for possible future monk seal repopulation of the shores of the Central and Northern Adriatic Sea, rather than important shelters for "local" monk seal breeding populations.

The area is occasionally visited also by the common dolphin (*Delphinus delphis*) and the bottlenose dolphin (*Tursiops truncatus*).

In the marine waters of this area has been also recorded the presence of the loggerhead turtle *Caretta caretta*. This area seems to be an important migrating corridor for the loggerhead turtle from its nesting site in Zakynthos island in Greece at the Ionian Sea, to the Patoku coast in Albania at the Adriatic Sea, which has been recently identified as an important foraging site for this species.

Rocky substrates, in particular the high cliffs of Karaburuni and Sazani island, are ideal for nesting pelagic seabirds, e.g. Laridae. The most representative

bird species in the Karaburun peninsula are Egyptian vultures and peregrine falcons (*Falco peregrines*).

### **Rare, endangered and threatened species**

NMP Karaburun-Sazan is home to a number of globally, regionally as well as nationally rare, endangered and threatened species of fauna. At least 36 marine species, which are of international concern and belong to the lists of endangered and/or protected species of several conventions, are present in Karaburun-Sazan area. They include seagrasses, seaweeds, sponges, cnidarians, molluscs, crustaceans, echinoderms, fishes, reptiles, pinnipeds and cetaceans. At national scale, about 75% of endangered species of marine animals, mostly benthic macro invertebrates, which belong to the Red List of Albanian Fauna (2007), have been recorded in Karaburun-Sazan area. The conservation of these threatened species is an international obligation and one of the priorities of the National Biodiversity Strategy and Action Plan. The most important and sensitive species and biocenosis in the area Karaburuni peninsula – Sazani island are:

- Red coral (*Corallium rubrum*),
- Date mussel (*Lithophaga lithophaga*),
- Dusky grouper (*Epinephelus marginatus*),
- Starfish (*Ophidiaster ophidianus*),
- Coralligenous biocenosis,
- Biocenosis of *Posidonia oceanica* meadows,
- Biocenosis dominated by *Lithophyllum byssoides* (*Lithophyllum byssoides* rims),
- Biocenosis of infralittoral algae – *Cystoseira* communities.
- Monk seal (*Monachus monachus*),
- Short-beaked common dolphin (*Delphinus delphis*), and
- Loggerhead turtle (*Caretta caretta*).

Marine species of international concern in Karaburun-Sazan area that are listed in the most important conventions can be found in Annex 1.

Marine plant species of national concern in Karaburun-Sazan area (after Albanian Red List 2007) are found in Annex 2. In the Red List of Albanian Fauna 2007 there are about 220 species of marine fauna. About 75% of them have been reported also for Vlora area, including Karaburun-Sazan.

## **Existing PA facilities and current visitor use**

### **Office and information boards**

In 2012 UNDP project “Improving Coverage and Management Effectiveness of Marine and Coastal Protected Areas” (MCPA Project) has supported the establishment of Park office within the Municipality of Orikum. This office hosts the Environment Department of the Municipality of Orikum and is also used for the implementation of the MCPA Project activities. It is a meeting/starting

point for rangers, as well as a source of information about activities related to Karaburun-Sazan National Marine Park. The office has three working posts and is equipped with two computers, Internet connection and other necessary equipment for smooth operation.

There are two information boards placed in the area until now (please see Figure 7). One information board, providing general info about the Marine Park is placed in front of the MCPA Project Office in Orikum. Another information board is placed at Shen Vasili cape, starting point of the National Marine Park in the eastern side of Karaburuni peninsula.



Figure 7: : NMP Information Board

### Access and beaches

Due to the lack of road access, tourist pressure on Sazani island and Karaburuni peninsula, especially its western side, has been relatively low. The access is provided by boat only, but it has not been practiced very much, because suitable beaches are far away from Vlora and Orikumi, thus the boat transport (by small motor boats or yachts) is expensive. However, during the peak tourist season, July – August, the small beaches in the eastern coast of Karaburuni (Raguza, Shen Vasili, Shen Jani) are regularly frequented, including by few excursion boats. Beaches in the western side of Karaburuni (Bristani, Dafina, Grama), despite being clean, quiet and very attractive, are very little frequented, due to the lack of road access. The most frequented activities in this part, often associated with damages of habitats, are diving and spear gun fishing.

Considering the whole area in general, the number of visitors is highly increasing every year. About 70% of visitors are Albanian, while the remaining are foreigners, mainly from Kosovo and FYROM. During July – August, daily visitors are estimated at about 50.000, mainly along the beach Jonufer – Radhima – Orikumi (Beqiraj *et al.*, 2010).

### **Excursion boats**

Few years ago there was only one boat – “Teuta” offering tours around the Vlora bay and Karaburuni peninsula; then followed another boat – “Regina Blu”. Actually, there were four big boats offering excursions in and around Karaburuni peninsula and Sazani island in 2014. During summer season these boats offer regular daily trips from Vlora, Rradhime and/or Orikum to the eastern part of the Karaburuni or to Sazani island, but they also can be booked for special trips around the National Marine Park up to Grama Bay. In addition, there are a number of small fishing boats offering private tours to small groups (4-6 persons) around the area or to small beaches along the Karaburuni peninsula. One fishing boat is also offering lunch to tourists with freshly caught fish of the day (fished during the trip).

### **Diving**

In 2014, there are still no proper diving centres in the area. Five associations offer diving lessons, equipment and diving guides. Their capacity varies from 3-4 divers up to 10 divers. Although there are no clear statistics, in summer season 2014 there were approximately 300-500 divers in the area. These centres are located in Vlora, Orikum and Radhime. They cooperate with diving centres in Italy. Diving sites that are most popular are at Kepi i Gjuhezes, western part of Sazani island and western part of Karaburuni peninsula. Tourists contact these diving associations through travel agencies or hotels in the area.

### **Socio-economic system**

Main sources for this section are the Priority Action Plan for Sazani-Karaburuni Marine Protected Area (Beqiraj *et al.*, 2010) and Socio-Economic Study of MCPA Karaburun-Sazan (Puka, 2012).

### **Population and villages**

There are no villages or permanent settlements in the NMP Karaburun-Sazan. The nearest local community is in Orikum Municipality, in the south-eastern part of the MPA, including Orikumi as the main centre and the villages of Dukati, Tragjasi and Radhima. In 2011 population of the Orikumi Municipality was estimated at 11.954, in 3.964 households (average 3 members per household, which is a decline from 2001 when average size of a household was 4 members) (Puka, 2012).

The population density in the Municipality of Orikum is low, with an average of 30 inhabitants per square kilometre. This relates to the quite large uninhabited

territories that encircle the settlements of Orikumi municipality, such as Karaburuni peninsula (56 km<sup>2</sup>) or the Llogara park (10.4 km<sup>2</sup>).

### Household Structure

The local community in the area is organized based on the family's structure, mainly composed by 4 members. The relations among individuals do not exceed in clan pattern or social life organization. Migration has created an imbalance in the age structure; young people between the ages of 17 and 30 are leaving the area to find work either in other urban areas of Albania or emigrating abroad. About 60% of the site population is in emigration.

### Education

There are five primary schools (9 years) attended by 472 school children, two high schools or colleges (4 years) attended by 524 students and three kindergartens (250 kids altogether). In total there are 1200 school children and students and about 130 teachers in the relevant area. Approximately, 25% of pupils go on to attend a University.

### Employment

The key employment sectors in the site are: agriculture and livestock rearing; forestry; state/public sector (education, health, social services, local administration); business (tourism, hotels, bars and restaurants, construction) and shops; fishery; quarries and mines. Private sector provides 90% of the employment while the public sector the remaining 10%. Agriculture and farming activities are not considered to be the main source of income for most of the resident population because of the difficulties of access to markets, the lack of farm mechanization and the limited land area suitable for farming. However, majority of the population is involved with livestock and farming activities in some form, and some 74% of the total family incomes in the Municipality of Orikumi is coming from stockbreeding.

### Migration

Since the political change of the early 1990s there has been an increase in the mobility of the population as a whole. In the area migration is characterized by these main movements of the population: migration from the area to neighbouring countries; migration towards overseas; migration of the inhabitants towards other urban areas, seeking new opportunities in or close to the city. More than 60% of inhabitants of Orikumi municipality have emigrated abroad. 75% of emigrants are working in Italy, 20% in Greece and the remaining 5% in USA and other EU countries.

### Religion

About 90% of the population is Muslim; Orthodox community is estimated at 7%, while Christian catholic community at 3%. Historically, there has been no conflict between the followers of different religions.

### Economic activities

**Livestock.** Traditionally, livestock has been the most important economical activity in the study area, mostly for breeding goats and sheep. After the

collectivization reform in communism the livestock population declined sharply and then again after the breakdown of the cooperatives. Sheep and goats are kept in concentration in locations, and so they are causing overgrazing. This is due to lack of water supply facilities for livestock; poorly developed road infrastructure (lack of access roads); long distance from the milk collection and milk processing centres.

**Honey bees.** In spite of very favourable climate, environmental conditions and great potentials for its development, apiculture is a very rare activity in the region. There has been an old tradition in bee keeping, but this tradition needs to be revived and supported.

**Farming.** Traditionally, farming has not been an important economical activity in the study area, due to limited arable land and not very good quality of soils. The field of Dukat-Fushe that constitutes the majority of the agriculture land in the relevant area, as well some of the land of Tragjasi and Orikumi are formed by sediments of Dukati river. This land is relatively poor and skeletal, soil is very thin and mixed with stones and gravel, and thus, not suitable for crop cultivation. Field of Tragjasi and some parts of Orikumi land is classified as good quality and productive land, suitable for cultivations.

**Medicinal plants.** The area is very rich in medicinal and aromatic plant species. There are 57 species worth to be mentioned for different values of usage. Many of them are well known also by the local population, which have a long tradition in collecting them either for individual and family use or for sale. In recent years very few medicinal plants are collected, mainly mountain tea (*Sideritis reiserii*) and marjoram (*Oryganum vulgare*). Lack of organization, lack of marketing and lack of appropriate facilities for primary treatment of collected medicinal plants are some of the main reasons for the decrease of medical plant collection and use by the local community.

**Forestry.** Forest harvesting for timber production is not an issue in the relevant area, due to the fact that high forests situated in the Llogara National Park are considered protected forests. Only few parcels above the upper Dukati village and some parts of Karaburuni peninsula are given for harvesting firewood. However, the forests (apart from Llogara area and very remote areas of the site) are considerably damaged by the locals who obtain firewood and animal fodder from the forest. Shrubs and coppice are overexploited, heavily degraded and damaged by overcutting, overgrazing and fires. The lack of enforcement of the laws to protect the forest, the low level of community awareness about the forests and the yet unsolved issue of land ownership of forest and pasture land are some of the main reasons.

**Hunting.** Karaburuni area as a formerly hunting reserve was opened for game shooting, mostly for games such as wild boar (*Sus scrofa*), hare (*Lepus europaeus*) and woodcock (*Scolopax rusticola*). In 2014 Albanian government has declared a moratorium on hunting for a two-year period. However, enforcement of the moratorium is problematic.

Due to lack of control and legal enforcement there has been illegal hunting, which is taking place everywhere, including the Llogara National Park area. Poachers are not only from the locals; some of them are coming from other cities such as Vlora, Fieri, Tirana, but there are also foreign hunters, especially Italians guided by local hunters.

**Fishery and aquaculture.** The fisheries sector in Albania is relatively small, however it is important from a socio-economic point of view, as it is a significant source of jobs in coastal and remote areas. Fisheries were once central to the economy of the southern coast of Albania. On the Adriatic coast the most used gears are trammel nets, gillnets, and entangling nets, while on the Ionian Sea coast long lines and gillnets are the primary gears.

Fishing regulations include some restriction concerning the fishing activities, related to the conservation and protection. Based on the Law on Fisheries<sup>11</sup> fishing with trawl nets, dredges, purse seines, boat seines, shore seines or similar nets above sea grass beds of, in particular, *Posidonia oceanica* or other seagrasses is prohibited. Also, based on Regulation concerning management measures for the sustainable exploitation of fishery resources in the Sea<sup>12</sup> the use of towed gears is prohibited within 3 nautical miles of the coast or within the 50 m isobaths where that depth is reached at a shorter distance from the coast. Based on Regulation for application of the legislation on fishery and aquaculture<sup>13</sup> fishing is prohibited in and around the river mouths and in the sea-lagoon communication channels. The same Regulation also prohibits every fishing & aquaculture activity in the outer part of Karaburuni shore from Kepi i Gjuhezes until Rruget e Bardha (Palase) in the distance of 1 marine mile shoreline or 50 m isobath in the case when this depth is reached at a shorter distance. It is prohibited to fish with trail net (trawl or pelagic) in the Vlora Bay (limited on the north from the basic line of the Bay of Karaburun up to Treport) (INCA, 2013). Summary of areas protected from fishing can be found in Annex 3. National and international measures for the Albanian fish species of international importance can be found in Annex 4. Map of important fishing areas is in Annex 5 and map of areas where fishing is banned is in Annex 6.

Individual and commercial fishermen fish in the broader area using a variety of methods. The Albanian fishing fleet is characterized by a high presence of trawlers (62%) followed by gillnets (Dedej, 2002). The intensity of fishing effort and their effect on local populations of target and by-catch species remains unknown. However, fishermen report that local fisheries resources are limited, and that their revenue is decreasing. Population of a very sensitive species, the dusky grouper *Epinephelus marginatus*, distributed along all the

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<sup>11</sup> Law 64/2012, dated 31.05.2012, "On fisheries".

<sup>12</sup> Regulation No. 8, dated 11.11.2009, "Concerning management measures for the sustainable exploitation of fishery resources in the Sea"

<sup>13</sup> Regulation No 1, dated 29.03.2005, "For application of the legislation on fishery and aquaculture"

Karaburuni peninsula and Sazani island coast shows strong declines because of overexploitation.

As part of the Socio-economic study of MCPA Karaburun-Sazan (Puka, 2012) fishermen completed a questionnaire and the results are presented here.

In 2012, there were 71 commercial fishing vessels registered in the Vlora Port, which is a decrease compared to 2006 and 86 vessels. There are 2-4 crewmembers per vessel or in total around 200 fishermen.

The number of active fleets is around 50 vessels and they are not spending the same working hours per year. The most active fishermen used to spend at maximum 2300 hours. The total number of trips recorded during 2010 was 130 trips and around 110 trips in 2012. The other fishermen used to spend less time, from 900 to 1200 working hours per year. In majority of cases, 80% of the trips are within Karaburun-Sazan area.

The data of fishermen interviews indicate that they are offsetting high fuel costs and diminishing income by deferring maintenance of vessels and gear. The high fuel cost has caused the reduction of trips in the area and the majority of them are mainly catching in Karaburun-Sazan area.

In terms of both landings and revenue from fishing in the region and in particular Karaburun-Sazan area, recently the most economically important species have been shrimp, red mullet and codfish. The annual quantity for a vessel whose landings are normally up to 1800-2000 hours per year in Karaburun-Sazan area, per each species varies from 1500 to 3000 KV, meanwhile shrimp is top-caught species quantity and red mullet has the top-selling price. With regard to the sale of seafood, fishermen mainly sell directly to the distribution centre and various buyers.

In addition, small fishing boats in Karaburun-Sazan are quite usual due to the necessity to reduce the fuel cost. There are around 10 boats that are catching fish with angle. The main species caught are: wild seam bream (*Sparus aurata*), sea bass, dentex (*Sparidae*). These fishermen sell their products directly to the public and/or restaurant at the coast area.

Fishing activity is practiced in the western and north-western part of Karaburuni, outside the Vlora bay (fishing within the bay and at depths less than 40 m is prohibited). The area from Sazani island to Vjosa river mouth is one of the most frequented areas by fishing boats, mainly trawlers. The most common species caught in marine waters are hake *Merluccius merluccius*, red mullet *Mullus barbatus*, striped red mullet *Mullus surmuletus*, sole *Solea sp.*, sea bass *Dicentrarchus labrax*, sea bream *Sparus aurata*, European eel *Anguilla anguilla*, mackerel *Scomber scomber*, Atlantic horse mackerel *Trachurus trachurus*, leerfish *Lichia amia*, cuttlefish *Sepia officinalis*, squids *Loligo sp.* and shrimp *Marsupenaeus japonicus*.

Pelagic fishing in surface waters for sardines (*Sardina pilchardus*), anchovy (*Engraulis encrasicolus*), and herring (*Clupea harengus*) has been common

until early 1990, but it was almost abandoned nowadays and most of former pelagic fishing boats were adapted to trawlers for fishing benthic and demersal species.

Infrequent collection of benthic invertebrates has been rarely practiced by specialized boats in marine waters, also illegally in the soft bottoms within the bay, mostly for bivalve molluscs of *Donax*, *Tellina*, *Venus* and *Tapes*. In the recent years there are very rare evidences of this activity.

Majority of the fishermen community that use large fishing boats (mainly trawlers) are inhabitant of Vlora town, while the fishermen from the villages (Radhima, Orikumi, Dukati) are mostly using small boats for fishing in the Orikum lagoon or shallow waters.

There are illegal fishing activities in the rocky areas of both sides of Karaburuni peninsula and sometimes in the western side of Sazani island. This illegal activity is mainly practiced for the collection of date mussel *Lithophaga lithophaga*, and lobsters (*Palinurus elephas*, *Homarus gammarus*) that are protected species in the Mediterranean. Diving and illegal fishing with lights and spear guns is also practiced, such as for fishing the dusky grouper *Epinephelus sp.*

Aquaculture is also practiced in the area, mainly through fish farming. The increasing tourist demand for marine fish in Vlora area has caused the recent increase in aquaculture production. It has been developed in the littoral water along the Karaburuni peninsula. In two locations along eastern edge of Karaburuni peninsula (Raguza) there are sea cages cultivating sea bream (*Sparus sp.*) and sea bass (*Dicentrarchus sp.*). Currently there are five investors and their yearly production for the time being is relatively small (50-70 kv/year per each sea cage aquaculture firm), but trend is increasing, because the number of visitors to the coastal area of Vlora bay, especially during summer season, is steadily increasing. Today, aquaculture is playing an important role on fish market (Bequiraj *et al.*, 2010 and Puka, 2012).

**Tourism.** Vlora bay is well known in the country as a very attractive destination for recreation.

Nowadays, a lot of houses in Orikumi town are offering accommodation (bed and breakfast) for visitors, especially during summer holidays. Many hotels and restaurants have been built in the recent years (legally and illegally) along the whole eastern coast of Vlora bay, including Vlora town and the traditional tourist villages of Jonufra, Radhima and Orikumi. They are offering accommodation and food, but also other services associated to leisure and recreational activities. In many cases the tourism developments were unplanned and tourist activities were uncontrolled, causing serious damages to natural habitats and biodiversity.

Due to the lack of road access, tourist pressure in Sazani island and Karaburuni peninsula, especially in its western side, has been relatively low.

The access is provided by boat only, but it has not been practiced very much, because suitable beaches are far away from Vlorë and Orkumi, thus the boat transport (by small motor boats or yachts) is expensive. However, during the peak tourist season, July – August, the small beaches in the eastern coast of Karaburuni (Raguza, Shen Vasili, Shen Jani) are regularly frequented, including by few excursion boats. Beaches in the western side of Karaburuni (Bristani, Dafina, Grama), despite being clean, quiet and very attractive are very little frequented, due to the lack of road access. The most frequented activities in this part, often associated with damages of habitats, are diving and spear gun fishing.

Considering the whole area in general, the number of visitors is highly increasing every year. About 70% of visitors are Albanian, while the remaining are foreigners, mainly from Kosovo and FYROM. During July – August, daily visitors are estimated at about 50.000, mainly along the beach Jonufer – Radhima – Orkumi (Bequiraj *et al.*, 2010).

**Water supply.** Drinking water in the area is provided by natural springs, Dukati and Izvori rivers (through pumping) and water wells. In Karaburuni peninsula there are natural water resources in its southern part, while they are almost missing in the northern and central part, and a system for the transport of drinking water in Karaburuni does not exist. Sazani island has no drinking water resources and, in the former time, the drinking water has been transported by boat from Vlorë for the inhabitants and militaries on the island. Irrigation waters being taken from Izvori river (through pumping station), from Dukati river (free running water) as well as from the ground wells.

### Infrastructure

The provision of adequate infrastructure facilities is a prerequisite of socio-economic development. The analysis of the infrastructure systems has been done as part of the Socio-economic study of MCPA Karaburun-Sazan (Puka, 2012). Preliminary finding of infrastructure in Orikum area are presented in Table 7.

**Table 7: Infrastructure in Orikum area**

Assessment	Perspective
<b>Sector: Transportation</b>	
<b>Subsector: Roads</b>	
Access from the villages to the national roads	Project of access road: Radhima village to the national road to be supported under Albanian Development Fund Rural Programs
Bad condition of few access road	
Bad condition of roads to the tourist attractions sites	
<b>Subsector: Port</b>	
One Private Tourist Port "Marina of Orikum"	Up to the foreign investor – maximum capacity around 600 berths
Basic facilities together with hotel and residential development	Integration of Orikum Marina into the local maritime scene and help residents prepare to maximize the benefits of nautical infrastructure

Assessment	Perspective
<b>Sector: Water</b>	
<b>Subsectors: Water supply and Wastewater</b>	
<p>Plenty of water resources</p> <p>Problems with organization and management of existing water supplies</p> <p>65% of households in Orikum connected to water supply, the rest with drilling wells</p> <p>In the villages poor condition of water supply systems, in few cases individuals drilling wells</p> <p>60% of households connected to sewerage system in Orikum</p> <p>Septic tanks in the villages</p> <p>Diffuse and overall pollution, and environmental aggression</p>	<p>Situation will be improved soon by completion of civil works for water supply system and sewerage treatment unit, which is under implementation. The works are done with financial support by the Islamic Bank and Albanian Government.</p> <p>It is necessary to include project with management and organizational issues</p>
<b>Sector: Solid waste</b>	
<b>Subsectors: Domestic waste and Construction waste</b>	
<p>Good management by the municipal enterprise "Baitel Ltd." but wrong dump site defined by the Municipality for Orikum</p> <p>Open dump sites all over the area</p> <p>Construction waste site and municipal waste dumped together in Orikum town, as well as few cases along the road</p>	<p>Municipality is in the process of defining a new landfill site, as well as the "historical" trend for a regional site (Qender Commune and Vlora Municipality)</p> <p>Control of the territory by the Municipality</p> <p>Education of the population</p>
<b>Sector: Electricity</b>	
<p>Only one electrical cabin in each village</p> <p>100% coverage, but insufficient in quantity and quality of distribution due to the amortization of distribution lines</p>	<p>More electrical cabins in the villages and improvement of the quality of service by the operator OSSH</p>
<b>Sector: Telecommunication</b>	
<p>Existence of Alb telecom only in Orikum town, in the villages another service provider is functioning</p> <p>All mobile phone operators present in the area</p> <p>Internet service only in Orikum town</p>	

Source: Socio-economic study of MCPA Karaburun-Sazan (Puka, 2012)

## Land tenure

NMP occupies only marine area, so land tenure is not supposed to be an issue. However, since there is no effective PA management without proper collaboration with adjacent land, land tenure is also relevant for the PA management administration.

Land tenure is still a sensitive issue in Albania and it has repeatedly been recognized by the local government and local communities as an important and still unresolved issue. The issue is more notable in Orikum area due to real estate development pressure on the coastal strip and strong migration trends toward the coast.

High proportion of privately owned land, fragmented in relatively small plots of different owners, dominates the area today along with large size public domain plots, including army and navy possessions (Puka, 2012). Conflicts over land ownership (ex-owners, State Agriculture Enterprise members, newcomers) and pressure from construction companies are considered as the main threats to effective management of the area and preservation of important open land landscapes. This issue will have to be resolved by joint efforts of national and local government, with a support of the PA Management Administration, where possible.

### **Current and foreseen governance structure**

At the moment of writing the Management Plan there is no management administration for the NMP Karaburun-Sazan.<sup>14</sup>

In February 2014, the Ministry of Environment drastically reformed the organisation of the forest service in Albania. The reform provided for the division of management and regulatory roles at local level and the establishment of the regional directorates of forest service as required by the Law on Forests and Forestry Service from 2005. This reform impacted heavily on PA staff. The number of staff was significantly reduced.

The current structure provides for the establishment of two directorates at regional level:

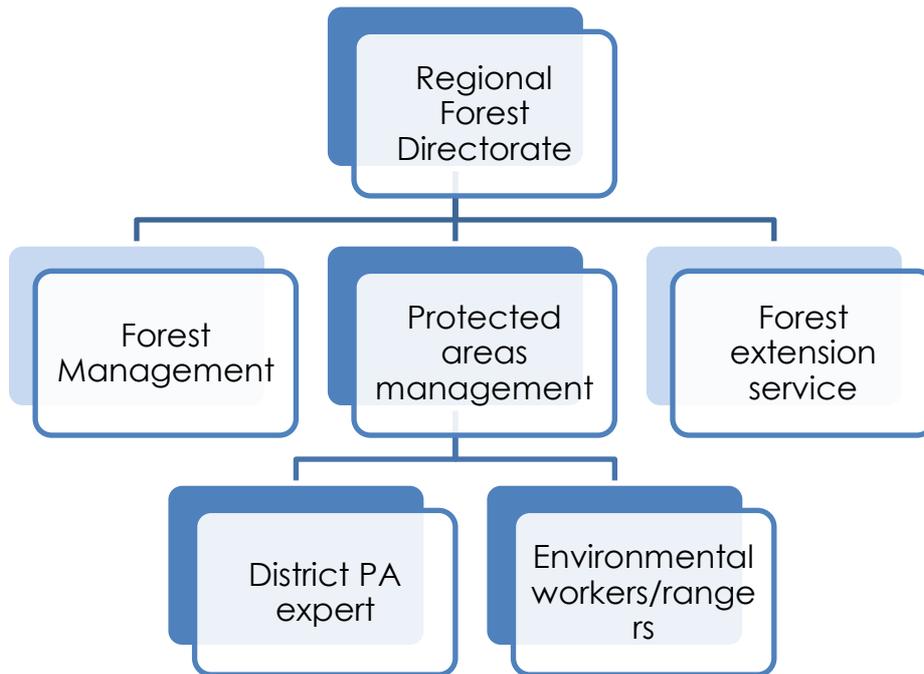
- Regional Directorate of Forest Service (management role)
- Regional Directorate of Environment Inspectorate (regulatory/law enforcement role)

Each of 12 regional directorates includes three sections:

- Section of Forest Management (3 staff)
- Section of Communal forests and extension (3 staff)
- Section of Protected areas (3 staff)

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<sup>14</sup>Law on Protected Areas defines "Protected area administration" as the state body in charge of the conservation and administration of a concrete protected area.



At district level there is a forest sector with three experts (forest management, communal forests, PA management) and a chief. Additionally, the regional directorate avails of a number of rangers/environmental workers (6-12 people) that could be used in different areas of the region. The total number of experts working with PA management at national level is 72 people.

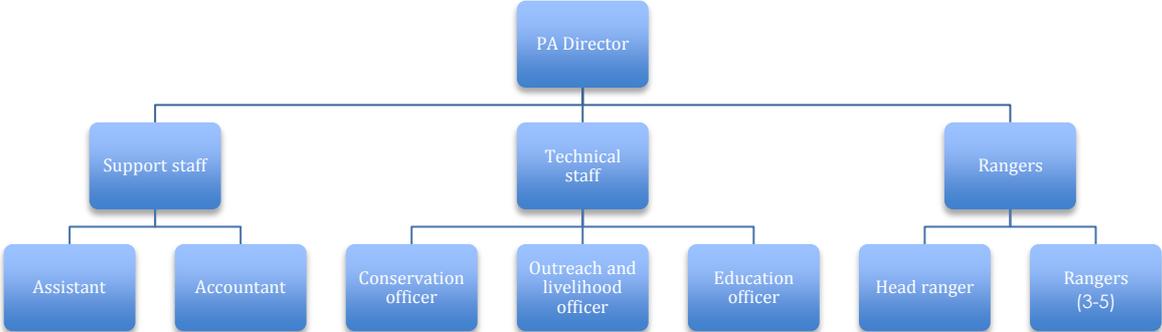
The PA sections have no vehicles, have limited equipment (especially field and monitoring equipment) and they have limited (almost no) funds to cover operational costs. There has been no investment in protected areas from state budget in the last 5 years. With the new structure there is no more staff dedicated to the site (neither for forests nor for protected areas).

However, Government has started a process of reforming the PA administration, with an idea of establishing the national agency for protected areas. Regardless of the structure of the PA system, a governance structure for the NMP Karaburun-Sazan can still be proposed. It is important to acknowledge that PAs (at least large areas) need to have local staff, which means that there should be staff operating locally at each site.

In consultation with the Ministry of Environment it was agreed that Management Plan should propose a minimum effective structure of the PA administration.

Since Management Plan for future PA of Sazani is being developed by Conservatoire du littoral (CdL) in parallel to the Management Plan for NMP Karaburun-Sazan, it was agreed to propose a joint management unit. Hence, the proposal that follows is a joint proposal of the governance structure of both terrestrial and marine PAs of the Vlora bay.

The proposed Management Administration for NMP Karaburun-Sazan can be seen in the Figure 8.



**Figure 8: Proposed Management Administration for NMP Karaburun-Sazan**

It has to be emphasized that PA Management Administration can start with just a few staff and then grow, when the circumstances allow for it. Law on Protected Areas defines that PAs can be financed from profitable activities as well, which in practice means that PAs can charge services that they offer (e.g. guided tours) or even entrance fees.

Management Committees for PAs are created for national parks, managed natural reserves (natural parks) and protected landscapes (IUCN PA categories II, IV and V). Committees are responsible for the management and protection of the area, including implementation of the management plan. They are organized at the local level and PA administrations are acting as their technical secretariats. Management Committee of the National Park Llogara, Marine National Park Karaburun-Sazan and Natural Complex Karaburun-Rreza e Kanalit-Orikum-Tragjas-Dukat was established in 2012.

**Cultural landscape and heritage**

Karaburuni area and Vlora bay, as a broader area where NMP is situated and from where visitors are coming to the NMP, are well known for their cultural and historical values. Orikum, in the south-eastern part of the Karaburuni peninsula (outside of the NMP, since NMP covers only marine area) has been an important economic and cultural centre in the Mediterranean during the ancient Geek and Roman periods.

Historical and archaeological values of the area are unique and are very relevant for tourism. Several archaeological and historical remains are present

in Orikumi lagoon, Vlora bay and Karaburuni, e.g. Grama bay and some caves. Grama bay is situated in the south-western coast of Karaburuni peninsula; it is a former famous harbour since antiquity. On the rocks of Grama bay there are abundant inscriptions in old Greek and Latin languages, dating more than 2000 years that have made this bay to be considered as the richest “rocky diary” in the Mediterranean.

Underwater of Karaburuni holds a considerable number of sunken ships and many archaeological objects, which confirm the links between this area and other civilizations of the Greek and Roman periods. There are numerous shipwrecks, mainly on the western coast (including from the two World Wars), as well as amphorae close to cape Shën Nikolla on the eastern coast of Sazani island. Three shipwrecks in Vlora bay and two ancient quarries (one located north of Pasha Liman has sculptured red heads from the classical period) on the eastern coast have been reported in the area.

The Castle of Gjon Boçari in Tragjas, the Tower of Dervish Aliu in Dukat, the Church of Marmiro in Orikum and the Cave of Haxhi Ali in Karaburuni are some of the other cultural heritage sites that attract visitors.

### **Studies and scientific research related to the MPA**

Although the park administration will be primarily a management body and not a research institution, effective conservation management requires accurate and relevant information. Thus, targeted and management issues oriented research is an important component of the scope of work of park administration.

Scientific research is one of the important activities, which MPAs seek to promote and facilitate. National Marine Park Karaburun-Sazan is a valuable scientific resource that will increasingly attract scientists and researchers and they should be encouraged to undertake research. At the other hand, some research can be highly damaging to important natural resources, especially if research design calls for the collection of large numbers of specimens of fauna and flora or other samples. Hence, research activities should be regulated and designed in a way to contribute to the MPA management.

A number of studies related to marine protected areas have been conducted in Albania. A list of some of the studies is provided in the Table 8.

**Table 8: Studies related to MPAs in Albania**

Report	Author	Year
UNDP/GEF Project "Conservation of Wetland and Coastal Ecosystem in Mediterranean Region"		
Review of Environmental Situation of Project Sites 2000/2005 (Vjosa delta and Vlora bay area)	MedWetCoast (MWC)	June 2006
UNDP/GEF Project "Supporting Country Action on the CBD PoWPA / PA Gap Assessment and Marine PA Development - Albania"		
Proposal for Marine Protected Area in Albania	Virginie Tilot	October 2009
PA Gap Assessment, Marine Biodiversity, Legislation on PA and MPA	Lefter Kashta	March 2010
Priority Action Plan (PAP) for Sazani-Karaburun Marine Protected Area	Sajmir Beqiraj Violeta Zuna Eno Dodbiba	2010
Project Preparatory Grant (PPG) for UNDP/GEF		
Marine and Coastal Management in Albania – Capacity Building Needs Assessment	Andrian Vaso	December 2012
UNDP Project "Marine and Coastal Protected Areas"		
Marine Protected Area Report Albania (legislative analysis)	Milieu Ltd.	October 2009
Buffer Zone Assessment with Relevance on Marine and Coastal Protected Areas	Andrian Vaso	October 2013
UNDP/GEF Project "Improving Coverage and Management Effectiveness of Marine and Coastal Protected Areas" (MCPA Project)		
Overview of Tourism Potential to Karaburun-Sazan Marine Coastal Protected Area	Genc Metohu	December 2012, draft report
Assessment of management of forest resources of coastal area vs. its socio economic development	Bilena Hyseni	2012, draft report
Socio-Economic Study for MCPA Karaburun-Sazan	Madlina Puka	December 2012
Strategic Plan for Marine and Coastal Protected Areas (SPMCPAs)	INCA	April 2013, final draft
Proposed Administration and Management Structure for the Karaburun Peninsula and Sazani Island Marine National Park	Sajmir Beqiraj Reviewed by Alec Dawson Shepherd	January 2014, draft
CEB/Norway Trust Fund/FSHZH Project "Community Works III" ("Punë të me Komunitetin III")		
Local Development Plan of Orikum Municipality (2009-2013)	Orikumi municipality	2009, new one will be developed

However, a lot of fundamental research for the area is still lacking, so Management Plan is also proposing activities related to scientific research and subsequent monitoring of key marine species and habitats. This research should be targeted towards management objectives of the MPA, which have been identified through the process of Management Plan development.

# EVALUATION OF THE PROTECTED AREA AND ASSESSMENT OF THE INSTITUTIONAL FRAMEWORK

## Assessment of Values and Threats

Assessment of values and threats was done jointly with stakeholders, through the 1<sup>st</sup> Workshop on Values, Threats and Vision. First values, and then also threats were identified, discussed and reviewed in plenary.

After the workshop, values and threats were prioritised. Assessment of values served as the starting point for the assessment of threats, and also for all subsequent parts of the planning process.

Values and threats were linked into the conceptual model, where also user groups associated with threats, behaviour causing threat and root cause of behaviour were identified. Conceptual models helped to make the clear link between users and their behaviours that create threats to values. Identification of the root causes of the behaviours was useful for a subsequent identification of management objectives and activities.

Also, values and threats were put on the map and, during the Workshop on developing the zoning proposal, stakeholders reviewed and updated these maps, which then served as a basis for developing a joint zoning proposal.

## Values

Values have been grouped in three categories, natural, socio-economic, and cultural and historical values. A short description of values follows; a more detailed description and discussion on values can be found in the Description of the Protected Area.

### Natural values

**Posidonia meadows.** *Posidonia oceanica* is endemic to the Mediterranean, and is the most widespread seagrass species in the region. It is an important habitat forming species and provides habitat for many species. *Posidonia oceanica* is a very slow growing species and takes a long time to recolonize areas from where it has been removed. Due to different impacts, such as climate change, invasive species, and different human activities such as anchoring, *Posidonia* meadows are very threatened.

### Coralligenous communities and other vulnerable marine habitats.

Coralligenous biocenosis and biocenosis of semi-dark caves are important due to high diversity (species richness) and great structural complexity. Coralligenous outcrops host some of the protected and commercially valued species, such as the red coral. Due to its diversity, coralligenous is considered as one of the most attractive seascapes for scuba diving. The coralligenous habitat is directly threatened by different human activities, including climate change, fishing, pollution, elevated sedimentation, mucilaginous algal aggregates, and invasive species.

**Fish species and crustaceans.** Important fish species in the area are dusky grouper, Atlantic Bluefin tuna and swordfish. Important crustaceans are lobster, crawfish, greater locust lobster, and spiny spider crab. All of them are listed as species whose exploitation is regulated in the Mediterranean in order to ensure and maintain their favourable conservation status.

**Geological formations.** The underwater landscape in the area is of exceptional quality, with cliffs, submarine caves and associated marine fauna and flora, and in some places archaeological remains. The western side of Karaburuni is also rich in coralligenous formations and interesting underwater geomorphological features, reefs and cliffs. The area is considered the most impressive part of Albanian coast for scuba diving, which is still not well developed in Albania.

**Endangered and protected marine species (including charismatic species).**

NMP Karaburun-Sazan is home to a number of globally, regionally as well as nationally rare, endangered and threatened species of fauna. At least 36 marine species, which are of international concern and belong to the lists of endangered and/or protected species of several conventions, are present in area. At national scale, about 75% of endangered species of marine animals, mostly benthic macro invertebrates have been recorded in Karaburun-Sazan area. Albanian marine and littoral habitats are frequently visited by the so-called “charismatic species” – marine vertebrates. There is three globally endangered marine turtles: loggerhead, green and much more rare leatherback turtle. Five species of cetaceans are reported and from these short-beaked common dolphin, common bottlenose dolphin, and sperm whale are considered endangered in the Mediterranean. In the Karaburun-Sazan the following species have been recorded: common dolphin, bottlenose dolphin, loggerhead turtle, but also the monk seal (last time in 1991 around Sazani). This area is considered as a potential monk seal habitat.

**Landscape.** The slopes of Karaburuni peninsula are locally very steep on the western side and culminating in the central part. The western coast of the peninsula is incised by caves and deep canyons ending rarely by gravel or sand pocket beaches. It is characterized by high vertical cliffs that continue underwater at great depths. These cliffs are quite eroded and numerous caves, mostly underwater, can be seen where freshwater springs often percolate. The island of Sazani is located north from Karaburuni peninsula. Its western side is characterized by high vertical cliffs that are incised by deep canyons extended by caves that appear mostly underwater. On the eastern side, the coastline is lower and is formed by slanted folds of limestone plunging into the sea. These formations are attractive for the visitors and have additional values due to the well-developed vegetation.

**Socio-economic values**

**Artisanal fisheries.** The fisheries sector in Albania is relatively small, however it is important from a socio-economic point of view, as it is a significant source of jobs in coastal and remote areas. Fisheries were once central to the economy

of the southern coast of Albania. Artisanal fishing exists along the coasts of Rreza e Kanalit-Karaburuni and Sazani. Fishing within the Vlora bay and at depths less than 40 m is prohibited. The area from Sazani island to Vjosa river mouth is one of the most frequented areas by fishing boats, mainly trawlers.

**Tourism.** Vlora bay is well known in Albania as a very attractive destination for recreation, mostly sun-and-beach tourism. Nowadays there are a lot of accommodation in the area, from hotels to private apartments, and a lot of restaurants and bars. In many cases the tourism development was not planned and tourist activities are not regulated. Due to the lack of road access, tourist pressure in Sazani island and Karaburuni peninsula, especially in its western side, has been relatively low. The most frequented activities in this part, often associated with damages of habitats, are diving and spear gun fishing.

**Beaches.** The access to Karaburuni and Sazani is provided by boat only, but it has not been practiced very much, because suitable beaches are far away from Vlora and Orikumi, thus the boat transport (by small motor boats or yachts) is expensive. However, during the peak tourist season, July – August, the small beaches in the eastern coast of Karaburuni (Raguza, Shen Vasili, Shen Jani) are regularly frequented, including by few excursion boats. Beaches in the western side of Karaburuni (Bristani, Dafina, Grama), despite being clean, quiet and very attractive, are very little frequented, due to the lack of road access.

### **Cultural and historical values**

**Archaeological and historical remains.** This value deals mostly with sunken ships and different underwater archaeological remains, which confirm the links between this area and other civilizations of the Greek and Roman periods. There are numerous shipwrecks, mainly on the western coast (including from the two World Wars), as well as amphorae close to cape Shën Nikolla on the eastern coast of Sazani island.

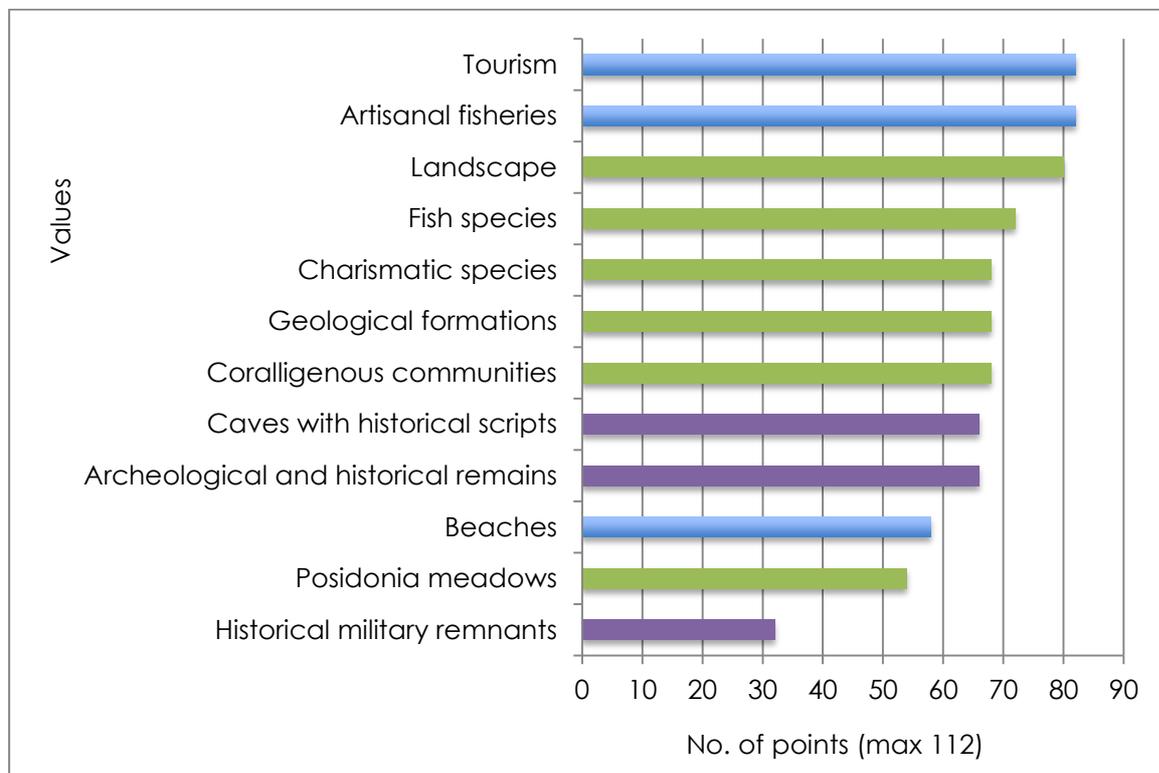
**Caves with historical scripts.** Historical and archaeological values of the area are unique and are very relevant for tourism. Several archaeological and historical remains are present in Orikumi lagoon, Vlora bay and Karaburuni, e.g. Grama bay and some caves. Grama bay is situated in the south-western coast of Karaburuni peninsula; it is a former famous harbour since antiquity. On the rocks of Grama bay there are abundant inscriptions in old Greek and Latin languages, dating more than 2000 years that have made this bay to be considered as the richest “rocky diary” in the Mediterranean. The Cave of Haxhi Ali in Karaburuni is another cultural heritage site that attracts visitors.

**Historical military remnants.** Taking into account the position of the island of Sazani, it has always been a strategic point and military has been present there for a long time. Both Karaburuni peninsula and Sazani island have military bases, and also a number of defence bunkers, tunnels and trenches. This value deals with military bunkers that have extensively been built on Karaburuni peninsula and Sazani island. Although they are present in whole

Albania, they could be included in guided tours on cultural and historical values of the area.

Figure 9 shows the ranking of values. Tourism, artisanal fisheries and landscape are ranked the highest. Tourism is important for the local community and economy, it is important for MPA income, it can garner much interest from the broader public and it is still in good enough condition so that management could be effective in protecting the resources. Artisanal fisheries is important to the designation of the MPA, it is also important for the local community and economy, it can garner much interest from the broader public and it urgently needs protection. Landscape as a value is important to the local community and economy, it is still in good enough condition so that management could be effective in protecting it, and park administration has the jurisdiction to manage it.

Legend: natural values – green; socio-economic values – blue; cultural and historical values - violet



**Figure 9: Ranking of values**

Map of values of the NMP Karaburun-Sazani is shown in Figure 10.



Figure 10: Map of values

## Threats

Threats to the values have been identified and linked to users, their behaviour, and root causes of the behaviours. Identified threats are described and some human activities related to those threats are discussed in more detail.

**Degradation of Posidonia meadows.** Posidonia meadows are impacted by anchoring, invasive species (e.g. *Caulerpa racemosa*), pollution, fishing above meadows, climate change, etc. There have been declines in the population of *P. oceanica* due to mechanical damage from trawling and boats, coastal development and eutrophication. Posidonia meadows, as breeding grounds of many species, have also deteriorated because of changes in the structure of the fishing fleet. More than 50% of fishing boats have small power motors (100 HP) and hence are able to apply deep fishing techniques (trawling) in shallow areas since they are unable to fish in zones more than 50 meters deep.

**Degradation of coralligenous communities.** Coralligenous communities are threatened by illegal fishing and diving, anchoring, invasive species, pollution, climate change, etc. The greatest cause for degradation of the commercially valuable red coral is illegal harvesting by divers, but also trawling, net fishing, boat anchoring, pollution and increased global warming.

**Decreased fish stocks and harvesting of marine invertebrates.** The intensity of fishing effort and their effect on local populations of target and by-catch species remains unknown. However, fishermen report that local fisheries resources are limited, and that their revenue is decreasing. For example, population of a very sensitive species, the dusky grouper *Epinephelus marginatus*, distributed along all the Karaburuni peninsula and Sazani island coast shows strong declines because of overexploitation. Many local fishermen that were interviewed during the development of the Management Plan said that fish stocks in the area have been decreased, due to illegal fishing and weak law enforcement. They would like to see more controls and improved law enforcement. Fish stocks have been threatened by overfishing, illegal fishing, invasive species, pollution, and, indirectly, by degradation of Posidonia meadows and coralligenous communities. Illegal fishing includes dynamite fishing, illegal net sizes, fishing in banned areas, fishing banned species, collection of date mussel, etc. There are illegal fishing activities in the rocky areas of both sides of Karaburuni peninsula and sometimes in the western side of Sazani island. The illegal activity of collecting date mussel *Lithophaga lithophaga*, and lobsters (*Palinurus elephas*, *Homarus gammarus*) that are protected species in the Mediterranean. Diving and illegal fishing with lights and spear guns is also practiced, such as for fishing the grouper *Epinephelus* sp. Uncontrolled fishing in the coast may directly damage not only fishery resources, but indirectly affects also the bird species and mammals feeding on fish. As mentioned above, the breeding grounds of *Posidonia oceanica* have also severely deteriorated because of changes in the structure of the fishing fleet, which also causes decrease in fish stocks.

**Degradation of geological formations.** Degradation of geological formations is caused by fishermen, divers, and tourists. They can damage caves and cliffs, although threats to geological formations are linked to degradation of marine habitats like semi-dark caves and coralligenous.

**Intensive aquaculture.** Aquaculture is also practiced in the littoral zone, mainly through fish farming. In two locations along the eastern part of Karaburuni peninsula (Raguza) there are sea cages cultivating sea bream (*Sparus aurata*) and sea bass (*Dicentrarchus labrax*). The increasing tourist demand for marine fish in Vlora area has caused the recent increase in aquaculture production. The most widely known effect of fish farming is benthic enrichment, i.e. increased organic content of the sediment beneath the fish cages. The deposition of particulate organic material, i.e. faecal material and uneaten fish feed, in the immediate vicinity of the farm, leads to increased oxygen demand, a condition that often results in anaerobic metabolism and anoxia.

**Pollution.** Pollution represents a threat towards water quality, marine life (Posidonia meadows, coralligenous communities, fish species, algae, marine invertebrates, etc.), but also human health. Pollution can come from the coast in a form of waste and wastewater and from the sea in a form of discharges and accidental oil spills. When considering the pollution from the coast, one of the key problems in the area is solid waste, which is largely generated from tourist and marine transport activities in the region, but also from local communities (both construction and municipal waste). As for wastewaters, it represents a major threat due to poor connection to sewage system and very few treatment plants. The coastal settlement (towns and villages) of the Vlora area may have potential negative impacts on the MPA if current modes of development activities are left unchanged. Threat from pollution is usually linked to surrounding areas and cannot be regulated without good intersectoral cooperation, especially on local and regional levels. When considering the pollution from the sea, discharges from vessels, such as wastewater from black and grey tanks should be a major concern. Vessels include those transiting to and from Vlora harbour, fishing boats entering Vlora or other small ports, as well S excursion boats and sailing boats entering the MPA for recreational activities. These vessels can also spill oil and discard solid waste. Anti-fouling paints (bottom paints) also represent a concern. The risk of a major pollution event due to an accidental oil spill in the MPA is high given the volume of commercial shipping that passes through the area. An oil spill in or adjacent to the MPA would not only have detrimental effects on water quality but could also have significant ecological impacts on birds and intertidal assemblages in the MPA.

**Invasive species.** Alien invasive species is one of the most outstanding issues facing biodiversity today on a global scale. In temperate marine systems, invasive species are well-documented causes of marine community disruption. There is an important harbour in Vlora that regularly receives vessels from regional and international waters. Species introduced to these

harbours could conceivably spread into adjacent waters. Alien species of marine fauna are also used in mariculture in various parts of the Mediterranean. A threat to marine biodiversity is that of invasive species *Caulerpa racemosa* var. *cylindracea* that is widely dispersed in the Mediterranean basin, including Vlora bay and the eastern side of Karaburun peninsula (Kashta *et al.*, 2005). In Vlora bay there is also *Halophila stipulacea*, which originates from the Indian Ocean and is an invasive species in the Mediterranean (Kashta, 1992).

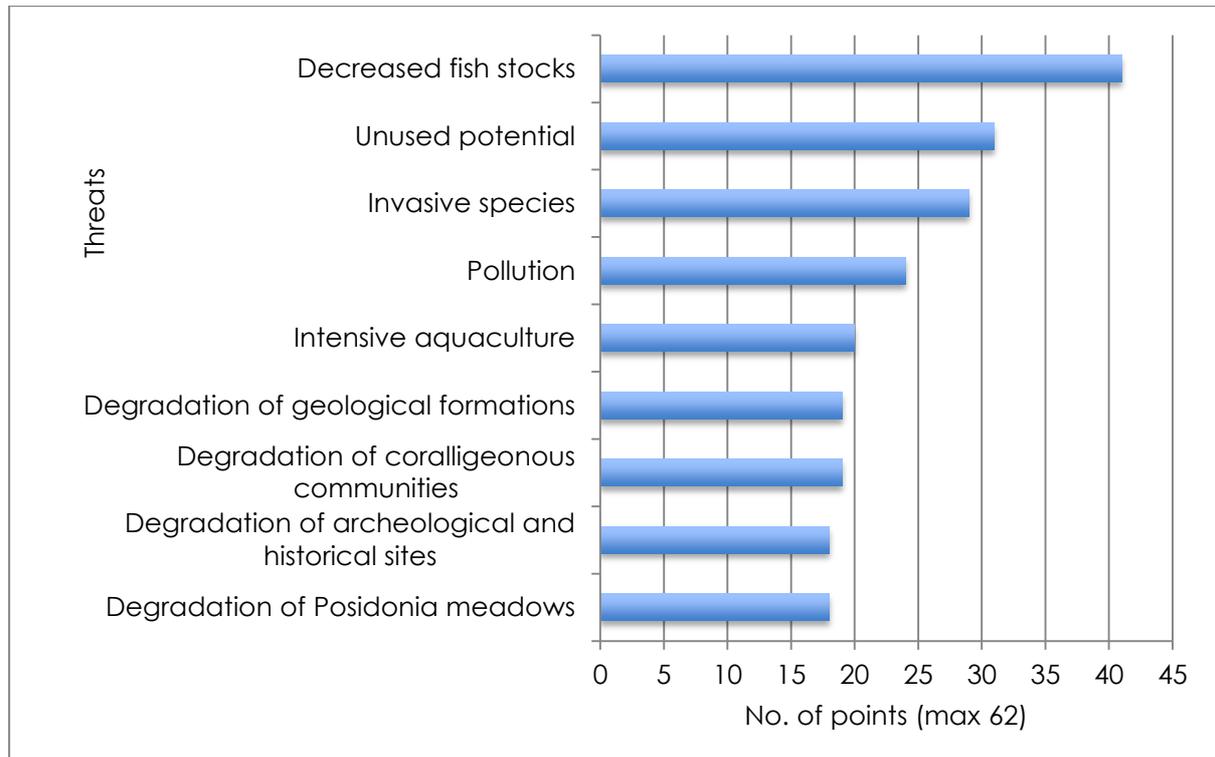
**Unused potential.** Sun and beach dominance, unorganized visitation, no diving offer, no access to the area, etc. are all activities that are linked to the unused potential of tourism. On the other hand, littering, discharges, pollution, construction and overuse (overcrowded beaches) are linked to negative effects of the tourist activities. Impacts associated with the activities that tourists undertake during a visit, such as swimming, sailing, snorkelling and SCUBA diving can be a chronic source of disturbance to marine organisms and could result in localized physical destruction of seagrasses, algae or coralligenous formations, even under low levels of use. It is expected that tourism would be one of the most important uses of the MPA because of its natural and cultural resources. It could be a reliable source of sustainable and substantial economic growth, if properly established and managed. In addition to creating economic opportunities and jobs for the private sector and generating benefits for the local community to enhance their standard of life, it is an important source of revenue for the park administration to invest into its management. The facilitation and management of tourism and promotion of ecotourism in the area is therefore one of the key management issues for the park administration. Karaburun-Sazan has excellent potential for ecotourism development given its unique natural and cultural heritage resources. A range of nature-based tourism activities can be envisaged taking place in the MPA, including wildlife watching, diving, snorkelling or nautical tours as this area has a high potential for leisure, recreation, adventure, beach tourism, and cultural heritage tourism. Park administration must take into consideration the planned tourism development in the region that is expected to grow exponentially in the next five to ten years. It is expected that the MPA would become a leading attraction for tourism as the region becomes better known, so it is very important to ensure sustainable development of tourism, which benefits local communities.

**Degradation of archaeological and historical sites.** Degradation of archaeological and historical sites is linked to the loss of values from these sites. Divers, tourists, and boaters can damage or steal archaeological assets, as well as artefacts from the shipwrecks, and they can also anchor on these sites, which causes their destruction. Awareness raising, better regulation and law enforcement should ensure improvement in the state of archaeological and historical sites.

All threats were ranked according to number of resources and area impacted, level of impact and attention required. It can clearly be seen from

the Figure 11 that decreased fish stocks represent the biggest threat, because this threat targets the biggest number of resources (values), it covers most of the area, its impact is high and it requires immediate attention.

Unused potential, which is related to tourism, should be considered an opportunity, in order for the area to develop in a sustainable way. This means the development should benefit local communities, but also should not negatively impact the National Marine Park.



**Figure 11: Ranking of threats**

Map of threats to the values of the NMP Karaburun-Sazani is shown in Figure 12.

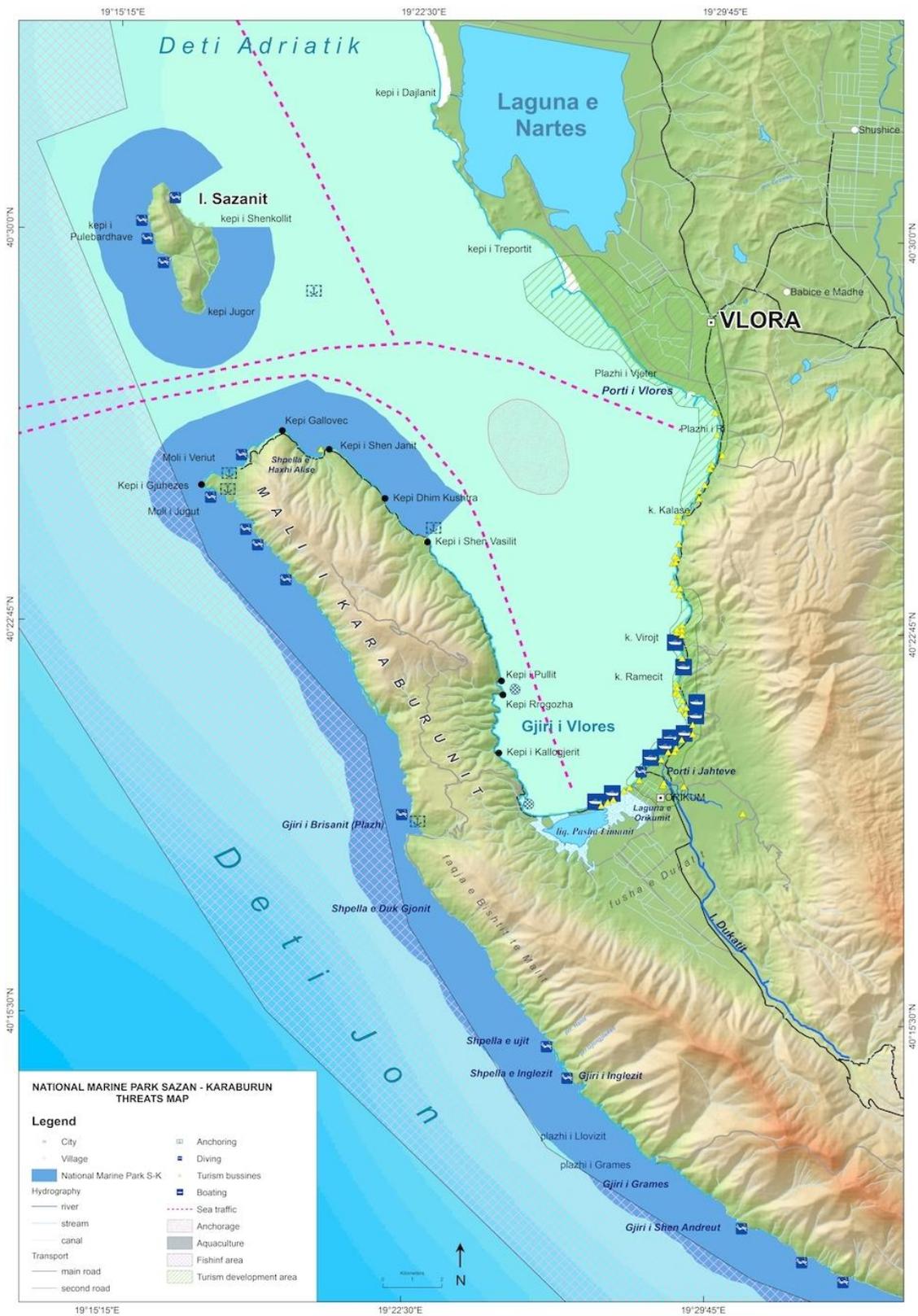


Figure 12: Map of threats

### **Conceptual models**

Conceptual models were developed for most of the Management Plan themes. They help see the link between values, threats, users, and their behaviour and root cause of behaviours.

A joint map of values and threats of the NMP Karaburun-Sazani is shown in Annex 4.

Figures 13-16 show conceptual models for themes of biodiversity conservation, cultural and historical heritage, local fisheries and tourism.

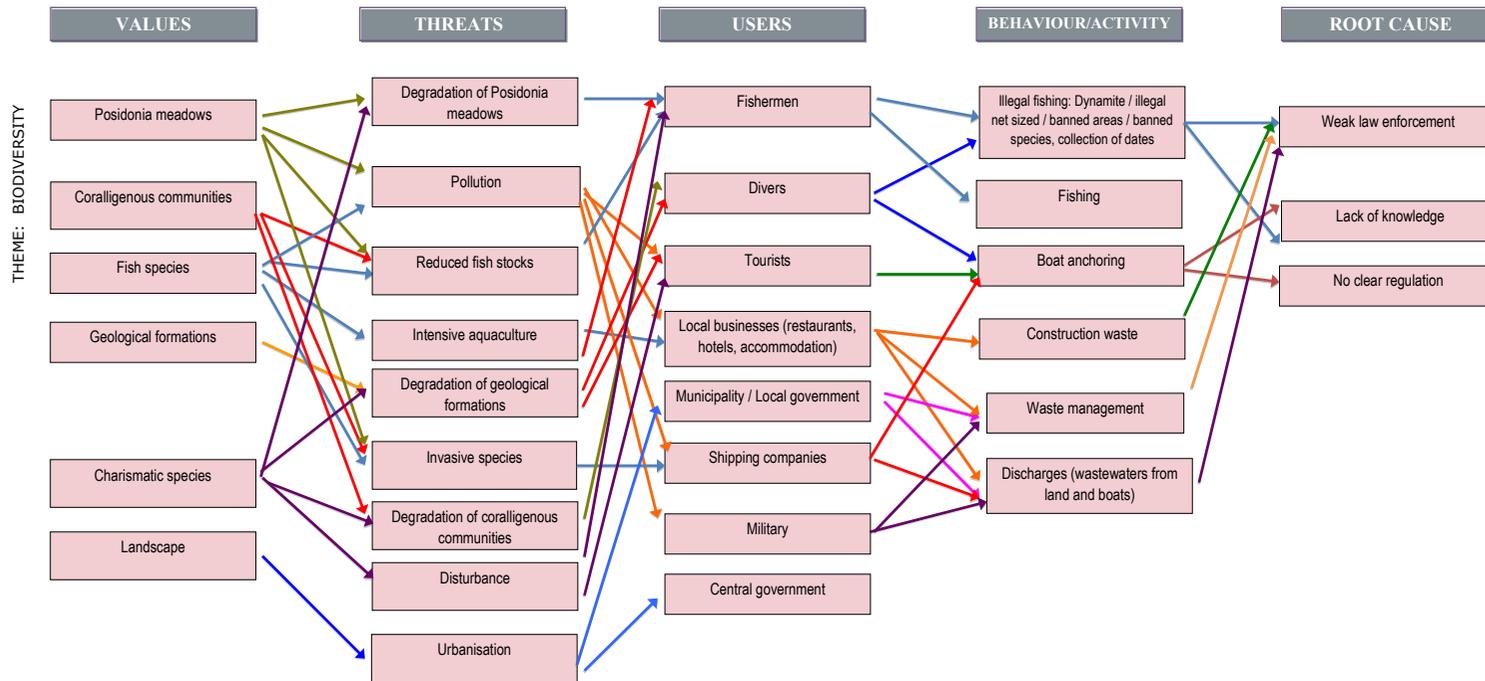


Figure 13: Conceptual model for biodiversity conservation

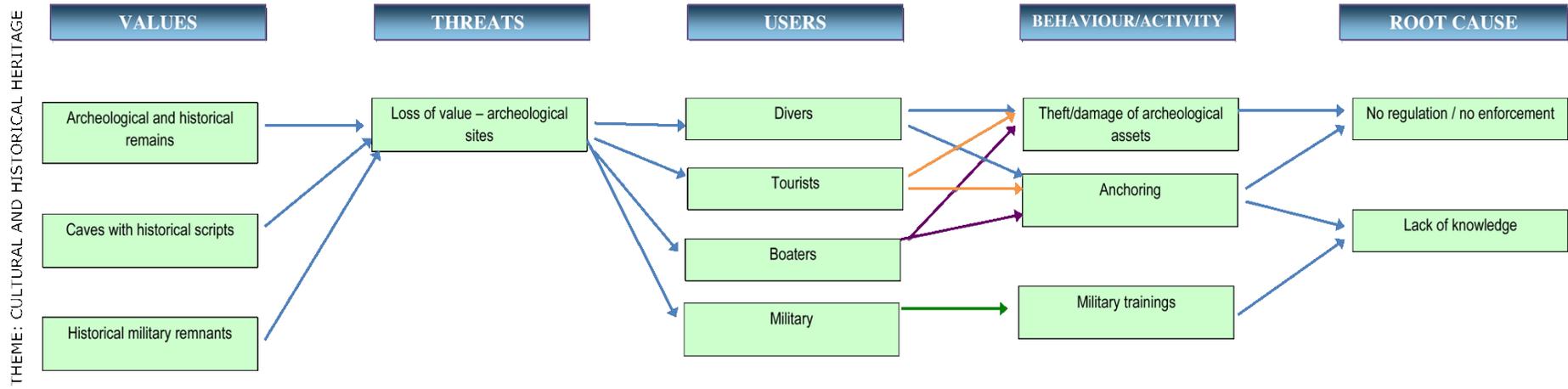


Figure 14: Conceptual model for cultural and historical heritage

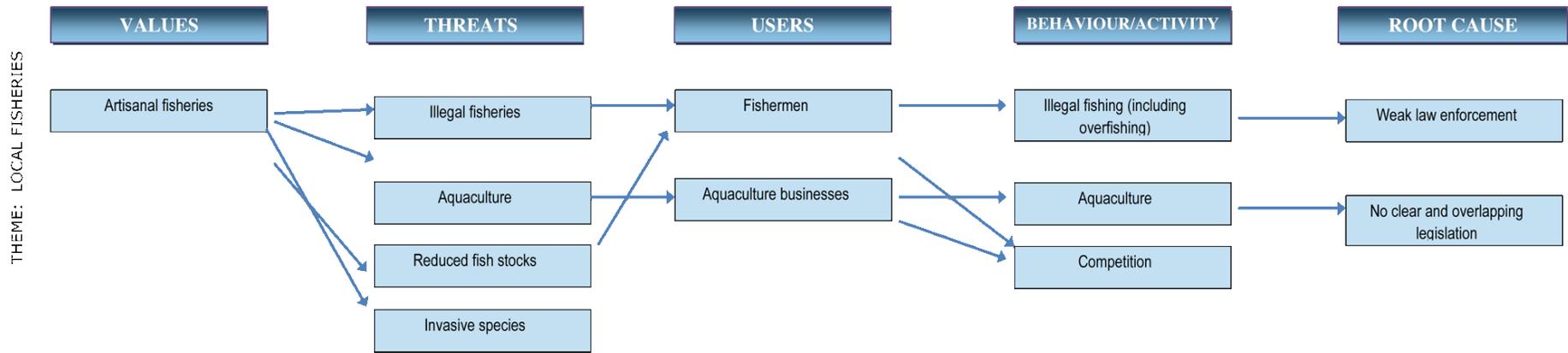


Figure 15: Conceptual model for local fisheries

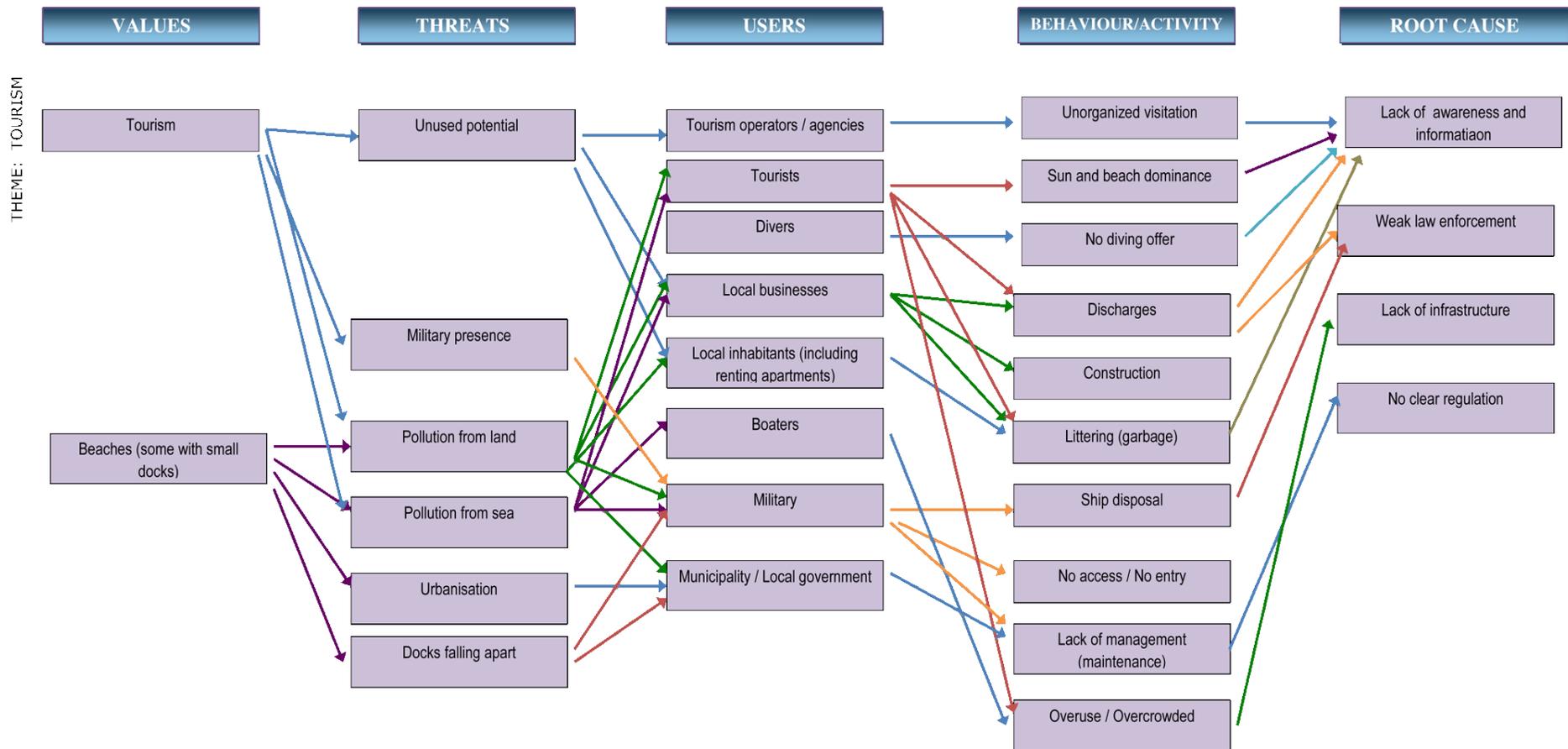


Figure 16: Conceptual model for tourism

## Assessment of the Institutional Framework

Karaburuni Peninsula – Sazani Island has been proclaimed a marine National Park by a decision of Council of Ministers on April 28th 2010, covering an area of 12570 ha. Two other adjacent areas from the same large marine – terrestrial ecological unit (Llogara-Rreza e Kanalit-Dukat-Orikum-Karaburun) have had also a protection status earlier: 1) Llogara (1010 ha) which has the status of the National Park (IUCN Category II, since 1966), and 2) Rreza e Kanalit-Karaburun Peninsula (20000 ha) designated formerly (1966) as a game reserve and having since 1992 the status of Managed Natural Reserve (IUCN Category IV).

A number of Nature and Culture monuments from this area are also legally protected (IUCN Category III). So far, limited progress has been achieved to ensure their legal status and manage them according to their management objectives.

The Management Plan for the National Park of Llogara and the Managed Natural Reserve of Karaburun Peninsula, prepared in 2005, has not been in implementation (Beqiraj *et al.*, 2010).

The main state body responsible for the implementation of the environmental protection is the Ministry of Environment (MoE). The MoE develops and supervise implementation of environmental policies, strategies and legislations, such as the Law on Protected Areas, the Law on Biodiversity Protection, the Law on Wild Fauna Protection, etc. The MoE is responsible for preparation of the proposals and declaration of protected areas, including zoning, and also on removal of the PA status; it can design management plans and it approves all management plans; MoE develops and implements PA monitoring programs; maintains PA database; coordinates the establishment of ecological network, etc.

The Environment Inspectorate is regionally based and has about 500 staff in total. Each region has about 30-40 personnel. The inspectorate is responsible for law enforcement in issues related to forest, waters, and environment. The inspectorate has no site-based personnel.

The National Environmental Agency (NEA) is another important institution supporting the Ministry of Environment among others on issues related to environmental monitoring and scientific research. The NEA has its headquarters in Tirana and operates with its 12 Regional Environmental Agencies (on average 10 people for each region).

The MoE through Regional Directorate of Forest Service is the administrator of Forest and Pasture resources, including national parks and other protected areas. They issue licenses for forest harvesting and pasture use.

Ministry of Agriculture, Rural Development and Water Administration is another important executing authority in the area. Fishery Directorate is responsible for administration of fishery activities, and issues licenses for fishery

and aquaculture activities. Through the Water Irrigation Board it is responsible for administration of water resources used for irrigation and issues licenses to water user associations to use those resources for irrigation purposes. Through the directories of Veterinary Service and Food Safety this ministry control and manage many activities related to agriculture, farming and protection of consumers.

Ministry Urban Planning and Tourism is responsible for preparing Master Plans for any physical or territorial planning and urban development. These plans are approved by the National Council of Territorial Adjustment (NCTA). It issues licenses to tourism operators in case they want to build tourism infrastructure and facilities in areas identified for tourism development. Majority of Vlorë bay – Llogara – Karaburun area has been identified as priority zone for tourism development by the Sectoral Strategy for Tourism 2007-2013 prepared by the Ministry of Tourism<sup>15</sup>.

Ministry of Defence is using part of the area as a military base (base of Pasha Liman and base of Sazani) and it is also using marine waters of Karaburun and Sazani for military operations. Through Maritime District of Vlorë they are entitled to give permission for allowing any activity within or nearby military areas, as well as for allowing shepherds or other interested parties to do any maintenance work.

Local government authority is the Oriskum Municipality. Based on the Law on Organization and Functioning of Local Governments (2000)<sup>16</sup> extensive rights are given to the local level.

Local government can create administrative structures to carry out their functions and exercise powers; establish economic units and other institutions under their authority; create committees, boards, commissions as it deems necessary for exercising specific functions; create any administrative-territorial sub-division within its jurisdiction to perform its governing functions.

Local government may obtain revenues and make expenditures related to the execution of their functions, which is relevant for using “entrance fees” or any other local taxes for local development.

Municipality has the right to undertake any initiative for economic development in the interest of its residents, provided that these activities do not contradict the fundamental government policies.

The municipality can influence licensing of all activities under its territory jurisdiction. In addition, despite the fact that Oriskum lagoon as well as forests and pastures are not under communes and municipality administration, they are asked to exert their authority and influence for solving many problems or play an intermediary role with the communities living nearby. As such, the

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<sup>15</sup> Adopted by the Council of Ministers Decree No. 844, dated 11.06.2008, Official Journal 107, p. 4732

<sup>16</sup> Law No. 8652 «On Organization and Functioning of Local Governments», dated 31.07.2000

Municipality of Orikum can play an important role through putting pressure on illegal activities (Beqiraj *et al.*, 2010).

## **A view from the inside: What do local community and stakeholders say?**

### **Stakeholder engagement process**

Management Plan for the NMP Karaburun-Sazan has been developed through engaging local community and all other stakeholders / users of the area. At the beginning of the process, in January 2014, a number of institutions were visited, including the Ministry of Environment, Regional Forestry Service, Regional Environment Agency, Vlora County Council, Vlora Prefecture, Orikum Municipality, Fisheries Management Organization (OMP), CSO Social, Education & Environment Protection (SEEP), and UNDP. Semi-structured interviews were conducted with institutions and with local community during February 2014 in order to get an insight into their opinions. A series of stakeholder workshops was conducted with all users of the area (please see Figure 17). Workshop results were further analysed, which enabled finalization of the management themes, objectives and activities, as well as the zoning proposal.

First workshop on "Values, Threats and Vision" was held in Vlora in March 2014. Stakeholders were informed on the process of Management Plan development and on the framework and jurisdictions of the Karaburun-Sazan NMP. Values and threats to these values were identified and analysed, and a common vision of the Karaburun-Sazan was developed. Second workshop on "Objectives, Indicators, and Management Approaches" was conducted in Tirana in April 2014 with targeted stakeholders, including Ministry of Environment, Municipality of Orikum, UNDP, INCA, and WWF. Structure of the Management Plan was discussed, conceptual models were finalized, specific objectives and their indicators were drafted, as well as management strategies and a first proposal of the activities. A third stakeholder workshop on "Management Objectives and Activities" was held in Orikum in May 2014. Management objectives were reviewed, and management activities were reviewed, updated and prioritized. After the summer season, the last, 2-day workshop on "Development of the Zoning Proposal" was held in Vlora in September 2014. Stakeholders were informed on the zoning concept and regulatory framework for zoning in MPAs. Zoning proposal for Karaburun-Sazan was jointly developed based on the management goals, objectives and activities, as well as values and uses; it included regulation of activities in the MPA. That workshop was organized back-to-back with the workshop on the Management Plan for a future protected area – Sazani Island. The two events were organized jointly by INCA, WWF and Conservatoire du Littoral.



Meetings with stakeholders, January 2014



Stakeholder Workshop "Values, Threats and Vision", March 2014



Stakeholder Workshop "Values, Threats and Vision", March 2014



Stakeholder Workshop on Objectives, Indicators and Management Approaches, April 2014



Stakeholder Workshop "Management Objectives and Activities", May 2014



Stakeholder Workshop "Development of the Zoning Proposal", September 2014



**Figure 17: Photos from the stakeholder workshops**

## Interviews

At the beginning of the process of Management Plan development semi-structured interviews were conducted with institutions and local community in order to get a better insight into their opinions and needs.

Representatives from seven institutions were interviewed: Ministry of Environment, Fishing Management Organization, Oriku Municipality, Vlora Regional Council, Vlora Forestry Services Directorate, Vlora Regional Prefecture, and Central Vlora Commune.

Majority of interviewees (70%) recognized biodiversity as most significant value; they also recognized cultural and historical values, tourism, etc. As positive changes related to values they saw start of the MCPA Project, awareness of local community about the MCPA, tourism, and aquaculture development. They recognize loss of values due to poor law enforcement and illegal activities as the most important negative changes related to values. As the biggest threats to conservation of values they list illegal hunting and fishing, collection of dates, illegal tourism development (bars and restaurants), pollution, fires, etc. The steps necessary to conserve values – most urgent: law enforcement and inter-institutional collaboration; most realistic: empowerment of rangers and other supervising structures. Some institutions say they can assist in law enforcement and in marketing of conservation values. They see the creation of the MCPA administration as an opportunity and they also not low interest of government as a constraint.

Changes in the local community that have been recognized in the last 10 years are firstly improvement of living standards (due to tourism and emigration), construction of restaurants and bars, but also some say that a little has been changed (because of poor management of resources). Changes that would improve the quality of life in the area are development of sustainable tourism, tourist operators, investments, development of agriculture and aquaculture, but also increased awareness of the MCPA and its protection.

Institutions claim that the roles and responsibilities of the MCPA Karaburun-Sazan should be protection of values, promotion and public awareness, and law enforcement in order to stop illegal hunting and fishing, and development of the area. They mostly obtain information about the MCPA from meetings and Internet, but also from other institutions. Some of the representatives of the institutions are actually member of the Management Committee. They cooperate with MCPA Project staff, Forestry Directorate and other institutions. Suggestions to improve the work of the MCPA include creation of the proper management team (management administration), law enforcement in cooperation with local institutions, training of rangers, more cooperation with local institutions, etc. They mostly asked about the creation of the Management Administration and its jurisdiction, as well as cooperation with local government.

All the interviewees were interested in participating in the development of the Management Plan and they were able to contribute through a series of workshops that were held throughout 2014. The vision of the Karaburun-Sazan in the future is actually a common vision, which includes rich biodiversity, developed and sustainable tourism, well managed area with no illegal activities; they see agrotourism, underwater tourism, and ecotourism as basis for economic development and wellbeing of the local community.

Regarding the local community, 28 persons were interviewed: forestry technicians, farmers, fishermen, tourism and fishing management, boat navigator, private businesses, military, teacher, students, archaeologist, veterinarian, construction worker, retired persons, unemployed persons, etc.

Profiles of the interviews are presented in Figures 18-22.

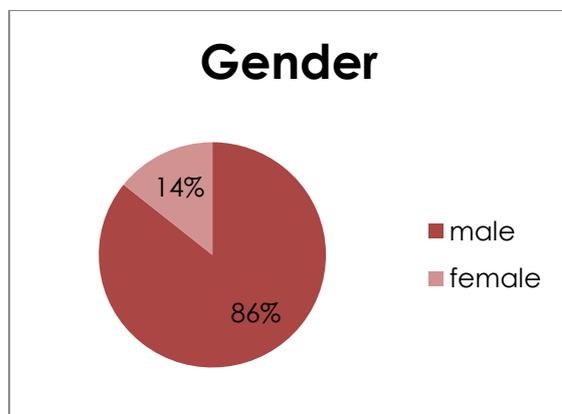


Figure 18: Gender of interviewees

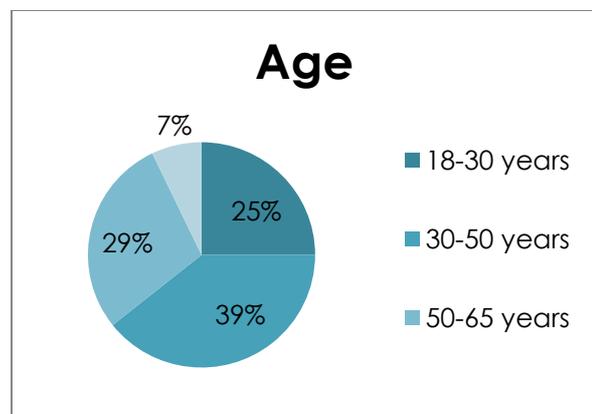


Figure 19: Age of interviewees

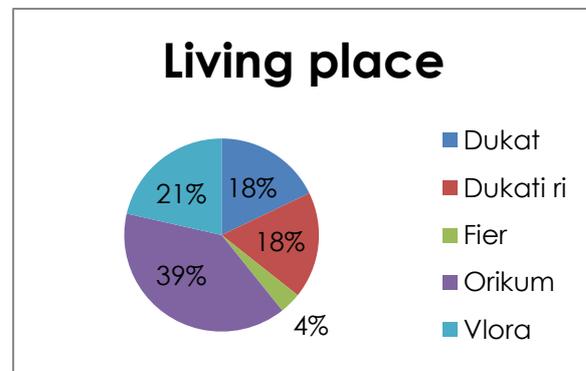


Figure 20: Living place of interviewees

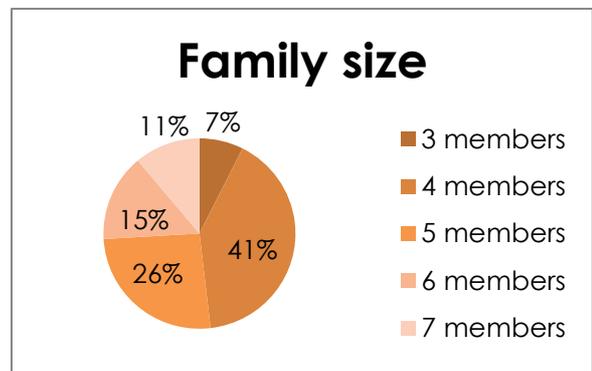
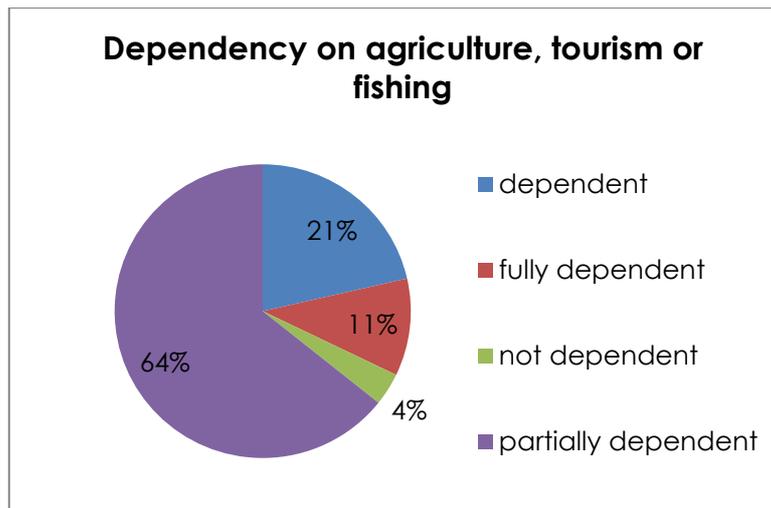
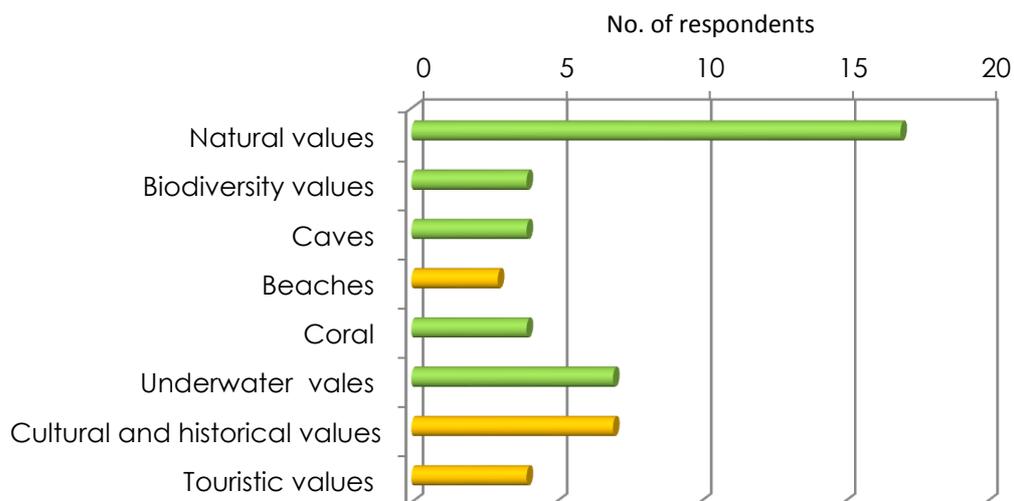


Figure 21: Family size



**Figure 22: Dependency on agriculture, tourism or fishing**

Natural and cultural values that they see as most significant are presented in the Figure 23.



**Figure 23: Most significant natural and cultural values**

Changes related to values and impact onto their lives:

- positive: efforts to stop illegal hunting and fishing, awareness of biodiversity importance and protection, fewer forest fires and erosion, and tourism development
- negative: pollution, no forestation efforts, forest fires, damage of natural values, species extinction, damage of marine fauna and flora.

More than third respondents (35%) do not use natural resources. The rest use them for fishing (subsistence and selling of fish and seafood), tourism, pastures in Karaburuni, and water irrigation. Changes in local community related to natural and cultural values that they noticed in the last 10 years were:

improvement in standard of living, development of tourism and infrastructure, more awareness, businesses and farming, but also emigration, and recently growth in unemployment and economic crises. Locals think that the following changes would improve the life in the area: mentality shift, government policy, administrative changes, more investments, tourism and infrastructure development, law enforcement, stopping of illegal hunting and fishing, nature protection, cleaning of the environment, waste management, resource management by local government, return of land to righteous owners, etc. They see possibilities in economic policy and free entry to the MCPA; and they see constraints in lack of financial resources.

Local community sees the following roles and responsibilities for the MCPA Karaburun-Sazan: protection and promotion of values, including underwater values, tourism development, stopping of illegal hunting and fishing, effective management, and financial support of local projects. They obtain information on the activities of the MCPA mostly through MCPA Project staff, information board in the MCPA office, during meetings with local community, local government and internet; few of the interviewees said they did not obtain any information on the activities of the MCPA. Only one respondent said that he had experience in communication with the MCPA, as they asked him for cooperation.

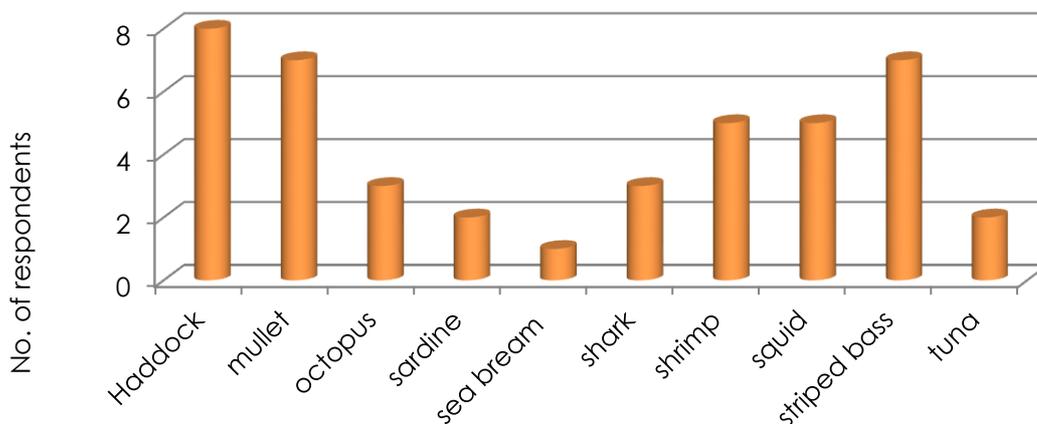
As for the changes since the MCPA Karaburun-Sazan has been designated, almost 1/3 (29%) think the awareness has been raised, some think that there is more tourism and more local employment, that marine life is richer, and that there are less fires; a few do not see any changes. Considering the vision of the area from the perspective of the local community, they primarily see it as a developed tourism area rich in biodiversity and cultural values, an important centre for nature protection, without any illegal hunting and fishing; they see the cleanest bay in the world, to which everybody has easy access, and land is returned back to original owners; some do not see coastal fisheries in the area, and a few were not optimistic. MCPA could contribute to this vision by raising awareness, by working with local community, cooperating with government and raising local human capacities, by stopping illegal hunting and fishing, and by moving military base and enabling free access to the area. Local community sees itself contributing to the vision by protecting nature, investing, and applying their knowledge in the area. Majority of the interviewees (82%) were interested in participating in the development of the Management Plan.

As for the questions they had, they asked to be better informed about the efforts of the MCPA and they would like to collaborate with the MCPA, they would also like that MCPA cooperates with land owners; they wanted to know if Karaburun-Sazan can be visited by tourists and what is the vision and the development plans for sustainable tourism in the area.

Local community that is involved in agriculture, fisheries and tourism sectors has been asked about their views of the respective sectors – about the experience, changes, potentials, and constraints.

More than 1/3 of the interviewees (39%) are involved in agriculture and almost 1/4 of the remaining ones (24%) would like to work in agriculture. Those that work in agriculture are mostly into orcharding (fruit-growing) (55%) and almost 1/3 (27%) have vineyards. Vast majority (82%) produce it for personal needs and the rest (18%) for both personal needs and sales. Only 18% of farmers receive incentives, but 82% of them would like assistance in applying for incentives. As for changes related to agriculture in the last several years, most of farmers (72%) see more planted areas, including more olive trees, but lack of subsidies is also mentioned. They see the following as a potential for agriculture development in the area: olive trees, orcharding (fruit-growing), vineyards, agrotourism, and subsidies, but some also mentioned little potential due to high costs.

Even more interviewees (43%) work in fisheries, but only 13% of the ones that do not would like to work in fisheries. Majority of fishermen, 2/3 of them (67%) fish for personal needs and 1/3 for both personal need and sale. Fish species that they mostly fish can be seen in Figure 24.



**Figure 24: Most often caught fish species**

When asked about the changes related to fisheries and the state of fish stocks in the last several years, 3/4 (75%) of them mentions negative changes due to illegal fishing; one respondent noticed increase of fish stock and lack of fishing infrastructure. Changes that they suggest are all related to law enforcement – stopping illegal fishing, more control, supporting fishing inspectorate and one even suggested banning fishing in the Vlorë bay.

A little bit over 1/3 of interviewees (36%) are involved with tourism and an additional 22% of the remaining ones would like to work in tourism sector. Those that work in tourism, work in coastal tourism (60%), bar or restaurant (30%) and cultural tourism (10%). Those that would like to work in tourism sector would like to work in agrotourism, coastal tourism and in restaurant. The

season lasts 2-3 month during the summer (June-September). Only one interviewee plans to expand his business. Most (78%) claim their guests are satisfied, the rest (22%) say they are not. When asked what should be changed, they mention the following: better service and hospitality (60%), improvement of offer (products, cultural offer) and better promotion (50%), cleaner beaches, infrastructure development, and banning building near the beaches. As for the changes related to tourism in the last several years, they mostly mention positive changes (70%), relatively stable demand, and more experience of tourist operators, but also limited government funding.

Out of 22 respondents that work in any of the three sectors (agriculture, fisheries and tourism), 8 of them work in agriculture only, 5 work in fisheries and tourism, 4 in tourism only, 2 in agriculture and fisheries, 2 only in fisheries, and there is one person that works in all three sectors. It is worth noting that while the combination of tourism and fisheries exist (27%), other combinations are much more rear. Considering the potential for agrotourism and also pesca-tourism, these should be supported and promoted in the area.

## MANAGEMENT OF THE PROTECTED AREA

### Vision

**Karaburun-Sazan is well-managed marine area of outstanding naturalness, where resources are used sustainably to support diversity of tourist offer.**

The vision of the National Marine Park Karaburun-Sazan reflects the views of the stakeholders, as the elements of the vision were developed jointly with the stakeholders.

### Management Plan Themes, Objectives and Activities

Themes are the planning part of the Management Plan, which deal with similar issues, in other words themes represent key issues that the Management Plan will deal with.

Goals specify the essence of each theme, and, by dividing them into several objectives, a clearer picture of what wants to be achieved with the Plan is given. Through the use of indicators it is possible to monitor the achievement of management objectives. Objectives are accomplished through the implementation of planned activities. Indicators of activities implementation enable monitoring of the Management Plan implementation, as well as the work of the management administration. They are divided into short-, medium-, and long-term indicators due to the long implementation period and to ensure more effective monitoring.

In order to get a better insight into the schedule and priorities of the specific management activities, a planned timeframe for the implementation of all the activities by years has been designed. Also, partners in the implementation are listed, without whom the execution of certain elements of the whole activity would not be possible.

Due to the limited human and financial resources, priority activities are identified as follows:

Priority 1 – activities that have to be conducted during the implementation of the Management Plan. These are key activities and not implementing them undermines the success of the entire Management Plan.

Priority 2 – activities that should be implemented during the implementation of the Management Plan. There is certain flexibility, but there should be a good reason for not implementing these activities.

Priority 3 – activities that can be undertaken when time and/or finances become available.

## Theme A: Biodiversity conservation

Both marine and terrestrial parts of Karaburun peninsula and Sazani island have high values of biodiversity and natural habitats.

Marine area is characterized with different biocenosis, including Posidonia meadows, infralittoral algae, coralligenous communities, semi-dark cave, etc. and some of the species are protected by law, some species and habitats are also considered threatened at the Mediterranean level. Although there have been some studies conducted in the area, underwater of Karaburun-Sazan is largely unexplored. Therefore it is necessary to conduct research in order to gain insight into species and their distribution, so that potential negative impacts on certain populations can be observed and dealt with on time.

First it is necessary to update existing habitat map in the National Marine Park and then monitor the status of important habitats and species, such as Posidonia meadows, coralligenous communities, and marine mammals and marine turtles. It is also necessary to monitor human behaviour, such as number of boats that enter the MPA, intensity of aquaculture in the surrounding area and also introduce measure to regulate the behaviour, such as illegal fishing, etc. Setting-up of the mooring buoys and repairing of existing small docks are important for decreasing anchoring pressure on Posidonia meadow, as well as for the safety of visitors.

Specific objectives have been developed for the following values:

**AA Posidonia meadows**

**AB Coralligenous communities and other vulnerable marine habitats**

**AC Endangered and protected marine species (including charismatic species)**

Table 9 presents the quick SWOT analysis of the theme on biodiversity conservation.

**Table 9: SWOT analysis for biodiversity conservation**

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>- rich biodiversity</li> <li>- recognition by stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>- no effective management</li> <li>- poor awareness of biodiversity conservation</li> <li>- inadequate data on biodiversity values (no habitat map)</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>- government support for biodiversity conservation</li> <li>- donor support</li> </ul>	<ul style="list-style-type: none"> <li>- weak law enforcement</li> <li>- unregulated development</li> </ul>

<b>THEME: BIODIVERSITY CONSERVATION</b>																
<b>GOAL:</b> Maintain and protect valuable marine species and habitats by regulating activities at the sea and improving knowledge on importance of biodiversity.																
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10	
<b>SPECIFIC OBJECTIVE:</b> Reduce degradation and maintain the size and status of Posidonia meadows in front of beaches (western part) during management plan timeframe (10 years)																
<b>INDICATOR OF OBJECTIVE:</b> Zero or positive changes in status of Posidonia meadows (monitoring parameters - shoot density, ground cover, lower limit, CI, SI)																
Habitat mapping and then monitoring of Posidonia status	AA1	Updated habitat map	Monitoring reports	Monitoring reports	2			x	x		x		x		x	University of Tirana
Regulate and monitor number of boats in the MPA	AA2	Agree on regulation of boats in the MPA	Boat statistics	Boat statistics	1	x	x	x	x	x	x	x	x	x	x	Ranger Service, Boat operators, Diving centres
Regulate and monitor intensity of aquaculture: research impact of aquaculture and monitor it	AA3		Research report of monitoring aquaculture	Research report of monitoring aquaculture	2			x	x	x	x	x	x	x	x	University of Vlora
Set up mooring buoys: assessment, design and deployment	AA4		Needs assessment of the mooring system	Mooring system set-up and maintained	3				x	x	x	x	x			Contractor
Assessment of the status, and repair and maintenance of existing 2-3 docks	AA5		Status of the docks assessed; repairing of the docks	Maintenance of the docks	2			x	x		x		x		x	Contractor

<b>THEME: BIODIVERSITY CONSERVATION</b>																
<b>GOAL:</b> Maintain and protect valuable marine species and habitats by regulating activities at the sea and improving knowledge on importance of biodiversity.																
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10	
<b>SPECIFIC OBJECTIVE:</b> Stop degradation and maintain the status of coralligenous communities and other vulnerable marine habitats during management plan timeframe (10 years)																
<b>INDICATOR OF OBJECTIVE:</b> At least no negative change in status of coralligenous communities (monitoring parameters - e.g. list of species and their abundance)																
Habitat mapping and then monitoring of coralligenous status	AB1	Updated habitat map	Monitoring reports	Monitoring reports	2			x	x			x			x	University of Tirana
Conduct research on the distribution, composition and vulnerability of marine habitats	AB2		Research reports	Research reports	2		x		x		x		x		x	Scientists, Experts
<b>SPECIFIC OBJECTIVE:</b> Preserve favourable status of endangered and protected marine species and ensure safe passage of charismatic species (marine turtles, monk seals, dolphins and whales) through corridor during management plan timeframe (10 years)																
<b>INDICATOR OF OBJECTIVE:</b> Changes in monitoring parameters of endangered and protected marine species																
Collaboration of fishermen and military on monitoring (sightings) of charismatic species (large marine vertebrates - marine turtles, dolphins, whales and monk seals)	AC1	Meeting with fishermen and military organized	Number of sightings reports	Number of sightings reports	2	x	x	x	x	x	x	x	x	x	x	Ranger Service, Fishermen, Military
Develop and implement code of conduct for wildlife watching in cooperation with tour operators	AC2	Code of conduct developed	Information tools designed, printed and distributed; Ranger reports	Number of information tools distributed; Ranger reports	1	x	x	x	x	x	x	x	x	x	x	Conservation Service, Ranger Service, Tour operators
Conduct research on the distribution and endangerment of endangered and protected marine species	AC3		Research reports, inventory of species	Research reports, inventory of species	2			x		x		x		x		Scientists, Experts

## Theme B: Cultural heritage and landscape

Karaburuni area and Vlora bay, as a broader area where NMP is situated and from where visitors are coming to the NMP, are well known for their cultural and historical values. Historical and archaeological values of the area are unique and are very relevant for tourism, including diving. Grama bay is a former famous harbour since antiquity and on the rocks there are abundant inscriptions in old Greek and Latin languages. Cave of Haxhi Ali in Karaburuni is also an important site that attracts the visitors. Caves and cliffs need to be inventoried and monitored in order to preserve them.

The underwater landscape in the area is of exceptional quality, with cliffs, submarine caves, and in some places archaeological remains, such as shipwrecks and archaeological objects. A baseline assessment of underwater archaeological remains and its monitoring is necessary for the preservation of these values.

Western sides of the Karaburuni peninsula and Sazani island are characterized by high vertical cliffs that continue underwater at great depths. On the eastern sides of both Karaburuni and Sazani the coastline is lower and more accessible. It is important to preserve the aesthetic value of the landscape, as landscape is what makes this area different from other areas. In order to that, illegal construction needs to be monitored.

Specific objectives have been developed for the following values:

**BA Landscape**

**BB Geological formations**

**BC Underwater archaeological remains**

Table 10 presents the quick SWOT analysis of the theme on cultural heritage and landscape.

**Table 10: SWOT analysis for cultural heritage and landscape**

<b>STRENGTHS</b>	<b>WEAKNESSES</b>
<ul style="list-style-type: none"> <li>- presence of historical features and landscapes</li> <li>- recognition and local pride</li> </ul>	<ul style="list-style-type: none"> <li>- no regulation of activities (visitation, divers)</li> <li>- no diving centres</li> <li>- no regular boat services (only on personal basis)</li> </ul>
<b>OPPORTUNITIES</b>	<b>THREATS</b>
<ul style="list-style-type: none"> <li>- potential for tourism visitation</li> <li>- better regulation of activities (visitors, divers)</li> </ul>	<ul style="list-style-type: none"> <li>- inappropriate number of tourists</li> <li>- inappropriate development (restaurants and bars on beaches)</li> </ul>

<b>THEME: CULTURAL HERITAGE AND LANDSCAPE</b>																
<b>GOAL:</b> Maintain and preserve well-known cultural and historical features and outstanding geological formations by improving regulations and promoting good practices.																
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10	
<b>SPECIFIC OBJECTIVE:</b> Preserve aesthetic value of the landscape during management plan timeframe (10 years)																
<b>INDICATOR OF OBJECTIVE:</b> No sign of degradation of aesthetic value of landscape (monitoring of illegal construction and monitoring of changes of spatial planning documents)																
Monitor development of spatial planning documents & participate at meetings	BA1	Number of planning meetings attended	Number of planning meetings attended	Number of planning meetings attended	1	x	x	x	x	x	x	x	x	x	x	Spatial Planning authorities
Surveillance of illegal construction & informing inspection	BA2	Surveillance reports (informing inspection)	Surveillance reports (informing inspection)	Surveillance reports (informing inspection)	1	x	x	x	x	x	x	x	x	x	x	Ranger Service
<b>SPECIFIC OBJECTIVE:</b> Preserve geological formations by stopping degradation on cliffs and in caves (Haxhi Ali, Grama Bay, etc.) in the next 5 years																
<b>INDICATOR OF OBJECTIVE:</b> No signs of degradation and destruction of caves and cliffs (observation of the state of caves and cliffs)																
Update inventory of caves and cliffs and monitor their state (observation)	BB1		Inventory of caves and cliffs	Rangers surveillance reports	1		x	x	x	x	x	x	x	x	x	Scientists, Experts, Ranger Service or Conservation Service
<b>SPECIFIC OBJECTIVE:</b> Preserve actual state of underwater archaeological remains at archaeological sites during management plan timeframe (10 years)																
<b>INDICATOR OF OBJECTIVE:</b> No damage to archaeological objects and same number of archaeological objects (monitoring of numbers and state of archaeological objects)																
Baseline assessment of underwater archaeological remains and monitoring	BC1		Baseline assessment results	Monitoring results	1			x	x	x	x	x	x	x	x	University and CSOs

## Theme C: Supporting the local communities and sustainable use of natural resources

Local community near the MPA has a vital role in the development of the area, as well as in the way management is conducted. Engagement of local community in achieving strategic management objectives is important. In order create conditions for improvement of living standard of the locals, it is important to encourage traditional activities (e.g. artisanal fisheries), as well as support local community in placement of their products.

Vlora bay is well known in the country as a very attractive destination for recreation, mostly sun-and-beach tourism. Nowadays there are a lot of accommodation in the area, from hotels to private apartments, and a lot of restaurants and bars. Due to the lack of road access, tourist pressure in Sazani island and Karaburuni peninsula, especially in its western side, has been relatively low.

The access to Karaburuni and Sazani is provided by boat only, but it has not been practiced very much, because suitable beaches are far away from Vlora and Orikumi. However, during the summer season, the small beaches in the eastern coast of Karaburuni are regularly frequented, including by few excursion boats. Beaches in the western side of Karaburuni are very little frequented, due to the lack of road access. It is expected that tourism would be one of the most important uses of the MPA because of its natural and cultural resources, hence number of tourists (including divers, excursion boats, etc.) and their impacts need to be monitored, as well as the sea water quality.

A range of nature-based tourism activities can be envisaged taking place in the MPA, including wildlife watching, diving, snorkelling or nautical tours as this area has a high potential for leisure, recreation, adventure, beach tourism, and cultural heritage tourism. Diversifying and improving tourist offer is an important step in achieving sustainable tourism that would benefit local communities and ensure long-term conservation of the marine resources. Easy access to the MPA, both by land and sea, has repeatedly been requested by local community and local businesses, such as excursion boat owners. It is important to ensure free access to the area, but at the same time it is necessary to regulate the activities that are taking place in the MPA. Management Plan and its zonation envisage regulation of the activities, but it is also important to have resources to implement these regulations.

There is a number of important fish species and crustaceans whose exploitation is regulated in the Mediterranean. Fisheries were once central to the economy of the southern coast of Albania. Artisanal fishing exists along the coasts of Reza e Kanalit-Karaburuni and Sazani, but the intensity of fishing effort and

their effect on local populations of target and by-catch species remains unknown. However, fishermen report that local fisheries resources are limited, and that their revenue is decreasing.

Due to the lack of research, it is necessary to conduct both ecological and socio-economic studies. In order to ensure improved fish stocks and improved livelihood of local fishermen, baseline assessment of fish stocks and then their monitoring, as well as socio-economic studies of local fisheries need to be undertaken. Regular surveillance and law enforcement, as well as cooperation with inspection, police and coast guards would minimize illegal fishing, which is currently considered a key issue by many stakeholders.

Specific objectives have been developed for the following values:

**CA Fish species**

**CB Tourism**

**CC Beaches**

Table 11 presents the quick SWOT analysis of the theme on supporting the local communities and sustainable use of natural resources.

**Table 11: SWOT analysis for supporting the local communities and sustainable use of natural resources**

<b>STRENGTHS</b>	<b>WEAKNESSES</b>
<ul style="list-style-type: none"> <li>- existence of Fisheries Management Organization (OMP)</li> <li>- existence of ranger service for monitoring illegal activities</li> <li>- hospitality and local offer (food)</li> <li>- ongoing development of Tourism Management Plan</li> </ul>	<ul style="list-style-type: none"> <li>- weak law enforcement</li> <li>- presence of illegal fishing</li> <li>- unused potential for sustainable tourism</li> <li>- unorganized visitation</li> <li>- uncontrolled development</li> <li>- focus on sun and beach</li> <li>- waste management</li> </ul>
<b>OPPORTUNITIES</b>	<b>THREATS</b>
<ul style="list-style-type: none"> <li>- well recognized destination for sun and beach</li> <li>- local business offer (rentals, hotels, restaurants, bars)</li> <li>- increased value of fish (as it is coming from PA)</li> <li>- government and donors support</li> <li>- increased promotion of MPA</li> <li>- promotion of nature-based tourism</li> </ul>	<ul style="list-style-type: none"> <li>- uncontrolled development</li> <li>- inadequate number of fishermen</li> <li>- government policies supporting only sun and beach tourism</li> <li>- waste management</li> <li>- too many boats (conflict with local fishermen)</li> </ul>

<b>THEME: SUPPORTING LOCAL COMMUNITIES AND SUSTAINABLE USE OF NATURAL RESOURCES</b>																
<b>GOAL:</b> Support local community development by promoting viable fishing and sustainable tourism practices that ensure wise use of natural resources.																
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10	
<b>SPECIFIC OBJECTIVE:</b> Improve fish stocks through maintaining number of species and increasing fish population abundance in the next 5 years																
<b>INDICATOR OF OBJECTIVE:</b> Maintained number of fish species and improved population abundance by 10% in relation to baseline in the next 5 years (monitoring of number of fish species and population abundance)																
Baseline assessment of fish stocks and then regular monitoring	CA1		Baseline assessment of fish stocks report	Fish stocks monitoring results	1			x		x		x		x	University, FMO	
Socio-economic study on local fisheries (income, gear, fishing effort) and then monitoring	CA2		Report of the socio-economic study on local fisheries	Results of socio-economic monitoring	1			x		x		x		x	University, FMO, CSOs	
Surveillance of illegal fisheries & informing inspection	CA3	Surveillance reports (informing inspection)	Surveillance reports (informing inspection)	Surveillance reports (informing inspection)	1	x	x	x	x	x	x	x	x	x	Ranger Service	
Regular law enforcement activities of police and inspectorate (control over the sea enforced by authorities)	CA4	Meeting with Ministry of Agriculture and Police organized	Number of fines (illegal fishing)	Number of fines (illegal fishing)	1	x	x	x	x	x	x	x	x	x	Police, Inspectorate	
Establishing an association for artisanal fishermen (as they are not in FMO and not represented)	CA5	Assessment of interest of fishermen for association establishment	Association for artisanal fishermen established; Annual reports		3	x	x	x							Fishermen, CSOs	

<b>THEME: SUPPORTING LOCAL COMMUNITIES AND SUSTAINABLE USE OF NATURAL RESOURCES</b>																		
<b>GOAL:</b> Support local community development by promoting viable fishing and sustainable tourism practices that ensure wise use of natural resources.																		
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS		
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10			
Promotion of values of local fisheries: setting up of label system for fish products	CA6			Label system for fish products set up	3									x	x	x	x	Fishermen, CSOs, Ministry of Agriculture
<b>SPECIFIC OBJECTIVE:</b> Diversified and quality tourist offer & achieved sustainable level of tourism on beaches, caves and diving sites during management plan timeframe (10 years)																		
<b>INDICATOR OF OBJECTIVE:</b> Number of tourist offers and services (businesses) increased; Increased income with same level of tourism; Increased visitor satisfaction (questionnaires)																		
Establish list of attractions and then update it regularly	CB1	List of attractions	Updated list of attractions	Updated list of attractions	1	x		x		x				x			x	CSOs, tour operators, local authorities
Facilitate clear and easy procedures for access of tourist operators (by sea and land)	CB2	Meeting with the Ministry of Defence organised	Procedures for accessing the area agreed (by land and sea)		1	x	x											Ministry of Defence, Ministry of Tourism, CSOs, tour operators
Facilitate allowing free access for the tourists to the MPA by land and sea	CB3	Meeting with the Ministry of Defence organised	Free access to the MPA by land and sea enabled		1	x	x											Ministry of Defence, Ministry of Tourism, CSOs, local authorities

<b>THEME: SUPPORTING LOCAL COMMUNITIES AND SUSTAINABLE USE OF NATURAL RESOURCES</b>																
<b>GOAL:</b> Support local community development by promoting viable fishing and sustainable tourism practices that ensure wise use of natural resources.																
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10	
Strengthening the collaboration between touristic operators for the quality of touristic packages and products (standards, quality service)	CB4	Meeting between touristic operators organised and collaboration agreed	Study tours organized; Quality standards for MPAs provided to touristic operators	Study tours, experience exchange; Quality standards adopted by some operators	1	x	x	x	x	x	x	x	x	x	x	Touristic operators, CSOs, Agency of Tourism (ATA)
Improve collaboration between national operators and local touristic operators	CB5	Pre-season meeting/pre-season event organized for national operators to come locally	Pre-season meeting/ event organized for national operators to come locally	Pre-season meeting/pre-season event organized for national operators to come locally	1	x	x	x	x	x	x	x	x	x	x	Touristic operators, CSOs, Agency of Tourism (ATA)
Introducing quality standards of touristic businesses (licensing system)	CB6		Assessment of introduction of licensing system of tourist businesses (study report)	Activities based on the study results	3					x	x	x	x	x	x	Touristic operators, CSOs, Agency of Tourism (ATA), Ministry of Tourism, local authorities
Certification (GSTC criteria) of sustainable tourism destination	CB7	Start preparatory activities for certification	At least 1 certified service	At least 5 certified services	3	x	x	x	x	x						Tour operators, CSOs, local authorities

<b>THEME: SUPPORTING LOCAL COMMUNITIES AND SUSTAINABLE USE OF NATURAL RESOURCES</b>																
<b>GOAL: Support local community development by promoting viable fishing and sustainable tourism practices that ensure wise use of natural resources.</b>																
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10	
Info-centre on Karaburuni (kiosk)	CB8		Feasibility study; info-centre constructed		2			x	x	x						Tour operators, CSOs, local authorities
Feasibility study to introduce a fee system	CB9		Feasibility study to introduce a fee system		2				x							University, CSOs
Support professional diving centres (promotional materials, events, etc.)	CB 10	Meeting with local diving centres organized and agreement on joint activities	Number of events for divers and visitor satisfaction surveys	Number of events for divers and visitor satisfaction surveys	3	x	x	x	x	x	x	x	x	x	x	Diving centres, CSOs
Propose legal framework for regulation of diving activities (including code of conduct for divers)	CB 11	Proposal of legal framework for regulation of diving	Adopted legal framework for regulation of diving		1	x	x									CSOs
List of diving sites and set up infrastructure (buoys)	CB 12		Agree list of diving sites; set up buoys		1		x	x	x							CSO, diving centres

<b>THEME: SUPPORTING LOCAL COMMUNITIES AND SUSTAINABLE USE OF NATURAL RESOURCES</b>																
<b>GOAL:</b> Support local community development by promoting viable fishing and sustainable tourism practices that ensure wise use of natural resources.																
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10	
Surveillance and monitoring of diving activities, including number of divers per site (in cooperation with diving centres)	CB 13		Monitoring system agreed with diving centres; Ranger reports	Monitoring reports on number or divers (diving centres); Ranger reports	1			x	x	x	x	x	x	x	x	Ranger Service, diving centres
<b>SPECIFIC OBJECTIVE:</b> Quality tourist experience, including clean, not overcrowded and quiet natural beaches during management plan timeframe (10 years)																
<b>INDICATOR OF OBJECTIVE:</b> Improvement of visitor satisfaction related to beaches (questionnaires)																
Beach cleaning before season	CC1	Annual report on beach cleaning	Annual report on beach cleaning	Annual report on beach cleaning	1	x	x	x	x	x	x	x	x	x	x	CSOs, local authorities, businesses
Conduct a carrying capacity study for boats (including excursion boats, local boats and nautical tourists) and tourists in the area	CC2		Carrying capacity study		2			x	x							Scientists, Experts
Monitor number of tourists at beaches during summer season	CC3	Monitoring reports on number of tourists	Monitoring reports on number of tourists	Monitoring reports on number of tourists	1	x	x	x	x	x	x	x	x	x	x	Ranger Service
Monitoring of sea water quality during summer season	CC4	Water quality monitoring reports	Water quality monitoring reports	Water quality monitoring reports	2	x	x	x	x	x	x	x	x	x	x	Public Health Institute

## Theme D: Awareness and education

Raising awareness about the MPA values among visitors and general public should be one of the main activities of the park administration. This can be done through annual events, through design and distribution of information tools (such as leaflets, brochures, codes of conduct, etc.), setting-up of the information boards, etc.

There are no thematic routes, educational trails, visitor centres or info-points in the surrounding area of the MPA, namely Karaburuni peninsula and Sazani island. By gradually improving the offer, visitors, but also local community would get a better insight into the natural and cultural values of the area.

Education of stakeholders on issues related to their contribution to improved management is also an important aspect of MPA management. This could include training policemen in relation to protected species and similar, teaching sustainable fishing methods to fishermen, training of local community on quality of offer, etc.

Specific objectives have been developed for the following values:

**DA Awareness raising**

**DB Education**

Table 12 presents the quick SWOT analysis of the theme on awareness and education.

**Table 12: SWOT analysis for awareness and education**

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>- many environmental CSOs</li> <li>- University of Vlora</li> <li>- Project support</li> <li>- Rich biodiversity and cultural and historical values assist in promotion and education</li> </ul>	<ul style="list-style-type: none"> <li>- no communication effort from the Management Administration</li> <li>- inadequate resources for awareness campaigns</li> <li>- lack of experience in promotion of nature-based tourism</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>- donor support</li> <li>- social media channels (Facebook, Twitter,...)</li> <li>- school visits (within curriculum)</li> <li>- new tourism development strategy</li> </ul>	<ul style="list-style-type: none"> <li>- no interest from stakeholders (school, tourist agency, tour operators)</li> <li>- lack of financial resources</li> </ul>

<b>THEME: AWARENESS AND EDUCATION</b>																
<b>GOAL:</b> Raise awareness and improve knowledge on the importance of biodiversity conservation and sustainable use of natural resources, and promote values and benefits of MPAs.																
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10	
<b>SPECIFIC OBJECTIVE:</b> Raise awareness about MPA values among visitors and general public																
<b>INDICATOR OF OBJECTIVE:</b> Degree of awareness of all target groups raised (questionnaires)																
Raising awareness and disseminating information on the MPA, its values and status to the local community and tourists (including quantity of litter on beaches, water quality, zoning, etc.) through website and media	DA1	Information distributed through media	Information distributed through media and annual meetings	Information distributed through media and annual meetings	1	x	x	x	x	x	x	x	x	x	x	Tour operators, CSOs, local authorities
Develop and distribute information tools on MPA, values (Posidonia, protected species, charismatic species), and threats (how to anchor properly, invasive species, etc.)	DA2	Information tools on values developed	Information tools on MPA and threats developed; Number and type of information tools distributed	Number and type of information tools distributed; presenting monitoring results	1	x	x	x	x	x	x	x	x	x	x	CSOs
Develop and distribute information tools for restaurants on restricted/protected species (e.g. dates), etc.	DA3	Information tools for restaurants developed	Number and type of information tools distributed	Number and type of information tools distributed	1	x	x	x	x	x	x	x	x	x	x	Tour operators, CSOs
Develop and distribute information leaflets in order to raise awareness of divers (code of conduct)	DA4	Information leaflets produced	Number of information leaflets distributed	Number of information leaflets distributed	1	x	x	x	x	x	x	x	x	x	x	Diving centres, CSOs

<b>THEME: AWARENESS AND EDUCATION</b>																
<b>GOAL:</b> Raise awareness and improve knowledge on the importance of biodiversity conservation and sustainable use of natural resources, and promote values and benefits of MPAs.																
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10	
Design, production and setting-up of information boards; maintenance of the boards	DA5		Information boards designed and set up	Regular maintenance of the boards	2	x	x									Local authorities, tour operators
Design and setting-up of the underwater trail	DA6		Underwater trail designed and set up	Regular maintenance of the underwater trail	3	x	x									Local authorities, diving centres, CSOs
<b>SPECIFIC OBJECTIVE:</b> Educate stakeholders on issues related to their contribution to improved MPA management																
<b>INDICATOR OF OBJECTIVE:</b> Opinion of the trainees about the knowledge gained through education activities (evaluation questionnaires)																
In cooperation with local schools develop and implement education programmes	DB1		Education programs	Number and type of education activities; number of users	2			x	x	x	x	x	x	x	x	Local schools, CSOs, tour operators
Raising awareness and training policemen in areas related to MPA management	DB2		Meeting with the police organized; Number of trained policemen	Number of trained policemen	2				x	x	x	x	x	x	x	Police, CSOs, local authorities
Teaching sustainable fishing methods to young artisanal fishermen (education of fishermen on usage of gear)	DB3		Meeting with the Ministry of Agriculture	Number of fishermen that took the training	1		x		x		x		x		x	Fishermen, FMO, CSOs

<b>THEME: AWARENESS AND EDUCATION</b>																
<b>GOAL:</b> Raise awareness and improve knowledge on the importance of biodiversity conservation and sustainable use of natural resources, and promote values and benefits of MPAs.																
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10	
			organized; Number of fishermen that took the training													
Capacity building of local community to provide quality offer	DB4			Number of training events per topic and number of participants	<b>2</b>						x	x	x	x	x	

## Theme E: Management, administration and sustainability

National Marine Park Karaburun-Sazan is the first MPA in Albania and jurisdiction of the park administration still has to be implemented in the field. Park administration has no authority over the land in the area, since National Marine Park covers marine area only.

In order to have effective management, establishing Management Administration and hiring staff is the first and foremost activity that has to be undertaken.

Investment into the education of the staff would enable good implementation of the Management Plan, as well as sustainable management of the area. Good law enforcement, which includes surveillance done by rangers, is a key for conservation and monitoring of a protected area, therefore education of rangers is essential for effective enforcement. Different courses for the PA staff should be planned, depending on the background and experience of hired staff. Also, acquisition of adequate equipment, such as office equipment, boats, GPS, etc. is essential for effective implementation of the Management Plan.

Good communication and cooperation of the Management Administration with different authorities and local community is a prerequisite for good management. Activities related to this can include regular meetings with local stakeholders before and after tourist season, establishing and supporting cooperation with different authorities, including police, inspections, military, local and regional authorities, etc.

Specific objectives have been developed for the following values:

**EA Management Administration, capacity building and equipment**

**EB Communication and cooperation**

Table 13 presents the quick SWOT analysis of the theme on management, administration and sustainability.

**Table 13: SWOT analysis for management, administration and sustainability**

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"><li>- long-term experience in PA management (Forest Department) and reputation</li><li>- existing infrastructure (PA department of Forestry Service and Llogara Park Office)</li><li>- partnerships (MCPA Project, UNDP, WWF, INCA,...)</li></ul>	<ul style="list-style-type: none"><li>- lack of human and financial resources</li><li>- lack of equipment</li><li>- poor relations with stakeholders</li><li>- no specific knowledge and capacities on marine issues</li><li>- not clear jurisdictions – too many institutions</li></ul>

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>- support from donors and projects</li> <li>- regional networks – Mediterranean MPAs</li> <li>- improvement of legislative framework (more supportive of MPAs)</li> <li>- national tourists (visitors) looking for more than sun and beach (potential for local restaurants, agro-tourism, nautical tourism, diving)</li> <li>- establishment of Coastal Management Agency</li> </ul>	<ul style="list-style-type: none"> <li>- current trends in development (unregulated development)</li> <li>- institutional setting not clear</li> <li>- financing not appropriate</li> <li>- lack of quality staff</li> </ul>

<b>THEME: MANAGEMENT, ADMINISTRATION AND SUSTAINABILITY</b>																
<b>GOAL:</b> Ensure effective management of MPA by building capacities, providing necessary human and financial resources, and improving communication and cooperation with relevant stakeholders.																
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10	
<b>SPECIFIC OBJECTIVE:</b> Establish a Management Administration, hire staff, raise their level of knowledge and skills and adequately equip them in relation to the existing state in 2014.																
<b>INDICATOR OF OBJECTIVE:</b> Overview of expert training and list of equipment																
Establishing the Management Administration and hiring staff	EA1	Management Administration set up and first employees hired	New employees	New employees	1	x	x	x	x	x	x	x	x	x	x	Ministry of Environment
Strengthen capacity of the Management Administration through staff training (participation in CB program for PAs)	EA2		Courses according to the needs (number of participants, certificates, etc.)	Courses according to the needs (number of participants, certificates, etc.)	1			x	x	x	x	x	x	x	x	University, CSOs
Share experiences through participation in national and international workshops, conferences (expert and scientific) and associations	EA3		List of participation and membership	List of participation and membership	2			x	x	x	x	x	x	x	x	Projects, national and international associations
Supply and maintain the equipment necessary for quality performance of experts and rangers	EA4	Inventory of equipment	Inventory of equipment	Inventory of equipment	1	x	x	x	x	x	x	x	x	x	x	Conservation Service, Ranger Service

<b>THEME: MANAGEMENT, ADMINISTRATION AND SUSTAINABILITY</b>																
<b>GOAL:</b> Ensure effective management of MPA by building capacities, providing necessary human and financial resources, and improving communication and cooperation with relevant stakeholders.																
ACTIVITY	Act. No.	IMPLEMENTATION INDICATORS			Priority	IMPLEMENTATION TIMEFRAME (YEAR)										PARTNERS
		SHORT TERM	MEDIUM TERM	LONG TERM		1	2	3	4	5	6	7	8	9	10	
<b>SPECIFIC OBJECTIVE:</b> Improve communication and cooperation of the Management Administration with the local residents and authorities.																
<b>INDICATOR OF OBJECTIVE:</b> Opinion of the local community about the degree of involvement and familiarity with the work in the MPA																
Improve communication and coordination with local stakeholders through regular meetings before and after the tourist season (University of Vlora, Marina of Orikum, local authorities, businesses, FMOs, CSOs, etc.)	EB1		Agreed joint activities, minutes of meetings, list of participants	Agreed joint activities, minutes of meetings, list of participants	1			x	x	x	x	x	x	x	University of Vlora, Marina of Orikum, FMOs, CSOs, etc.	
Strengthening the collaboration with administration on local and regional level	EB2	Regular meetings with the Municipalities and Prefecture	Regular meetings with the Municipalities and Prefecture	Regular meetings with the Municipalities and Prefecture	1	x	x	x	x	x	x	x	x	x	Local and regional government and public sector	
Cooperate with police, fishing inspectorate and military with the aim to improve law enforcement	EB3	Meeting with the police and fishing inspectorate organized; cooperation agreed	Minutes of meetings, correspondence	Minutes of meetings, correspondence	1	x	x	x	x	x	x	x	x	x	Police, Fishing inspectorate	
Improvement of fishing management by establishing collaboration between Municipality and Fishing Management Organisation (in enforcing the control over the area	EB4		Meeting between Municipality and FMO organized	Reports from regular meetings between Municipality and FMO	3				x	x	x	x	x	x	Local authorities, FMOs, CSOs	

## Management zones of the NMP Karaburun-Sazan

### General notes

Main source for this section is the Guideline on the approach and criteria for zoning of the territory within a protected area (GIZ/GOPA 2013).

Zoning is a very important aspect of the management and conservation of protected areas.

Primary management objectives for IUCN Category I and II are scientific research, wildlife protection, preservation of species and genetic diversity, maintenance of environmental services, tourism and recreation. In managing protected areas or areas designated for conservation, it is necessary:

- To protect sensitive biodiversity elements of the various eco-systems, habitats and endangered species from disturbance
- To separate incompatible, threatening and altering uses and
- To prioritize the various sustainable uses in line with biodiversity conservation objectives and management purposes in different areas.

There are different protection levels for different types of PAs. The general principle is to give the highest protection level to sites with high biodiversity values, ecologically important landscapes or sites with cultural or archaeological features. But limitation of activities is also higher in these zones. These limitations have great impact on interested parties and users of these areas. So, when defining a protected area, it is important to maintain a balance between users and stakeholders needs against conservation needs. Local communities are the main success factors for conservation, wise use of resources and effective PAs management. Also, the correct definition of zones should fulfil the management objectives of the area and be accepted by local communities.

An important benefit of zoning as a management tool is that it allows protected area authorities, managers and other stakeholders to recognize and manage a particular area for its multiple values and purposes depending on the values being protected and changing conditions, and it creates flexibility for the manager.

Moreover, protected area authorities should also have the duty to coordinate with other public and private entities that may be planning or undertaking activities, based on the zoning concept, and inform them of the conservation importance of these areas, potentially significant impacts and the need to undertake an environmental impact assessment (EIA).

### Development of the zonation plan

Zoning of an area is a land use (forest, agriculture, pasture, water, marine, unproductive, urban, settlements, etc.) regulation approach that consist of division of an area in zones shown in a map and differing from the type and intensity of their use according to objectives for the conservation of biodiversity and ecological values balanced with sustainable development.

The process of zoning the territory of a protected area is too complex, delicate and requires the proper definition of actions, scientific, technical and material support, integration of best experiences with concrete socio-economic developments, general territorial planning master plans, policies and programs for nature protection and respective priorities. The development of the zoning process considers the following main objectives:

- To ensure protection for critical and/or flagship habitats and species, ecosystems and ecological processes;
- To divide conflicting human activities;
- To protect landscape and/or cultural values of the protected area allowing for a rational human use spectrum;
- To preserve appropriate areas or particular human uses through minimizing impacts of these uses on the protected areas;
- To keep some parts of the protected area in their natural state, undisturbed by human influence, only for scientific research and education purpose.

The zoning plan for the territory of the National Marine Park Karaburun-Sazan followed these steps:

- a. Collection of complete necessary information on nature, biodiversity, use of the area, community needs and livelihood, etc.
- b. Development of the draft zoning plan together with interested stakeholders and local communities.
- c. Review of the draft zoning plan, including description of zones and more detailed regulation of activities.
- d. Finalizing the draft zoning plan.

For the development of the zoning proposal, a 2-day workshop was organized in Vlora, where stakeholders were informed on the zoning concept and regulatory framework for zoning in MPAs and a joint zoning proposal for Karaburun-Sazan was developed. The proposal was developed based on the elements that were previously developed, such as management goals, objectives, activities, and values and threats / uses.

Based on the “Guidelines on the approach and criteria for zoning of the territory within a protected area” that were developed by GIZ for the Ministry of Environment, which were slightly revised, the group came with the proposal of four management zones and their placement in space. In each of the zones, the use of natural resources and permitted and prohibited activities have been defined. Also, activities that need to be regulated have been listed and their regulation described.

In defining management zones the following criteria were considered:

- Biological and landscape values
- Ecological sensitivity
- Internal and external factors influencing the management
- Existing protection management and infrastructures
- Existing wildlife
- Existing tourism infrastructures
- Sustainable use concept
- Physical attributes necessary for management
- Requirements of management support activities, such as research.

The identification of zones and their delimitations was based first of all on:

- the state of nature
- the occurrence of rare and endangered species and habitats and
- the state of naturalness.

Only then did socio-economic aspects come into account, such as:

- intensity of use
- kind of use
- pressure of human activities
- ownership
- use rights
- possibilities to find agreements with users and residents, etc.

Zoning of the sea follows a specific protection regime, which is different from the terrestrial part. At sea, zones are established according to the types of activities undertaken, their effects on the sea surface/water column/sea bottom, and their compatibility with other activities allowed in the same area.

Demarcation of internal zones may be useful to establish demarcation signs at very sensitive borders of some special zones, to make clear where the respective regulations come in to power. The best way to make clear and

unmistakable where protected areas and their zones are situated is to select natural (or man-made) boundaries to mark their limitations. Thus it is easy to explain where protected areas and their zones are situated as well as to know where these limits are on the ground. Typical such boundaries are ridges, valleys, rivers, natural or man-made abrupt changes in vegetation and/or use-structures, traffic structures such as roads, railway, channels, etc.

Another quite inexpensive way to provide information about the position of protected areas and their zones is to erect information tables at nearby public places. These tables should show a detailed map with the outer border of the protected area and the inner limitations of the zones. Additionally, these tables may present information about the nature of the territory and the regulations for the entire protected areas and for the zones in detail.

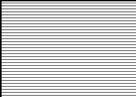
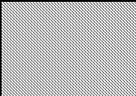
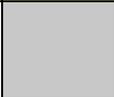
### Management zones

In this framework, considering real condition in the country, management categories and past experiences and adopting best international practices, the following zoning system can be used.

1. **Core zone (CZ)** where the first level of protection is applied
2. **Effective management zone (EMZ)**, where the second level of protection is applied.
3. **Recreation Zone (RZ)**, where the third level of protection is applied
4. **Sustainable Development Zone (SDZ)**, where the third level of protection is applied.

This system is in line with the Guideline on the approach and criteria for zoning of the territory within a protected area (GIZ/GOPA 2013), which was developed by GIZ for the Ministry of Environment. Table 14 shows zone coverage (area and percentage) and marking of different zones in maps.

**Table 14: Zone coverage and marking of different zones in maps**

No.	Zone name	Acronym	Area (ha)	Percentage (%)	RGB code	Colour	Black and white
1	Core Zone	CZ	781.2	6.29	Red 0 Green 200 Blue 0		
2	Effective Management Zone	EMZ	8579.1	69.03	Red 135 Green 225 Blue 135		
3	Recreational Zone	RZ	1926.8	15.50	Red 255 Green 255 Blue 100		
4	Sustainable Development Zone	SDZ	1140.9	9.18	Red 200 Green 200 Blue 200		

Guideline on the approach and criteria for zoning of the territory within a protected area (GIZ/GOPA 2013) proposes one additional zone – Traditional Use Zone (TUZ), but it was agreed at the that TUZ is similar to SDZ and is actually more significant for terrestrial protected areas. So, TUZ was joined with the SDZ.

### **Core Zone (CZ)**

This includes areas with very high nature performance, with little or no disturbance from human activities as: 1) the area around Sazani island not more than 1 km off shore; 2) western part of Karaburuni up to 200 m offshore.

In the Northern, Western and Southern part (till Kepi Jugor) of Sazani island there are important reefs and coralligenous formations. There are also interesting reefs in the eastern part of the island next to Kepi i Shenkollit. The southern coast of the island is cover with Posidonia meadows. The western side of Karaburuni is also rich in coralligenous formations and interesting underwater geomorphological features, reefs and cliffs.

The priority here is the conservation of nature, biodiversity (Posidonia meadows, coralligenous formations), nature monuments (Falezat e Sazani), endangered species (red coral, date mussel, dusky grouper, starfish, common dolphin, loggerhead turtle, etc.), unique land and seascape (reefs and cliffs), extraordinary natural geomorphologic and paleontological features without any permanent support intervention. These areas are managed in a way that preserves their natural status, maintains dynamic evolution of genetic resources and they are used for scientific purposes only. This zone benefits from strict protection character. The area supports scientific studies and research; low

level monitoring is allowed by special permit; and visitation, if any, is very strictly regulated.

Normally, public contacts are limited and socio-economic and recreational activities are totally forbidden. Natural processes with minimal management interventions are allowed and there is no infrastructure development. The area should be free of disturbances from any socio-economic activity, military trainings, pollution and discharges from ships, or dumping of any type of material (metals, glass, etc.) and waste that remains at the sea bottom.

Daily visits are strictly limited in number and sites. Special permits by PA administration are needed. Guided tours are allowed only on specified routes with very low impact on a small part of the area covering a maximum 10% of it, under guidance of PA administration at a level that serves physical and spiritual wellbeing and preserves wild nature qualities of the area for present and future generations.

The first level of protection is applied to this zone. Enforcement is ensured by PA administration patrolling and implementing strictly defined rules and approaches.

**Allowed activities:** No activity should occur within the Core Zone except regulated activities listed below.

**Not allowed activities:** It is strictly not allowed to perform the following activities within the Core Zone: diving, swimming and snorkelling (beaches and sun bathing), fishing, boating (excursions), anchoring, mooring, sailing, kayaking, any kind of water sports, maritime traffic, any kind of infrastructure development, mineral extraction, collection of plants, minerals, stones, paleontological findings, development of aquaculture and any military activities.

**Regulated activities:** The following activities can be performed after a special permit is issued by the PA administration: scientific research (special permit and limited numbers of scientists allowed), monitoring (special permit is needed), waste removal, visitation only by guided tours at specified routes under guidance of PA administration (strictly limited in numbers and sites), diving is allowed only for scientific research and monitoring purposes.

### **Effective Management Zone (EMZ)**

This includes areas with high nature performance with very important natural habitats or biotopes of rare and endangered species. The priority is preservation of biodiversity, natural and scenic areas of national and international importance for spiritual, scientific, educational purpose and

integrating protected area management with the sustainable and balanced use.

The zone includes 1) the area around Sazani island that is not included in the Core Zone; 2) the area around Karaburuni peninsula from Shen Vasili Cape to the south end of the park that is not included in other zones.

This zone is used for areas featuring ecosystems, landscape values and other natural values where activities that are not against the protection purpose and management objectives can occur. Only educational environmental ecotourism is allowed according to clear rules and there should be limitations for permitted areas and trails. Natural processes with minimal management interventions are allowed and there is no infrastructure development. The area should be free of disturbances from any socio-economic activity, military trainings, pollution and discharges from ships, or dumping of any type of material (metals, glass, etc.) and waste that remains at the sea bottom.

The area supports scientific studies and research and monitoring of biodiversity status and sustainable use of natural marine resources.

In this area some recreational activities are allowed, such as sailing, kayaking and other no motor water sports, but no massive sports are allowed. Diving is allowed within designated diving sites at Pulebardha Cape and South Cape, where several shipwrecks are located. Wildlife watching of whales, dolphins, marine turtles etc. is also allowed along designated routes and sites, but with certain restrictions (code of conduct: swimming with animals and feeding them is not allowed; animals should not be approach from front, but from behind; boat should approach them slowly and sail in parallel to them, engine should be turned off; they should not be approached more than 50 m – enough space has to be left for them; maximum time to stay with them is 30 minutes).

The second level of protection is applied to this zone. Enforcement is ensured by PA administration patrolling and implementing strictly defined rules and approaches.

**Allowed activities:** No activity should occur within the Effective Management Zone except regulated activities listed below.

**Not allowed activities:** It is strictly not allowed to perform the following activities within the Effective Management Zone: swimming and snorkelling (beaches and sun bathing), fishing, anchoring, maritime traffic, any kind of infrastructure development, mineral extraction, collection of plants, minerals, stones, paleontological findings, development of aquaculture and any military activities.

**Regulated activities:** The following activities can be performed after a special permit is issued by the PA administration: scientific research (special permit and limited numbers of scientists allowed) and monitoring (special permit is needed), waste removal, diving (diving sites should be specified and diving is allowed only at those specific sites, only guided tours, limited number of divers, monitoring by PA administration), boating excursions (limited and guided boat excursions, special permit for boats, time and access to the area should be defined by PA administration), sailing and mooring (some areas should be off limits – such are diving sites and areas designated for water sports; signs for boats should be put), kayaking, water sports (no use of jet skis and other motor water sports; clear division of water sport zones and swimming areas), visitation (guided tours, limited in numbers), wildlife watching (respecting code of conduct).

### **Recreational zone (RZ)**

This zone has a good nature performance. It is defined as a zone containing suitable terrestrial, aquatic and marine areas where the combination of activities, traditional products of the community, businesses and tourism is in line with the nature and biodiversity conservation standards. It includes 1) the area from Shen Janit cape to Galloveci cape; 2) from Kepi i Gjuhezes to Moli i Jugut and south to Gjiri i Bristanit; 3) from Bristani bay to Duk Gjoni cave, and 4) from Llovizi beach to Grama bay and south to San Andrea bay.

This zone should enable public enjoyment through tourism and recreational activities in line with the character and size of the essential features of the area, promoting scientific and educational activities that will help the long-term development and wellbeing of local people and provide wide public support for nature conservation. The zone has wide potentials for education, wilderness recreation, sports and facilities that respect the protected area functions and ecological values.

Within the park there are 4 caves (Haxhi Ali next to Moli i Veriut; Duk Gjoni 2 km from Bristani bay; Water cave and Inglizi cave about 1 km north from Inglizi bay). In the underwater area between Galloveci cape and Gjuheza cape (especially close to Moli i Veriut) there are at least 5 shipwrecks. Another shipwreck is next to Bristani bay. The area has many historical and cultural values.

There are several diving sites identified in this area: 1) diving site at Moli i Veriut next to Haxhi Ali cave; 2) diving site between Gjuheza cape and Moli i Jugut; 3) diving site at Bristani bay next to Water cave; 4) diving site at Inglizi bay; and 5) diving site at San Andrea bay at the southern end of the park. This area includes an observation point for whales, dolphins and marine turtles about 4

km south of Gjuheza cape. Wildlife watching of these animals is allowed with certain restrictions (code of conduct: swimming with animals and feeding them is not allowed; animals should not be approach from front, but from behind; boat should approach them slowly and sail in parallel to them, engine should be turned off; they should not be approached more than 50 m – enough space has to be left for them; maximum time to stay with them is 30 minutes).

Also this zone includes several small beaches, such as: Shën Vasili cape, Shën Jani cape, Bristani bay (3 km north of the bay), Llovizi bay and Grama bay. Next to Shen Vasili Cape and Shen Jani cape there are several small docks and tourism business services that can be used for anchoring and servicing of small visitor boats. Within this area there are several caves (Grama Bay) and other cultural and historical sites with great interest for visitors. At Grama bay there are some interesting archaeological remains. Other possible anchoring sites are defined at Shen Vasili cape, Moli i Veriut, Gjuheza Cape and Bristani bay as well as at some of the small beaches.

As for the water sports, there should be a clear division of water sport zones and swimming areas. Also, no jet skis are allowed in any part of the MPA. Other motor water sports and other water sports are allowed in the Recreational Zone.

The third level of protection is applied to this zone. The enforcement is enabled in cooperation with local authorities and PA administration patrolling and implementing strictly defined rules and approaches.

**Allowed activities:** The following activities can be performed freely within this zone without any prior authorisation: sailing (some areas should be off limits, such as diving sites; signs for boats should be put, no waste discharges, carrying capacity for the number of boats must be defined by the PA administration), swimming and snorkelling, anchoring, mooring, kayaking, water sports (but without jet skies, as these are not allowed in any zone), and visitation.

**Not allowed activities:** It is strictly not allowed to perform the following activities within the Recreational Zone: maritime traffic, mineral extraction, and collection of plants, minerals, stones, paleontological findings, development of aquaculture and any military activities.

**Regulated activities:** the following activities can be performed after a special permit is issued by the PA administration: scientific research and monitoring, diving (diving sites should be specified and diving is allowed only at those specific sites, only guided tours, limited number of divers, monitoring by PA administration), fishing (only sport (hooks) and traditional fishing is allowed, special permit for fishing must be approved by the PA administration, no commercial fishing), boating excursions (limited and guided boat excursions, special permit for boats, time and access to the area should be defined by PA

administration), wildlife watching (respecting code of conduct), infrastructure development (infrastructure development should be in accordance with Development Plans and Management Plan, no permanent buildings, only "light" infrastructure is allowed, such as moorings and/or small docks (for 2-3 boats), platforms (use environmental friendly construction material), no massive sports and no massive tourism infrastructure).

### ***Sustainable Development Zone (SDZ)***

The area has a satisfactory nature performance. It include the park area from Kepi i Shen Vasilit till Kepi i Gjuhezes. The priority is harmonizing biodiversity, nature and landscape protection by coordinating protected area management with sustainable socio-economic development.

This zone should enable a harmonic interaction of nature and culture through preservation of landscape quality, continuous traditional use of resources, social and cultural and traditional customs manifestation, and avoiding and preventing where necessary occurrence of activities that are inappropriate in size and/or content.

Among the main goals of this zone is also to provide economic benefits and contribute to the improved livelihood of local people by using natural goods and services or benefits coming from appropriate forms of tourism. Through sustainable balanced long-term use the zone will give an opportunity to local people within the protected area to gain economic benefits that are not against other management objectives. So, the zone supports the livelihood and economic activities that are in harmony with nature and preservation of spiritual and cultural constituency of the local people.

This zone should contribute to regional and national development, promote management practices aiming at sustainable production and protect basic natural resources from other types of land uses that can be harmful to the biological diversity of the area. Urban development of different objects or infrastructure for the needs of local people and businesses is done in accordance with the Management Plan and Development Plans approved by National Territorial Council.

Along with socio-economic development, the zone should maintain and preserve necessary habitat condition for the protection of species, groups of species, biotic communities or physical features of the environment that require special human intervention for an effective management. The area should support facilitation of scientific research and environmental monitoring of sustainable use of natural resources. Similarly, it should eliminate where

necessary and avoid use or seize of territory with activities that are against the purpose the area is being protected for.

Apart from this, the zone should enable public enjoyment through tourism and recreational activities in line with the character and size of the essential features of the area promoting scientific and educational activities that will help the long-term development and wellbeing of local people and provide wide public support to nature conservation.

The third level of protection is applied to this zone. The enforcement is enabled in cooperation with local authorities and PA administration patrolling and implementing strictly defined rules and approaches.

**Allowed activities:** The following activities can be performed freely within this zone without any prior authorisation: sailing (some areas should be off limits, such as areas designated for water sports; signs for boats should be put, no waste discharges, carrying capacity for the number of boats must be defined by the PA administration), swimming and snorkelling, kayaking, anchoring, mooring and visitation.

**Not allowed activities:** It is strictly not allowed to perform the following activities within the Sustainable Use Zone: maritime traffic, mineral extraction, and collection of plants, minerals, stones, paleontological findings, development of aquaculture and any military activities.

**Regulated activities:** the following activities can be performed after a special permit is issued by the management PA administration: scientific research and monitoring, diving (diving sites should be specified and diving is allowed only at those specific sites, only guided tours, limited number of divers, monitoring by PA administration), fishing (only sport (hooks) and traditional fishing is allowed, special permit for fishing must be approved by the PA administration, no commercial fishing), boating excursions (limited and guided boat excursions, special permit for boats, time and access to the area should be defined by protected areas administration), water sports (no use of jet skis and other water motor sports; clear division of water sport zones and swimming areas), wildlife watching (respecting code of conduct), infrastructure development (infrastructure development should be in accordance with Development Plans and Management Plan, no permanent buildings, only "light" infrastructure is allowed as moorings and/or small docks (for 2-3 boats), platforms (use environmental friendly construction material), no massive sports and no massive tourism infrastructures).

### ***Map of zones and regulation of activities***

Zoning map of the National Marine Park Karaburun-Sazan is presented in Figure 25. A joint map of values, threats and zones of the National Marine Park Karaburun-Sazani is shown in Annex 5.

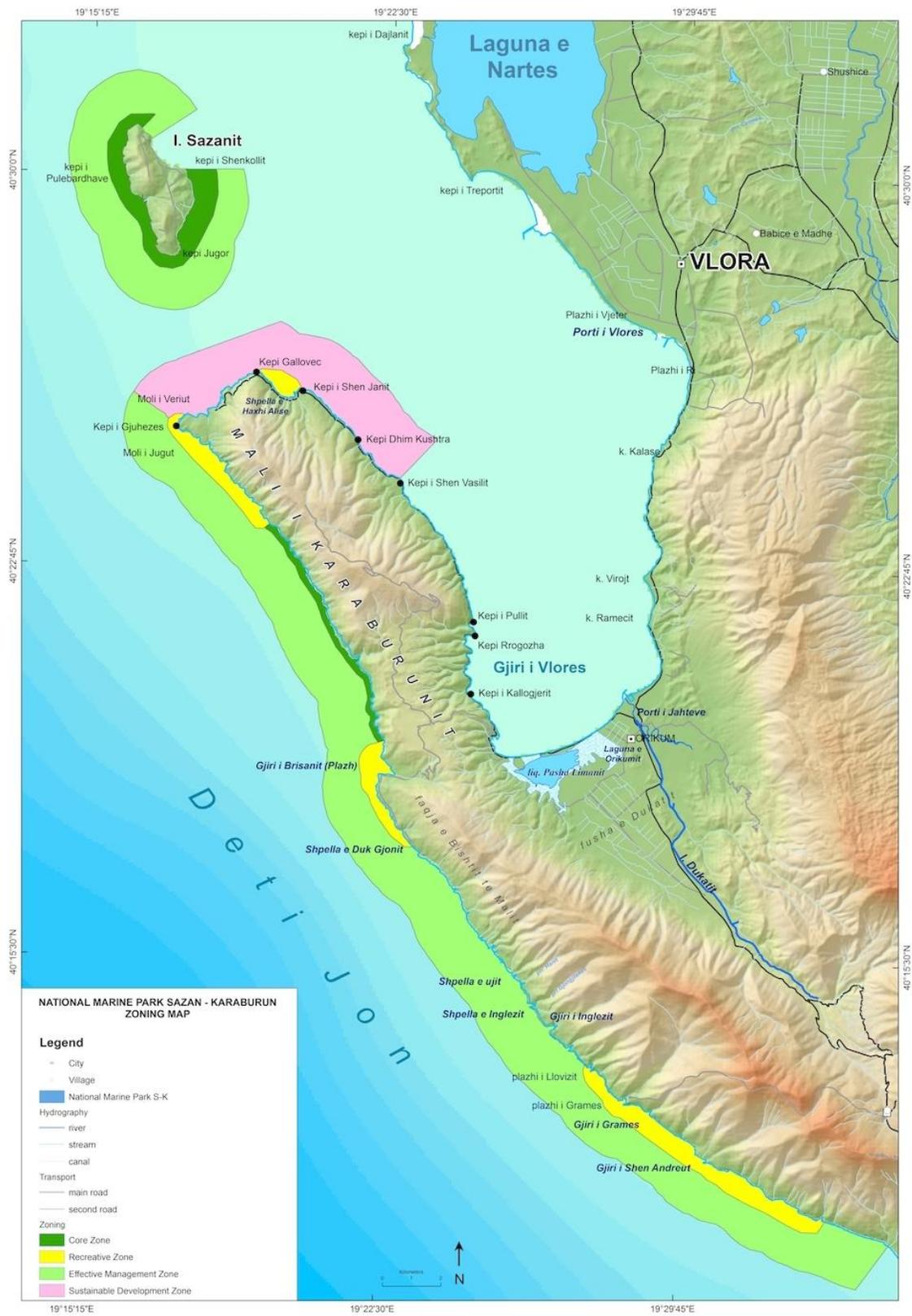


Figure 25: Zoning map of National Marine Park Karaburun-Sazan

Regulation of activities in each zone is presented in Table 15.

**Table 15: Zones and regulation of activities**

Legend: Y – ALLOWED; N – PROHIBITED; R - REGULATED

ACTIVITY	CZ	EMZ	RZ	SDZ	Regulation of activities
Scientific research	R	R	R	R	Special permit by PA administration for all zones. CZ & EMZ - special permit and limited numbers of scientists allowed.
Monitoring	R	R	R	R	Special permit by PA administration for all zones. CZ – special permit and limited monitoring allowed.
Diving	N	R	R	R	Diving sites should be specified and diving is allowed only at those specific sites. Diving allowed only with guides. Limited number of divers. Monitoring of diving activities by PA administration. Taking photos and videos is allowed.
Swimming and snorkelling (beaches and sun bathing)	N	N	Y	Y	Taking photos and videos is allowed.
Visitation	R	R	Y	Y	CZ - guided tours at specified routes only under guidance of PA administration; strictly limited in numbers and sites. EMZ – guided tours, limited in numbers.
Wildlife watching	N	R	R	R	Code of conduct for wildlife watching has to be respected.
Fishing	N	N	R	R	Special permit for fishing (Law on Fisheries). Only sport and traditional fishing is allowed, commercial fishing is not allowed.
Boating (excursions)	N	R	R	R	Special permit by PA administration for boats accessing the area. Limited and guided boat excursions – time and access to the area should be defined; carrying capacity study for number of boats should be defined.
Anchoring	N	N	Y	Y	Until assessment for mooring system is made and, if necessary, mooring system is installed, anchoring is allowed in RZ and SDZ.
Mooring	N	R	Y	Y	Moorings, small docks and platforms - "light" construction only. All moorings should have environmental friendly

ACTIVITY	CZ	EMZ	RZ	SDZ	Regulation of activities
					image.
Sailing	N	R	Y	Y	Special permit by PA administration for boats. EMZ - some areas should be off limits (such as diving sites), signs for boats should be put. No waste discharges (regulated by Law). Carrying capacity study for number of boats should be defined.
Kayaking	N	R	Y	Y	Special permit by PA administration.
Water sports	N	R	Y	R	No use of jet skies in any zone. Other motor water sports are allowed only in RZ. EMZ & SDZ – only non-motor water sports. Clear division of water sport zones and swimming areas.
Infrastructure development	N	N	R	R	Infrastructure development should be in accordance with Development Plans and Management Plan. No permanent buildings, only "light" infrastructure is allowed (moorings, small docks, platforms).
Maritime traffic	N	N	N	N	1 NM away by Law.
Mineral extraction	N	N	N	N	
Collection of plants, minerals, stones, paleontological findings	N	N	N	N	
Aquaculture	N	N	N	N	
Military activities	N	N	N	N	

## FINANCIAL PLAN

Financial resources for the operations of the NMP Karaburun-Sazan are provided by the State budget, self-financing through different revenues (e.g., entry tickets, permits, professional management services, sale of souvenirs), donations and sponsorships from various companies, as well as participation in projects in the framework of national and international co-financing programmes.

Management Committee will ensure funding for the implementation of the Management Plan from the following funding sources:

- State Budget
- Self-financing
- Assistance from international organizations
- Donations and sponsorships

Total estimated funding necessary for the implementation of the NMP Karaburun-Sazan Management Plan for the period of 10 years amount **to EUR 678.000**, including human resources and management activities (Table 16). It is estimated that **EUR 498.000** is needed for the implementation of the activities of the Management Plan in 10 years (on average EUR 49.800 per year). Funding for human resources was estimated based on 6 staff in total and it amounts to **EUR 180.000** for the period of 10 years. Operating costs are not calculated, as it is expected that PA staff would be employed in the regional office.

**Table 16: Total financial resources for Management Plan implementation**

BUDGET	TOTAL (EUR)
Management activities	498.000
PA staff	180.000
Operating costs <sup>17</sup>	0
<b>TOTAL</b>	<b>678.000</b>

### Financial Plan for Management Activities

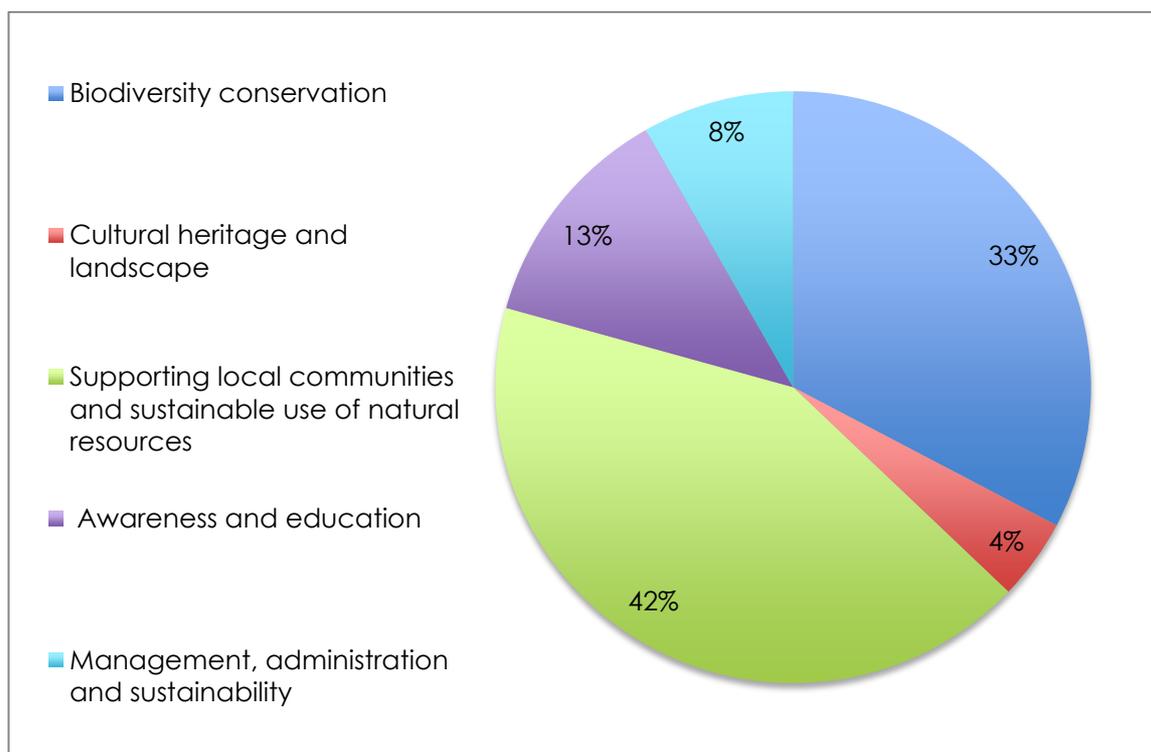
Cost of management activities per theme is presented in Table 17 and Figure 26, per priority in Table 18, and per management approach in Table 19 and Figure 27.

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<sup>17</sup>Operating costs are not calculated, as it is expected that PA staff would be employed in the Regional Forestry Directorate.

**Table 17: Cost of management activities per theme**

MANAGEMENT THEME	COST (EUR)
Biodiversity conservation	163.000
Cultural heritage and landscape	22.000
Supporting local communities and sustainable use of natural resources	210.000
Awareness and education	62.000
Management, administration and sustainability	41.000
<b>TOTAL</b>	<b>498.000</b>



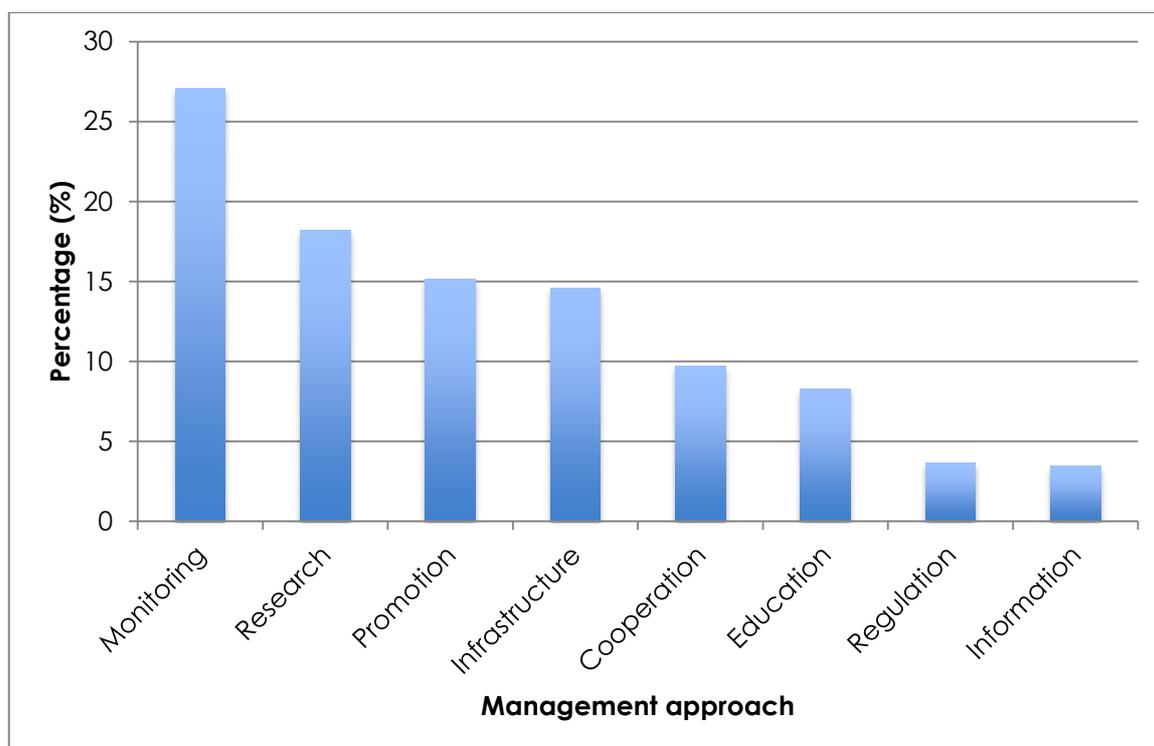
**Figure 26: Cost of management activities per theme**

**Table 18: Cost of management activities per priorities**

PRIORITY	COST (EUR)	Percentage
Priority 1	185.000	37%
Priority 2	215.000	43%
Priority 3	98.000	20%
<b>TOTAL</b>	<b>498.000</b>	<b>100%</b>

**Table 19: Cost of management activities per management approaches**

<b>MANAGEMENT APPROACH</b>	<b>COST (EUR)</b>
Research	91.000
Monitoring	134.000
Education	41.000
Information	9.000
Regulation	18.000
Promotion	75.000
Cooperation	48.000
Infrastructure	72.000
<b>TOTAL</b>	<b>498.000</b>



**Figure 27: Cost of management activities per management approaches**

Table 20 show a break-down of the budget per activity for the for implementation of the management activities during 10 years.

**Table 20: Financial resources for management activities (10 years)**

Act. No.	ACTIVITIES	SOURCE OF FUNDING	IMPLEMENTATION EXPENSES (EUR)	EXPLANATORY NOTES
<b>BIODIVERSITY CONSERVATION</b>				
AA1	Habitat mapping and then monitoring of Posidonia status	External budget - mapping State Budget - monitoring	30.000	24.000 field work 6.000 development of methodology, coordination of field work and data analysis
AA2	Regulate and monitor number of boats in the MPA	State Budget	0	10% Ranger Service
AA3	Regulate and monitor intensity of aquaculture: research impact of aquaculture and monitor it	External budget	24.000	First two years - research; annual monitoring - 20 days per year = 3.000 EUR per year
AA4	Set up mooring buoys: assessment, design and deployment	External budget (project, business)	15.000	Depending on the needs, taking into account docks; the cost is for the assessment and design of the system; in addition, each buoy costs approximately 700 EUR
AA5	Assessment of the status, and repair and maintenance of existing 2-3 docks	External budget (project, business)	10.000	10.000 EUR - assessment, repairing and maintenance of docks
AB1	Habitat mapping and then monitoring of coralligenous status	External budget - mapping State Budget - monitoring	45.000	Methodology, 2 years mapping, every 3 years monitoring
AB2	Conduct research on the distribution, composition and vulnerability of marine habitats	State and external budget	20.000	Depending on the priorities and availability of researchers, conduct research (cca 4.000 EUR per year)
AC1	Collaboration with fishermen and military on monitoring (sightings) of charismatic species (large marine vertebrates - marine turtles, dolphins, whales and monk seals)	State Budget	0	5% Ranger Service
AC2	Develop and implement code of conduct for wildlife watching in cooperation with tour operators	State and external budget	3.000	Develop code in first year - 1.000 EUR; information tools - 2.000 EUR (including reprint)

Act. No.	ACTIVITIES	SOURCE OF FUNDING	IMPLEMENTATION EXPENSES (EUR)	EXPLANATORY NOTES
AC3	Conduct research on the distribution and endangerment of endangered and protected marine species	State and external budget	16.000	Depending on the priorities and availability of researchers, conduct research (cca 4.000 EUR per year)
<b>CULTURAL HERITAGE AND LANDSCAPE</b>				
BA1	Monitor development of spatial planning documents & participate at meetings	State Budget	0	5% Conservation Service
BA2	Surveillance of illegal construction & informing inspection	State Budget	0	10% Ranger Service
BB1	Update inventory of caves and cliffs and monitor their state (observation)	External budget (inventory), State Budget - monitoring	10.000	Inventory - 1 year; Monitoring by rangers or conservation service - 5% for monitoring
BC1	Baseline assessment of underwater archaeological remains and monitoring	External budget	12.000	Assessment - 1 year - 5.000 EUR; annual monitoring - 1.000 EUR
<b>SUPPORTING LOCAL COMMUNITIES AND SUSTAINABLE USE OF NATURAL RESOURCES</b>				
CA1	Baseline assessment of fish stocks and then regular monitoring	External budget	24.000	Assessment - 1 year - 15.000 EUR; biannual monitoring - 3.000 EUR
CA2	Socio-economic study on local fisheries (income, gear, fishing effort) and then monitoring	External budget	4.000	Methodology and analysis - 15 days - 2.500 EUR; field work - 10 days - 50 EUR = 500 EUR
CA3	Surveillance of illegal fisheries & informing inspection	State Budget	0	40% Ranger Service
CA4	Regular law enforcement activities of police and inspectorate (control over the sea enforced by authorities)	State Budget (not for MPA)	0	Communication; 5% Ranger Service (joint field work)
CA5	Establishing an association for artisanal fishermen (as they are not in FMO and not represented)	External budget	5.000	Meetings, communication and registration
CA6	Promotion of values of local fisheries: setting up of label system for fish products	External budget	30.000	Marketing analysis, product analysis, establishing the system, etc.
CB1	Establish list of attractions and then update it regularly	External budget	5.000	Meetings

Act. No.	ACTIVITIES	SOURCE OF FUNDING	IMPLEMENTATION EXPENSES (EUR)	EXPLANATORY NOTES
CB2	Facilitate clear and easy procedures for access of tourist operators (by sea and land)	State Budget	0	10% Conservation Service
CB3	Facilitate allowing free access for the tourists to the MPA by land and sea	State Budget	0	Together with the above
CB4	Strengthening the collaboration between touristic operators for the quality of touristic packages and products (standards, quality service)	External budget, ATA	20.000	Meetings (4 per year)
CB5	Improve collaboration between national operators and local touristic operators	External budget, ATA	10.000	Meetings (2 per year)
CB6	Introducing quality standards of touristic businesses (licencing system)	External budget, ATA	10.000	Development of the standard - 2 years (contractor); improved in meetings (see above)
CB7	Certification (GSTC criteria) of sustainable tourism destination	External budget	10.000	Stakeholder forum meetings, certification process (e.g. ECST)
CB8	Info-centre on Karaburuni (kiosk)	External budget	10.000	1 info-centre on Karaburuni - new kiosk, equipment
CB9	Feasibility study to introduce a fee system	External budget	10.000	Feasibility study
CB10	Support professional diving centres (promotional materials, events, etc.)	External budget	15.000	Promotion materials, events
CB11	Propose legal framework for regulation of diving activities (including code of conduct for divers)	External budget	10.000	Legal expert and consultation
CB12	List of diving sites and set up infrastructure (buoys)	External budget	12.000	List of diving sites - consultation - 2.000 EUR; buoys - 10.000 EUR for 15 diving sites (e.g. Manta Ray)
CB13	Surveillance and monitoring of diving activities, including number of divers per site (in cooperation with diving centres)	State Budget		10% Ranger Service
CC1	Beach cleaning before season	State Budget	10.000	1 day before season, 1 day after season
CC2	Conduct a carrying capacity study for boats (including excursion boats, local boats and nautical tourists) and tourists in the area	External Budget	5.000	Carrying capacity study for the area - boats and tourists

Act. No.	ACTIVITIES	SOURCE OF FUNDING	IMPLEMENTATION EXPENSES (EUR)	EXPLANATORY NOTES
CC3	Monitor number of tourists at beaches during summer season	State Budget		10% Ranger Service during summer season
CC4	Monitoring of sea water quality during summer season	State Budget	20.000	More sites than national scheme; every 2 weeks during summer season (June-September)
<b>AWARENESS AND EDUCATION</b>				
DA1	Raising awareness and disseminating information on the MPA, its values and status to the local community and tourists (including quantity of litter on beaches, water quality, zoning, etc.) through website and media	State Budget	7.000	Annual Event to present the status of the MPA; Website – 2.000 EUR; 5% Conservation Service
DA2	Develop and distribute information tools on MPA, values (Posidonia, protected species, charismatic species), and threats (how to anchor properly, invasive species, etc.)	External budget	6.000	First year - design 3 leaflets - 3.000; later – reprint (10.000 copies)
DA3	Develop and distribute information tools for restaurants on restricted/protected species (e.g. dates)	External budget	3.000	Design, print and reprint
DA4	Develop and distribute information leaflets in order to raise awareness of divers (code of conduct)	External budget	3.000	Design, print and reprint
DA5	Design, production and setting-up of information boards; maintenance of the boards	External budget	1.000	Design and construction - 2 boards
DA6	Design and setting-up of the underwater trail	External budget	8.000	Design and construction - 1 trail
DB1	In cooperation with local schools develop and implement education programmes	External budget	2.000	Develop education programmes - 2.000 EUR; implementation jointly with local schools; 5% Conservation Service
DB2	Raising awareness and training policemen in areas related to MPA management	State budget	5.000	Annual 1-day training
DB3	Teaching sustainable fishing methods to young artisanal fishermen (education of fishermen on usage of gear)	External budget	15.000	Design training (5-days) and implement every 2nd year; 5.000 EUR for design; 20 fishermen every 2nd year

Act. No.	ACTIVITIES	SOURCE OF FUNDING	IMPLEMENTATION EXPENSES (EUR)	EXPLANATORY NOTES
<b>MANAGEMENT, ADMINISTRATION AND SUSTAINABILITY</b>				
EA1	Establishing the Management Administration and hiring staff	State Budget		In human resources plan
EA2	Strengthen capacity of the Management Administration through staff training (participation in CB program for PAs)	State Budget and External Budget	2.000	Lump sum for participating in trainings
EA3	Share experiences through participation in national and international workshops, conferences (expert and scientific) and associations	State Budget and External Budget	5.000	Lump sum for participating in conferences
EA4	Supply and maintain the equipment necessary for quality performance of experts and rangers	State Budget and External Budget	16.000	Lump sum for equipment - 2.000 EUR per year
EB1	Improve communication and coordination with local stakeholders through regular meetings before and after the tourist season (University of Vlora, Marina of Orikum, local authorities, businesses, FMOs, CSOs, etc.)	State Budget	8.000	2 meetings per year
EB2	Strengthening the collaboration with administration on local and regional level	State Budget		10% of Conservation and Ranger Service
EB3	Cooperate with police, fishing inspectorate and military with the aim to improve law enforcement	State Budget	5.000	Annual meeting (at least)
EB4	Improvement of fishing management by establishing collaboration between Municipality and Fishing Management Organisation (OMP) in enforcing the control over the area	External Budget	5.000	Meetings, etc.

## Human Resources Plan

At the moment of writing the Management Plan there is no Management Administration for the NMP Karaburun-Sazan. In consultation with the Ministry of Environment it was agreed that Management Plan should propose a minimum effective structure of the PA administration.

Taking into an account current governance structure and government plans, it can be expected that the Management Administration for Karaburun-Sazan (even if it is going to manage all PAs in the region) would start with 2 technical staff and 4 rangers. It is expected that there would be a regional PA director (or similar), so PA director position is not calculated in the Human Resources Plan. The same goes for support services, as it is expected that there would be support services at the regional level.

It has to be emphasized that PA Management Administration can start with just a few staff and then grow, when the circumstances allow for it.

Table 21 represents the human resources plan.

**Table 21: Human Resources Plan**

POSITION	NUMBER	MONTHLY SALARY (EUR)	ANNUAL SALARY (EUR)	TOTAL BUDGET (10 YEARS) (EUR)
Conservation officer	1	300	3.600	36.000
Outreach and livelihood officer	1	300	3.600	36.000
Head ranger	1	300	3.600	36.000
Rangers	3	200	7.200	72.000
<b>TOTAL</b>	<b>6</b>	<b>1.100</b>	<b>18.000</b>	<b>180.000</b>

## MONITORING AND EVALUATION OF MANAGEMENT

### Management Plan Monitoring

Goal of the Management Plan implementation monitoring is to check whether the Management Plan is being effectively implemented and whether set objectives are being achieved. Monitoring also enables collecting information through observing impacts of management, based on which management activities will be adapted.

All PA staff has to be aware of the activities necessary to monitor Management Plan impacts and collect evidence and information which will show if the Management Plan objectives are being achieved. Based on the results of monitoring of impacts of the Management Plan, regular annual amendments of the implementation monitoring programme will be recommended. That way activities for the next year can be adapted to the experience from last year's realization of the Plan or to changed circumstances and new insights.

After five years, Management Plan implementation and achieved results are analysed and, if necessary, revision of the Management Plan is conducted in a same way as is prescribed for the Management Plan adoption. In case there is a need for it, management activities should be developed again. In the section on the Management Plan implementation monitoring it is necessary to include the analysis of the success of implementing activities until then, in other words, of what has and has not be done and reasons why some activity has not been implemented, as well as other insights and experiences that were used for the Management Plan revision.

In the last year of the Management Plan implementation, it is necessary to undertake a comprehensive evaluation of outcomes, objectives and vision of the Management Plan. Results of this evaluation will be incorporated into the Management Plan for the next planning period.

Table 22 shows the activities for the monitoring of the Management Plan implementation.

**Table 22: Management Plan implementation monitoring activities**

<b>OBJECTIVE</b>	
Monitor and collect / document results of the management activities and achievement of management objectives.	
<b>MANAGEMENT PLAN IMPLEMENTATION MONITORING ACTIVITIES</b>	<b>MANAGEMENT ACTIVITIES THAT ARE BEING MONITORED</b>
M1 Ensure that research and monitoring reports are made and technical studies are carried out by qualified people or PA staff, and that reports are delivered within a specified timeframe.	AA1, AA2, AA3, AB1, AB2, AC3, BC1, CA1, CA2, CB6, CB8, CB9, CB13, CC2, CC4
M2 Keep a record of organised educational workshops, programmes and presentations and the relevant number of participants.	CB4, CB5, CB6, CB7, CB10, CC1, DA1, DB1, DB2, DB3, DB4
M3 Keep a record of attended and held meetings and the relevant outcomes.	AC1, BA1, CA4, CA5, CB2, CB3, CB4, CB10, CB12, EB2, EB3, EB4
M4 Develop rules and regulations within the set timeframe specified and update key documents to ensure the smooth functioning of the Management Administration.	AA2, AC2, CB2, CB11
M5 Make sure that data on key species, habitats, research, MPA boundaries and MPA zones are entered in the GIS database.	AA1, AB1, AB2, AC3, BB1, BC1, CA1, CB1
M6 Hold two annual meetings every year to ensure that the Management Administration can develop and implement key plans, projects, programmes and strategies outlined in the Management Plan.	DA1, EB1, EB3, EB3
M7 Maintain an updated list of inventories and records on the conditions of the infrastructure.	AA4, AA5, CB8, CB12, DA5, DA6, EA4
M8 Evaluate the level of awareness of local residents and target groups through a poll before and after the implementation of 50% of educational activities.	DB1, DB2, DB3, DB4
M9 Regularly update the library, archives and the technical information system.	All
M10 Keep a record of the number and type of informative materials.	AC2, DA2, DA3, DA4
M11 Ensure that the Management Administration is informed about the plans, strategies and legislation affecting the MPA produced by external agencies and authorities, and is actively involved in their definition through written recommendations.	BA1
M12 Ensure that rangers and field staff report on control and monitoring activities concerning endangered species and habitats and access to sensitive areas.	AA2, AC2, BA2, BB1, CA3, CB13, CC3
M13 Set up and maintain a database of small-scale users of the Park and their activities (fishermen, boaters, tour operators, diving centres, etc.).	CA5, CA6, CB6, CB7
M14 Provide staff training and capacity building.	EA1, EA2, EA3
M15 Prepare a full assessment of the Management Plan in its fifth year of implementation and draft a revised version.	

## Management Effectiveness Evaluation

The management effectiveness evaluation is much broader than detailed monitoring of the Management Plan implementation. It is done annually by the local Management Administration / Management Committee, together with the Ministry of Environment staff, using an evaluation tool such as Management Effectiveness Tracking Tool (METT).

The METT aims to report progress on management effectiveness and should not replace more thorough methods of assessment for the purposes of adaptive management. The METT has been developed to provide a quick overview of progress in improving the effectiveness of management in individual protected areas. Also METT is too limited to allow a detailed evaluation of outcomes and is really aimed at providing a quick overview of the management steps identified in the World Commission on Protected Areas (WCPA) Framework<sup>18</sup> up to and including outputs (Stolton *et al.*, 2007).

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<sup>18</sup>The World Commission on Protected Areas (WCPA) Framework is a framework for assessing management effectiveness of protected areas which aims to provide overall guidance in the development of assessment systems and to encourage standards for assessment and reporting.

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## **ANNEXES**

Annex 1: Marine species of international concern in Karaburun-Sazan area that are listed in the most important conventions

Annex 2: Marine species of national concern in Karaburun-Sazan area (after Albanian Red List 2007)

Annex 3: Summary of areas protected from fishing

Annex 4: Map of values and threats

Annex 5: Map of the National Marine Park Karaburun-Sazani (values, threats, zones)

## Annex 1: Marine species of international concern in Karaburun-Sazan area that are listed in the most important conventions

Species name	SPA/BD Protocol of the Barcelona Convention <sup>19</sup> (1996)		Bonn <sup>20</sup> (2006)		CITES <sup>21</sup> (2006)	Bern <sup>22</sup> (1993)
	Ann. II	Ann. III	App. 1	App. 2		
<b>Magnoliophyta</b>						
<i>Posidonia oceanica</i>	+					+
<i>Cymodocea nodosa</i>						+
<b>Phaeophyta</b>						
<i>Cystoseira amentacea</i> var. <i>spicata</i>	+					+
<b>Rhodophyta</b>						
<i>Lithophyllum byssoides</i>	+					
<i>Lithophyllum trochanter</i>	+					
<b>Spongia</b>						
<i>Geodia cydonium</i>	+					
<i>Hippospongia communis</i>		+				+
<i>Spongia officinalis</i>		+				+
<i>Petrobiona massiliana</i>						+
<b>Cnidaria</b>						
<i>Corallium rubrum</i>		+				+
<b>Mollusca</b>						
<i>Ranella olearia</i>	+					+
<i>Tonna galea</i>	+					+
<i>Charonia tritonis</i>	+					+
<i>Zonaria pyrum</i>	+					+
<i>Pholas dactylus</i>	+					+
<i>Pinna nobilis</i>	+					
<i>Lithophaga lithophaga</i>	+				+	+
<b>Crustacea</b>						
<i>Homarus gammarus</i>		+				+
<i>Maja squinado</i>		+				+
<i>Scyllarides latus</i>		+				+
<i>Scyllarus arctus</i>		+				+
<i>Palinurus elephas</i>		+				+
<b>Echinodermata</b>						

<sup>19</sup>Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean of the Convention for the Protection of the Mediterranean Sea Against Pollution

<sup>20</sup> Convention on the Conservation of Migratory Species of Wild Animals

<sup>21</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora

<sup>22</sup>Convention on the Conservation of European Wildlife and Natura Habitats

Species name	SPA/BD Protocol of the Barcelona Convention <sup>19</sup> (1996)		Bonn <sup>20</sup> (2006)		CITES <sup>21</sup> (2006)	Bern <sup>22</sup> (1993)
	Ann. II	Ann. III	App. 1	App. 2		
<i>Paracentrotus lividus</i>		+				+
<i>Ophidiaster ophidianus</i>	+					+
<i>Centrostephanus longispinus</i>	+					+
<b>Pisces</b>						
<i>Anguilla anguilla</i>		+				
<i>Umbrina cirrhosa</i>		+				+
<i>Thunnus thynnus</i>		+				
<i>Sciaena umbra</i>		+				+
<i>Hippocampus guttulatus</i>					+	
<i>Epinephellus marginatus</i>		+				+
<i>Xiphias gladius</i>		+				
<b>Reptilia</b>						
<i>Caretta caretta</i>	+		+	+		+
<b>Pinnipedia</b>						
<i>Monachus monachus</i>	+		+	+	+	+
<b>Cetacea</b>						
<i>Tursiops truncatus</i>	+			+	+	+
<i>Delphinus delphis</i>	+		+	+		+

Source: Beqiraj S., Zuna V., Dodbiba E. (2010): Priority Action Plan for Sazani – Karaburuni Marine Protected Area. GEF/UNDP. Tirana: 74 pp.

## Annex 2: Marine species of national concern in Karaburun-Sazan area (after Albanian Red List 2007)

### Seagrasses

*Posidonia oceanica*  
*Cymodocea nodosa*

### Seaweeds (algae)

*Cystoseira amentacea*  
var. *spicata*  
*Lithophyllum*  
*byssoides*  
*Lithophyllum trochanter*  
*Tenarea tortuosa*  
*Bornetia secundiflora*  
*Catenella caespitosa*  
*Digenea simplex*  
*Polyphysa parvula*

### Sponges

*Geodia cydonium*  
*Spongia officinalis*  
*Hippospongia*  
*communis*  
*Raspaillia viminalis*  
*Petrobiona massiliana*

### Cnidarians

*Aurelia aurita*  
*Chrysaora hysoscella*  
*Actinia cari*  
*Bunodactis verrucosa*  
*Cladocora cespitosa*  
*Corallium rubrum*  
*Eunicella singularis*  
*Eunicella cavolinii*

### Annelids

*Sabella spallanzani*

### Gastropods

*Patella caerulea*  
*Monodonta turbinata*  
*Diodora graeca*  
*Haliotis lamellosa*  
*Aporrhais pespelecani*  
*Ranella olearia*  
*Charonia tritonis*  
*variegata*  
*Zonaria pyrum*  
*Tonna galea*

### Bivalvia

*Mytilus galloprovincialis*  
*Lithophaga lithophaga*  
*Pinna nobilis*  
*Pteria hirundo*  
*Glossus humanus*  
*Ostrea edulis*  
*Pecten jacobaeus*  
*Solen marginatus*  
*Chamelea gallina*  
*Tapes decussatus*  
*Venus verrucosa*

### Crustaceans

*Alpheus dentipes*  
*Callinassa tyrrhena*

*Crangon crangon*  
*Dardanus arrosor*  
*Eriphia verrucosa*  
*Galathea intermedia*  
*Maja squinado*  
*Paguristes oculatus*  
*Palaemon serratus*  
*Palinurus elephas*  
*Penaeus kerathurus*  
*Scyllarus arctus*

### Echinoderms

*Paracentrotus lividus*  
*Ophidiaster ophidianus*  
*Centrostephanus*  
*longispinus*

### Fishes

*Hippocampus*  
*guttulatus*  
*Mola mola*

### Reptiles

*Caretta caretta*

### Pinnipedia

*Monachus monachus*

### Cetaceans

*Delphinus delphis*  
*Tursiops truncatus*

Source: Beqiraj S., Zuna V., Dodbibia E. (2010): Priority Action Plan for Sazani – Karaburuni Marine Protected Area. GEF/UNDP. Tirana: 74 pp.

### Annex 3: Summary of areas protected from fishing

Articles of the Law	Areas protected from fishing	Map legend	Area (km <sup>2</sup> )	% of territorial waters
Reg. No. 1, 2005: Art. 43/2	Buffer zone with 2 km radius from mouth of Buna River and 1 km radius from the mouth of other Albanian rivers where the fishing is prohibited	River mouths	18,40	0,31%
Reg. No. 1, 2005: Art. 43/3/j	Buffer zone in the distance of 1 NM shoreline or 50 m isobaths, outer part of Karaburuni shore from Kepi i Gjuhezes until Rruget e Bardha	Total fishing ban	6,50	0,11%
Reg. No. 1, 2005: Art. 44/1	Vlora Bay – limited on the north from the basic line of the Bay of Karaburun up to Treport	No use of trail nets (trawl or pelagic)		
Reg. No. 1, 2005: Art. 45/1	buffer zone with 2 km radius from the mouth of sea lagoon communication channels	Lagoon channels	45,00	0,76%
Reg. No. 8, 2009: Art. 12/1	3 nautical miles or till the 50 m isobaths buffer zone of the coast where the use of bottom gears is prohibited	No use of bottom gears	1599,60	26,87%
Reg. No. 8, 2009: Art. 12/2	buffer zone 1.5 miles from shoreline where there use of towed gears is prohibited	No use of towed gears	1077,00	18,09%
Reg. No. 8, 2009: Art. 12/2	buffer zone of 0,3 nautical miles from shoreline where the use of hydraulic dredges is prohibited	No use of hydraulic dredges	220,00	3,69%
Reg. No. 8, 2009: Art. 12/3	300 m buffer zone from shore line where fishing of every kind gillnets and purse seine is prohibited	No use of gillnets/purse seine	143,00	2,40%

Source: INCA (2013): Strategic Plan for Marine and Coastal Protected Areas (SPMCPAs). GEF/UNDP. Tirana, 70 pp. + Annexes



## Annex 5: Map of the National Marine Park Karaburun-Sazani (values, threats, zones)

