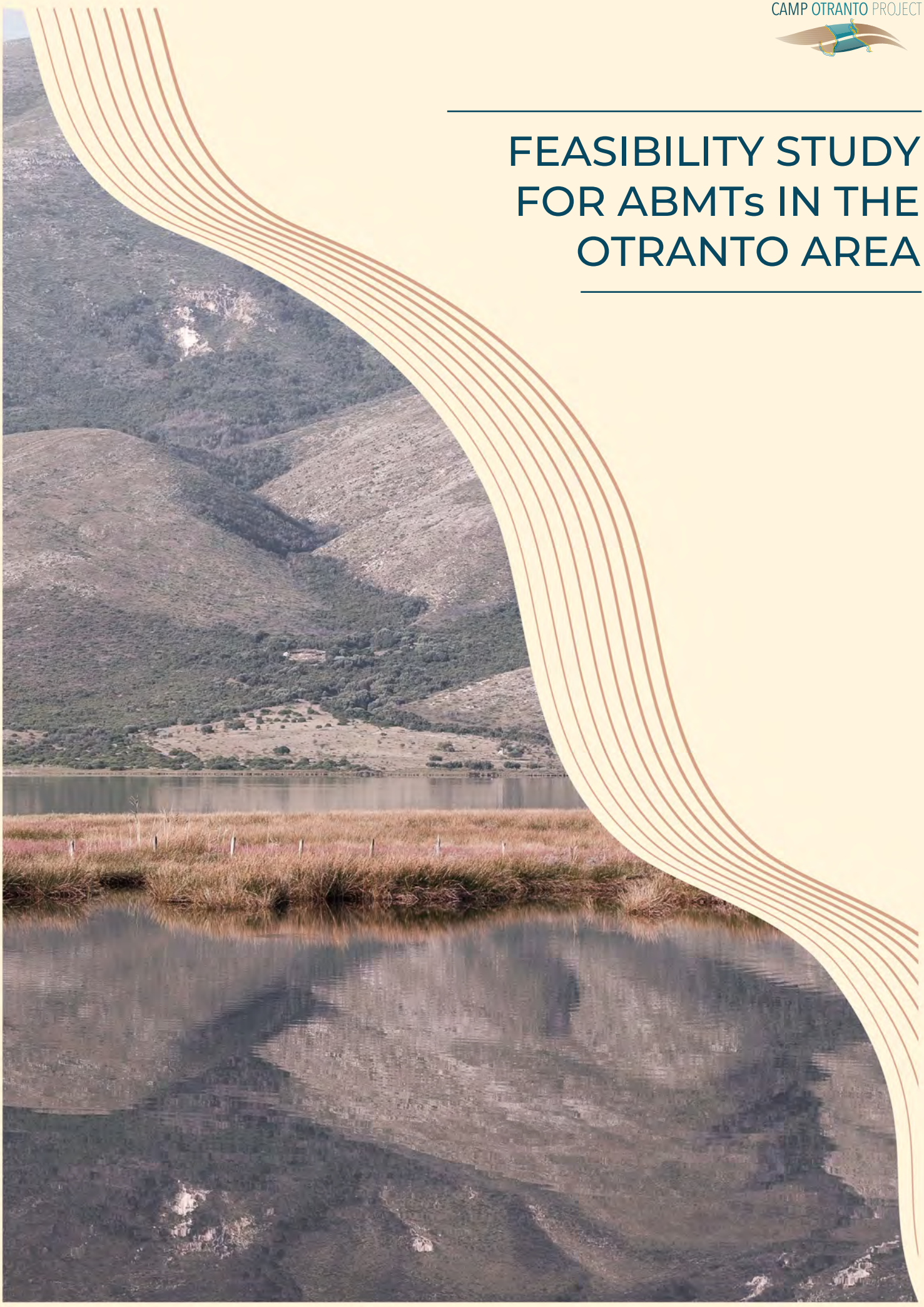
TRANSBOUNDARY
CAMP OTRANTO PROJECT

FEASIBILITY STUDY FOR ABMTs IN THE OTRANTO AREA



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1. Introduction

The transboundary CAMP Project for the Otranto Strait area aims to contribute to both environmental protection and sustainable economic development in the area, harmonize public sector priorities and private sector pressures, and provide an integrated strategy for achieving development in the region within a sustainable management policy framework.

The CAMP project actions aim to:

- reduce pollution, with particular attention to marine litter, on which the project should concentrate the efforts on developing best practices shared among Italy and Albania
- improve sustainability of the coastal and maritime tourism sector in the area, in particular through the evaluation of selected tourism activities
- preserve, protect, and restore the health and integrity of coastal and marine ecosystems, in particular in the existing and potential sites of the Natura 2000 Network, through examining different Area Based Management Tools (ABMTs) including Other Effective Area-Based Conservation Measures (OECMs), Within and Beyond National Jurisdiction (AWNJ and ABNJ).

The CAMP project considers synergies with other projects and initiatives in the area such as those currently in progress as part of the Mediterranean Biodiversity Protection Community (MBPC) project (namely, Human uses and ecological components; Draft Action Plan and Roadmap).

The present document represents the Feasibility Study for the identification and establishment of an ABMT in the Strait of Otranto, along the coastal zones of the Puglia region (Italy) and Vlora region (Albania), as a single complex project area.

2. Stocktaking

This chapter describes the main characteristics of the study area, including geographical features, the human activities undertaken in the area and ecological characteristics. Evidence of impacts on the marine environment related to human activities area is also presented.

The description is completed by an overview of the spatial protection measures in place in the study area.

In addition, the provisions from the Draft Italian maritime spatial plan, related to the study area, are also summarized, being relevant for the ultimate scope of this study.

2.1. Data and scales of analysis

For the description of the study area, the following sources of data were used:

- National and regional data, available, for example, from the portal SID – Il portale del mare of the Italian Ministry of Infrastructures and Transport, the Italian National Institute of Statistics (ISTAT), the Albanian State Authority for Geospatial Information (ASIG), the Puglia region information system (SIT) and GADM – UNHCR.
- International and European data sources such as Emodnet, IUCN, European Environment Agency, MAPAmed, Corine Land cover, General Fisheries Commission for the Mediterranean, Eurostat, and European Maritime Safety Agency.
- Scientific studies and field surveys promoted and made accessible by research institutes (e.g. CNR-ISMAR), or intergovernmental agreements such as ACCOBAMS on cetacean conservation and protection.

All data and information sources are referenced in the text, map legends or figure captions.

The scales adopted for thematic mapping across the study were defined as follows (Figure 1):

- A wide scale (A) allows us to identify the entire regional coast of the Puglia region, the Albanian national territory, providing a comprehensive view on the relevant morphological-bathymetric aspects of the Adriatic and Ionian area.
- The second scale (B) on the study area includes the boundaries of Brindisi and Lecce provinces and Vlora region. This frame makes it possible to read in detail the interactions and connections between the two countries.
- The third scale (C and D) allows us to zoom on the coastal areas with specific frames, one on the Brindisi and Lecce coastline with the overlooking territorial waters and the other on the Vlora region coastline with a portion of Albanian territorial waters. This representation allows us to represent coastal features and to highlight land-sea interactions.

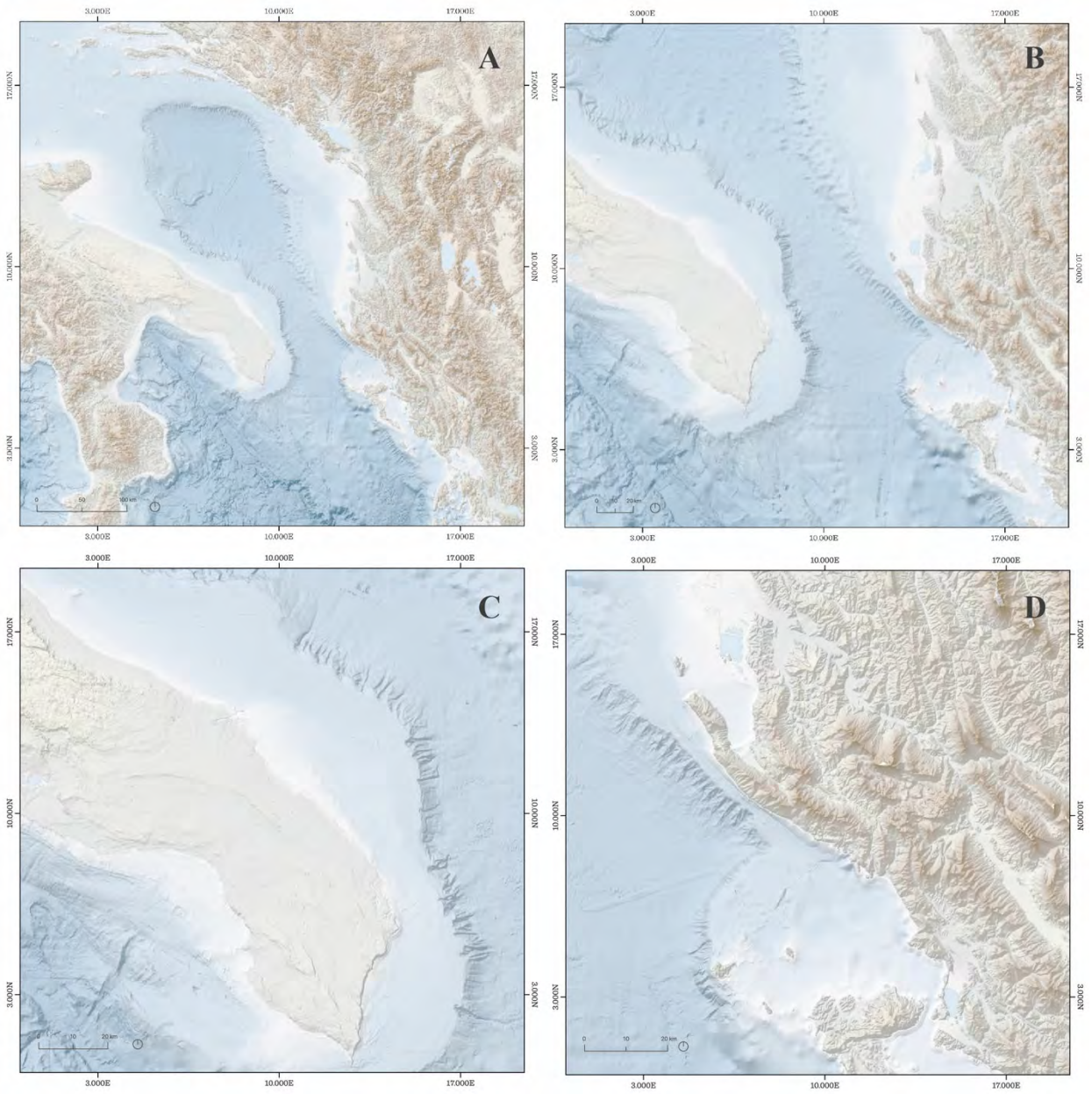

Figure 1. Mapping frame and spatial scales

2.2. Characteristics of the study area

The *channel* or *strait* of Otranto (Albanian: *Kanali i Otrantos*; Italian: *Canale d'Otranto*) connects the Adriatic and Ionian Seas and separates Italy from Albania (Figure 2). It doesn't represent an international strait, to which the regime of transit passage applies, as defined by the United Nations Convention on the Law of the Sea – UNCLOS, because the shortest distance between *Kepi i Gjuhës*, Karaburun (Albania) and *Punta Palascìa* (Italy, east of Salento) is about 72 kilometres (45 nm)[1]. The Strait of Otranto has a very strategic position and for centuries has been a key to controlling all traffic flow from the Mediterranean to the Adriatic seas (PASSAGE project 2016).

[1] International straits to which the regime of transit passage applies are those connecting two parts of high seas or exclusive economic zones (Art. 37 of the UNCLOS). Consequently, their breadth has to be less than, or equal to, 24 nautical miles (twice the 12 nautical miles of the territorial sea between two opposite baselines).

Figure 2. Strait of Otranto framework. Source: Istat (Italy) and GADM – UNHCR (Albania)

The study area (Figure 2) is located between the Southern Adriatic and the Northern Ionian Sea and focuses on the marine-coastal space that considers (as defined by the Integrated Coastal Zone Management – ICZM Protocol, Article 3) the provinces of Brindisi and Lecce (Puglia region, Italy) and Vlora region (Albania).

The area is bounded to the northwest by the border of the province of Brindisi (Municipality of Fasano) and extends into the sea with a buffer of 5 nm (following approximately the 100-m isobath) to the port of Brindisi. Perpendicularly, a directrix (of 100 km) crosses the Strait of Otranto, reaching the northern border of Vlora region on the Vjosa River delta.

The area includes the entire coast of Vlora region (Qark) until the south to Ksamil.

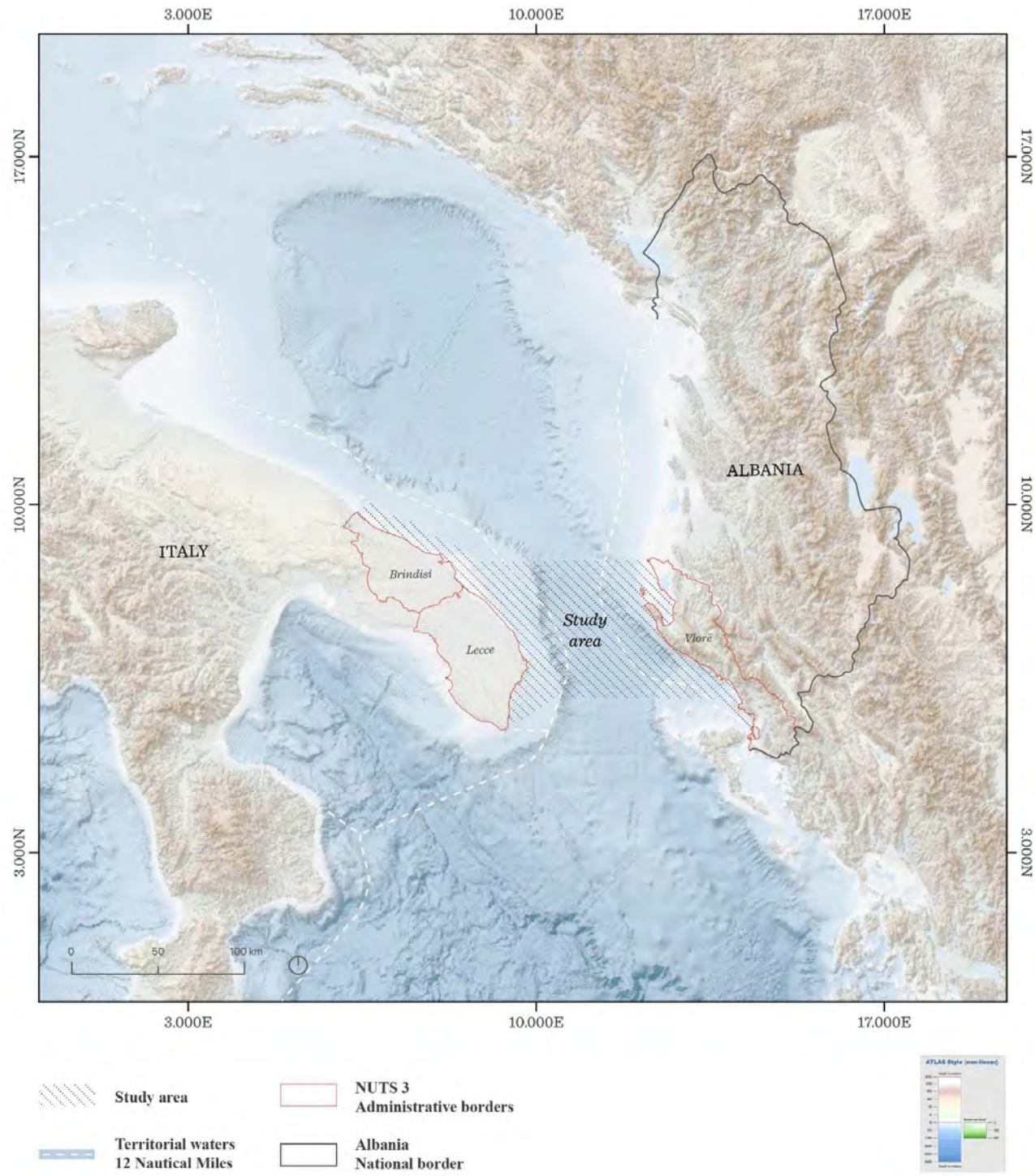

Figure 3. Study area and administrative borders. Source: Istat (Italy) and GADM – UNHCR (Albania)

Vlora region (Figure 4) is one of the 12 counties of Albania; it has a total area of 2,706 km^2 and it is divided into seven municipalities: Vlorë, Delvinë, Finiq, Himarë, Konispol, Sarandë and Selenicë. As of January 2019, it has a population of 189,311 inhabitants with a very slight increase compared to the previous year. The municipality is the first level of local governance while the region (qark) is the second level (Genc Myftiu, 2020).

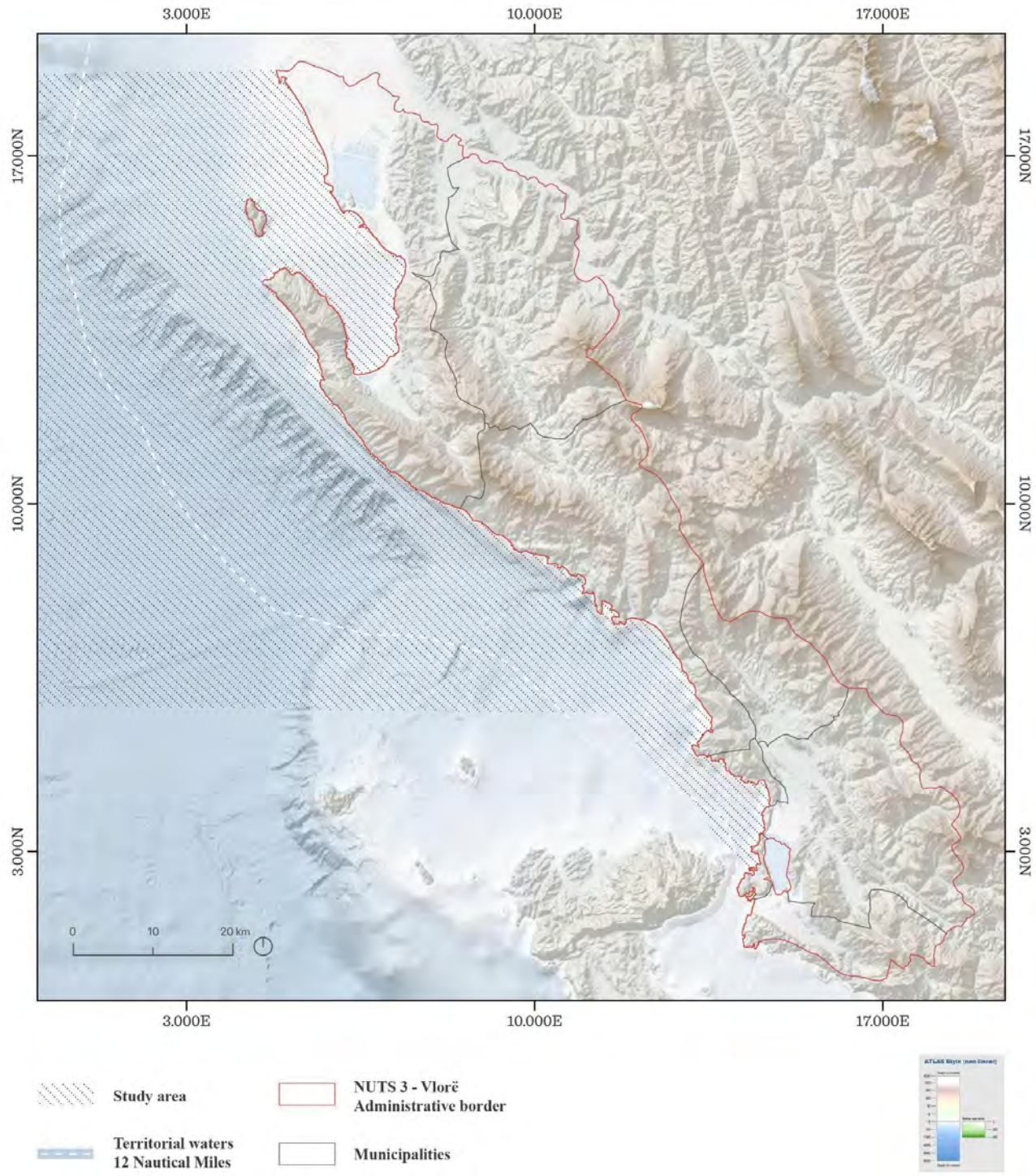

Figure 4. Vlora region, administrative border, and municipalities. Source: GADM – UNHCR

Puglia region (Puglia) is one of the 20 Italian regions. Located in the southern part of Italy, and is the most eastern region. The region has a total surface of 19,541 km^2. In 2019 the resident population was 4,029,053 inhabitants. The region is divided into 6 provinces: Bari (regional capital), Barletta-Andria-Trani, Brindisi, Foggia, Lecce, and Taranto. In the Italian governance system, municipalities are the first level of local governance while the province is the second level. In the study area (Figure 5), in the province of Brindisi, the municipalities of Brindisi, Carovigno, Ostuni, and Fasano face the Adriatic Sea, as well as the municipalities of Castrigliano del Capo, Gagliano del Capo, Alessano, Corsano, Tiggiano, Tricase, Andrano, Diso, Castro, Santa Cesarea Terme, Otranto, Melendugno, Vernole, and Lecce, in the province of Lecce.

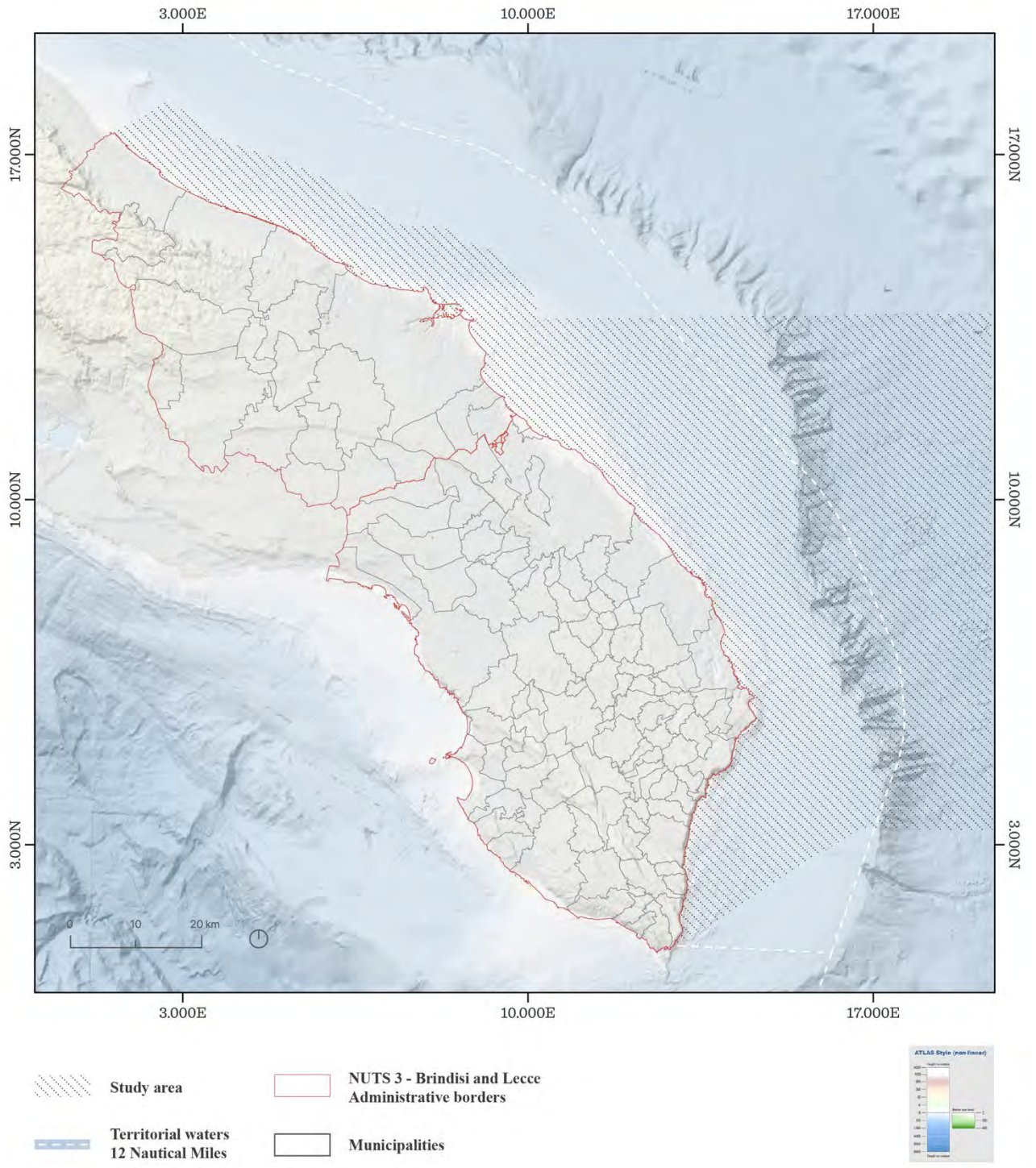

Figure 5. Lecce and Brindisi provinces and municipalities, administrative borders. Source: Istat (Italy)

2.2.1. Geographical and morphological characteristics

As described by Ramieri *et al.* (2022) the area (Figure 6) presents a maximum depth of 780 m (Foglini *et al.*, 2016; Taviani *et al.*, 2016). In the southern part of this margin, there are multiple slope incisions, the majority of which is represented by the Bari canyon system (Manea *et al.*, 2020), while the northern portion presents the gondola deformation belt that connects the shelf to the Dauno seamount. The eastern side margin displays an overall less pronounced topographic roughness, hosting several submarine canyons, however (Taviani *et al.*, 2016).

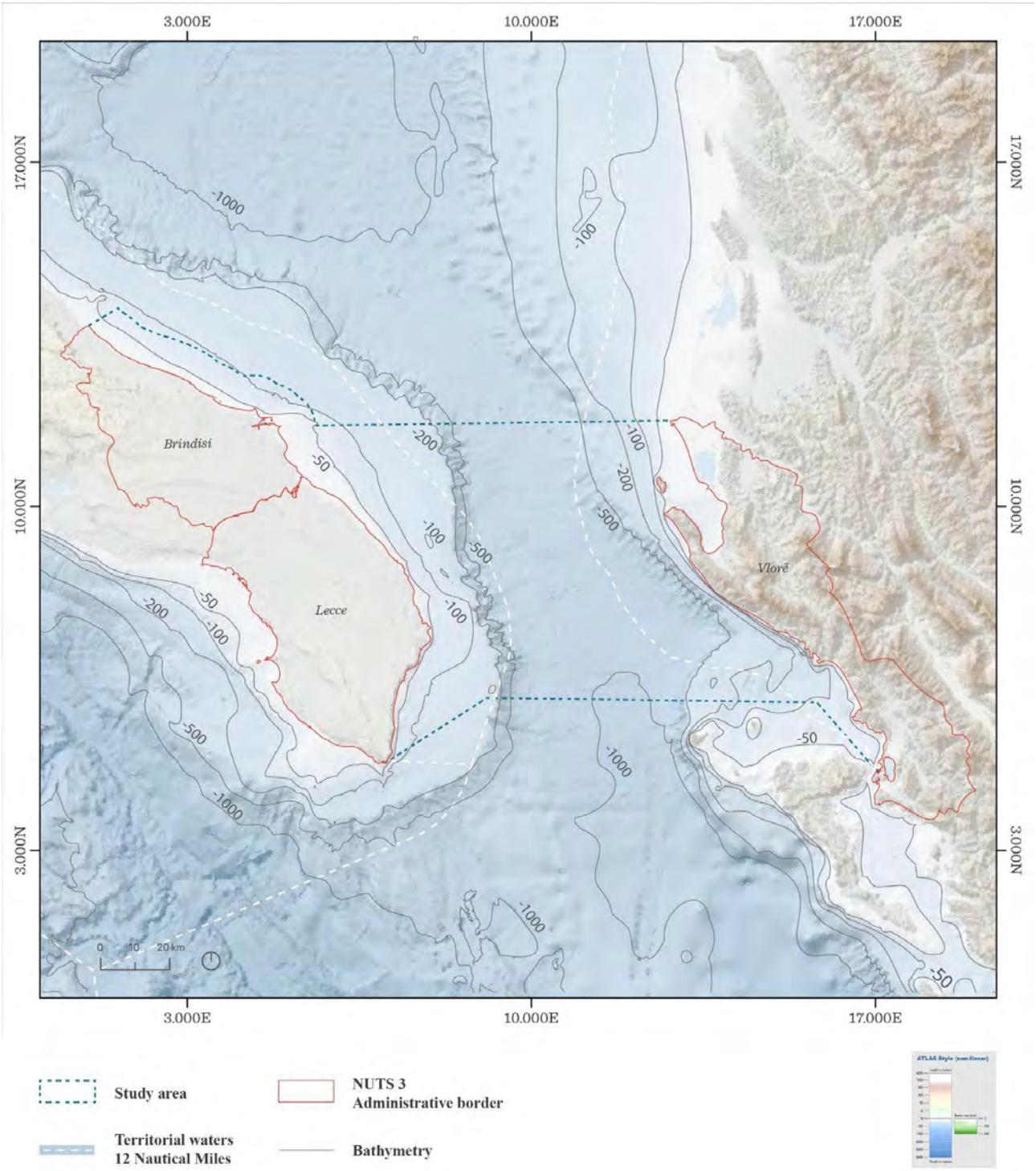

Figure 6. Bathymetry. Source: EMODnet

The Puglian coastline is about 975 km long, with a large diversity of elevation and geological and morphological features. Sandy beaches and rocky coasts each represent about a third of the total, while high cliffs are 21% of the total coastline. Coastal cliffs are often characterized by caves, which worsen the effects of wave action, undermining cliffs' stability and causing their collapse. Shores of mixed sediments (including pebbly beaches) represent the 12% of the total shoreline. Coastline evolution has been strongly influenced by the gradual disappearance of dune belts, which act as a sediment reservoir and a protection system for the back-dune areas (Bruno *et al.*, 2020).

Vlora region stretches along the Adriatic Sea and especially the Ionian Sea and has a coastline of 244 km. The northern part of Vlora region's coastline has a low profile and is sandy and the southern part is rocky with high cliffs and a rocky shore with pebble and gravel beaches.

In the study area, the sea bed has a narrow continental shelf, on average 2.5 km wide, with the -5 m contour located at less than 30 m offshore and the -20 m at 200 m offshore. Erosion of cliffs is prevalent along the coastline with formation of pocket beaches or narrow gravel beaches at the base of slopes like at Lukova and Spile near Himara.

The coastline of the Vlora Bay-Vjosa River Mouth area has continuously modified its configuration by sedimentation of alluvium transported by Vjosa River water and the swell of the Adriatic Sea.

The Karaburun peninsula is known for its high cliffs, coastal and underwater caves, and small pebble beaches such as Grama bay (Genc Myftiu, 2020). Karaburun Peninsula runs along the western part of Vlora Bay. It covers 62 km^2 and separates the Albanian coast of the Adriatic Sea from the Ionian Sea. A narrow sea channel, named Mezokanali (in English: middle channel), separates Karaburun from Sazan Island. Sazan Island is 4.8 km long, 2 km wide, and has a surface of 5.7 km^2 (Genc Myftiu, 2020).

Further to the south lies the small bay of Spile that is delimited by two headlands; on the northern one is the town of Himarë. The bay has a beach consisting of limestone gravel and pebbles, which is 20 m wide and divided in two parts by a small rock outcrop. An interesting aspect of this bay is the presence of two freshwater springs of karstic origin which outflow close to the beach.

Ten kilometres southwards from Himarë lies the bay of Porto-Palermo, with high rocky cliffs cut into limestones and narrow pebble beaches. The two headlands at the bay's borders protect it from wave action during storms and the sea bed is steep attaining considerable water depths (20 m) close to shore.

The arch-shaped bay of Sarandë, between the Gormarti represents the southernmost part of the study area.

2.2.2. Water circulation, tide, waves

Regarding water circulation, in the study area a cyclonic gyre is seasonally present over the South Adriatic, determined by topographic features and separates the southern from the central Adriatic (Ramieri *et al.*, 2022 and the articles referenced therein: Orlic *et al.*, 1992; Russo and Artegiani, 1996). Additionally, the South Adriatic basin is characterized by three main dense-water masses (Cushman-Roisin *et al.*, 2001): the Levantine Intermediate Water (LIW), coming from the Eastern Mediterranean through the Otranto Straits, the North Adriatic Dense Water (NAdDW) and the South Adriatic Dense Water (SADW), which form in the northern and southern Adriatic, respectively.

The South Adriatic basin is intruded upon by Levantine Intermediate Water (LIW), a high salinity water mass formed through evaporation in the eastern Mediterranean. Furthermore, this area encompasses the Bari Canyon, which plays an important role in the dynamics of the Adriatic Sea as it is the main channel facilitating the transport of sediments between the western Adriatic shelf and the southern basin (South Adriatic and Ionian EBSA web page).

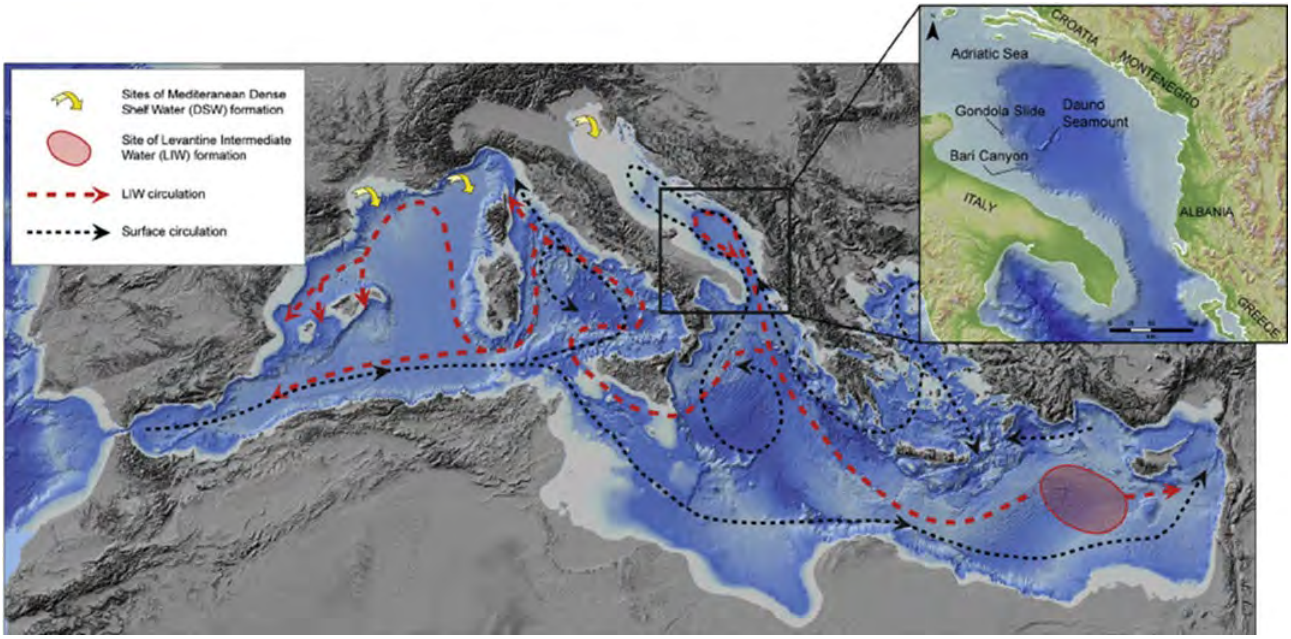

Figure 7. Map of the Mediterranean basin showing the main areas of dense water formation and the general trajectories of the Modified Atlantic Water and the Levantine Intermediate Water; the inset highlights the main morphologic features of the southern Adriatic margin. Source: Taviani et al., 2016

2.2.3. Land cover use

As shown in Figure 8, land cover and land use differ significantly in the Puglian and Vlora coastal areas. The pressures exerted on the water space are determined, as far as the provinces of Brindisi and Lecce are concerned, by agricultural practices (e.g. olive plantations, non-irrigated arable land, and complex cultivation patterns) and the constant alternation of small urban agglomerations. It is important to emphasize the imprint exerted by the area of Brindisi where the city, the industrial hub, its port, and the airport can be localized. On the Puglia coast, Figure 10, naturalness along the coast is now residual, given the high extent of built-up areas, industrial production hubs and agricultural areas.

At the planning and management level in the Puglia region there is the Regional Coastal Plan (PRC – Piano Regionale Costiero), an instrument that regulates the use of the areas of the Maritime State Property, with the aims of ensuring the correct balance between the preservation of the environmental and landscape aspects of the Puglian coastline, free use and the development of tourist and recreational activities.

The Albanian coast, unlike the Puglian coast, has an extensive and continuous area of forest and woodland vegetation (sclerophyllous, coniferous, and grassland). A limited area (from Dhërmi to Lukovë) has some agricultural activities, mainly fruit trees, and olive plantations. The northern and southern parts of Vlora region are both affected by the lagoon areas found in Vjosë-Nartë and Butrint National Parks. Urban areas are concentrated around the two main cities of the region, Vlora and Saranda.

In terms of management and planning along the Albanian coast, the Integrated Intersectoral Plan for the Coast (PINS Bregdeti – Plani i Integruar Ndërsektorial për Bregdetin) is in force. It is a strategic spatial plan at the national scale, with the objective of improving and strengthening the interaction between territorial developments (urban, natural, infrastructural, water, agricultural system, and the tourism sector), and managing their impact in order to promote economic growth and social welfare. It should be noted that the coastal municipalities also have adopted their General Local Plans where the planning for each municipality is set.

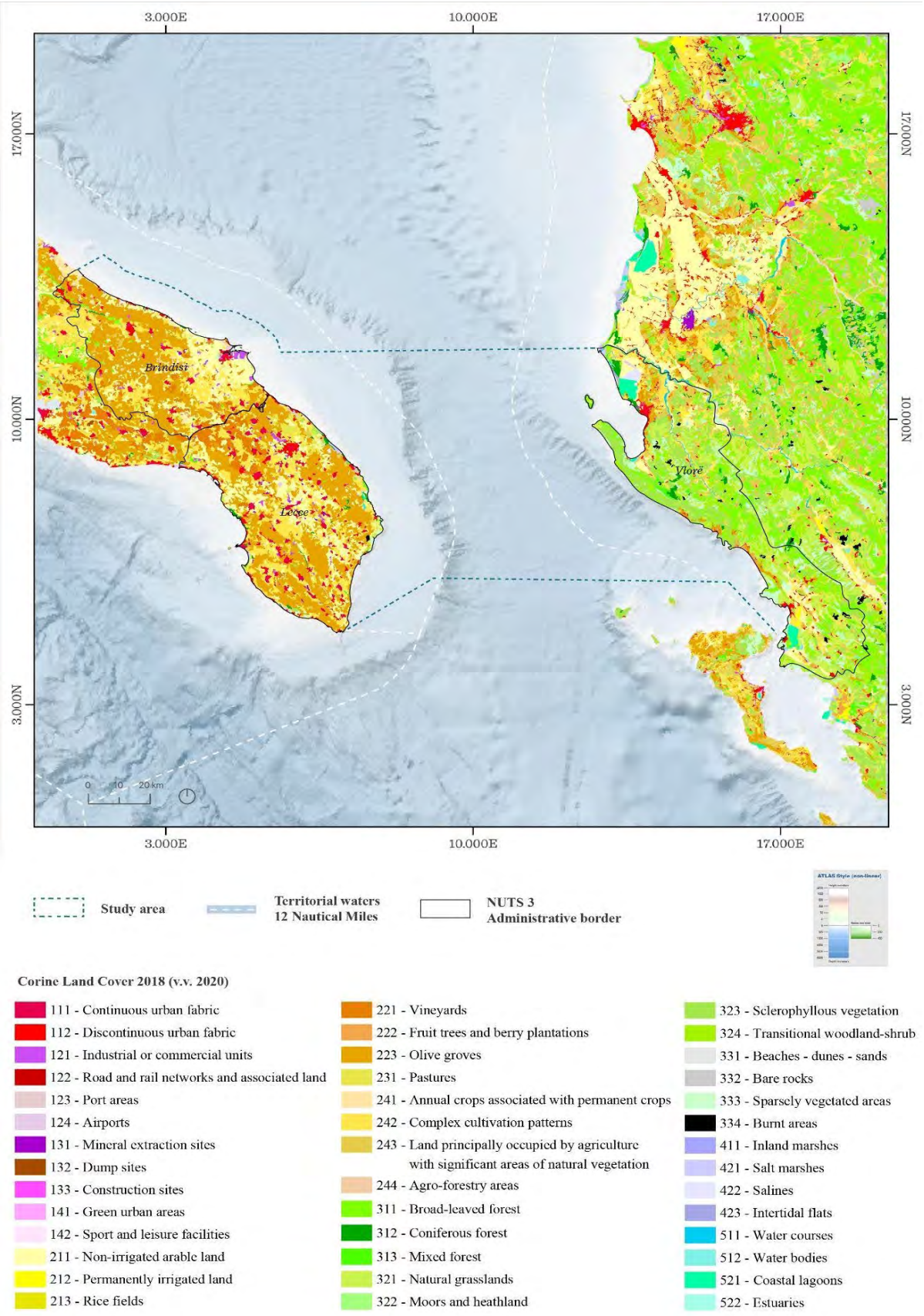

Figure 8. Land cover. Source: Corinne Land Cover 2018 (v.v. 2020)

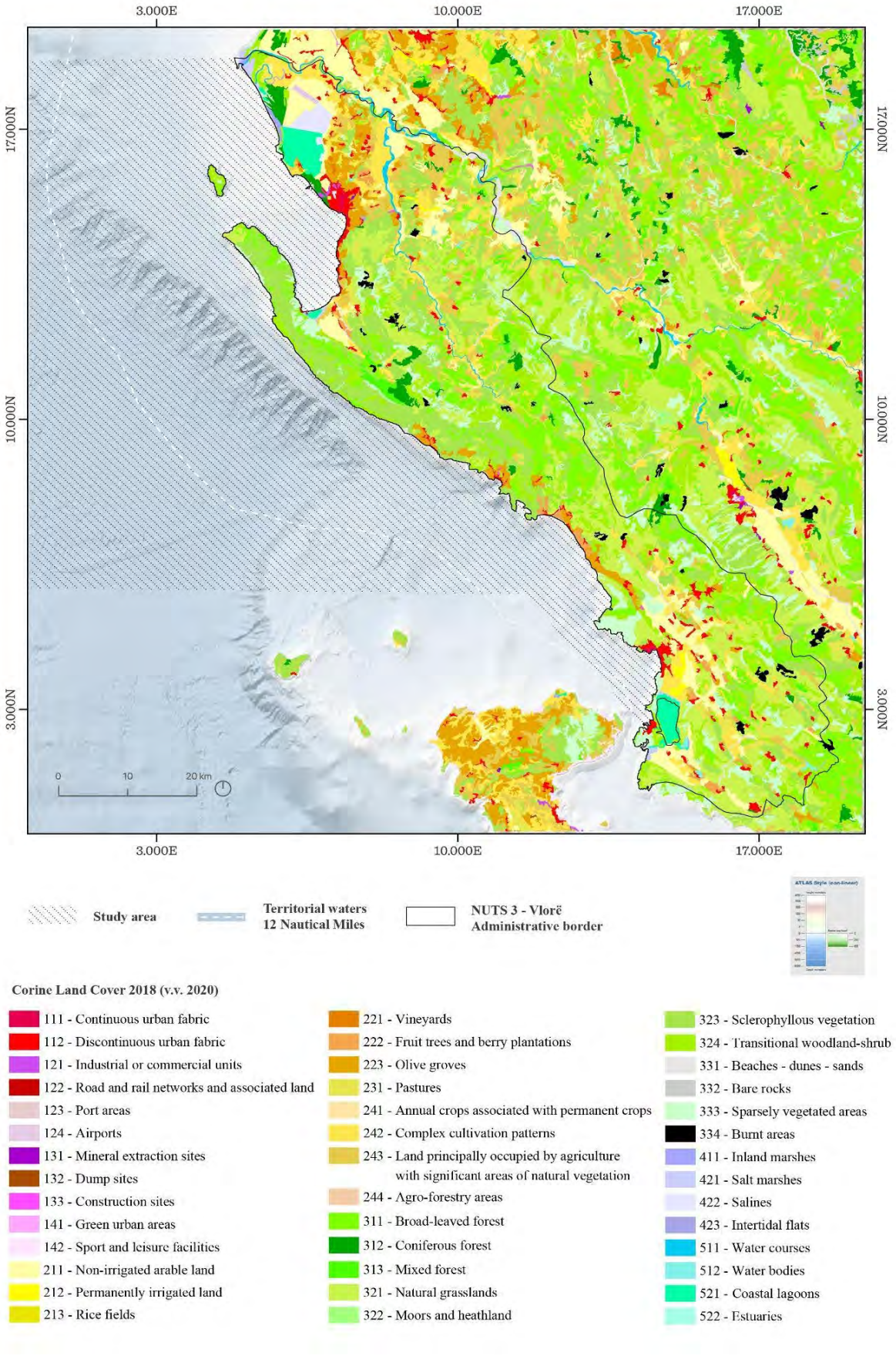

Figure 9. Land cover Vlorë. Source: Corinne Land Cover 2018 (v.v. 2020)

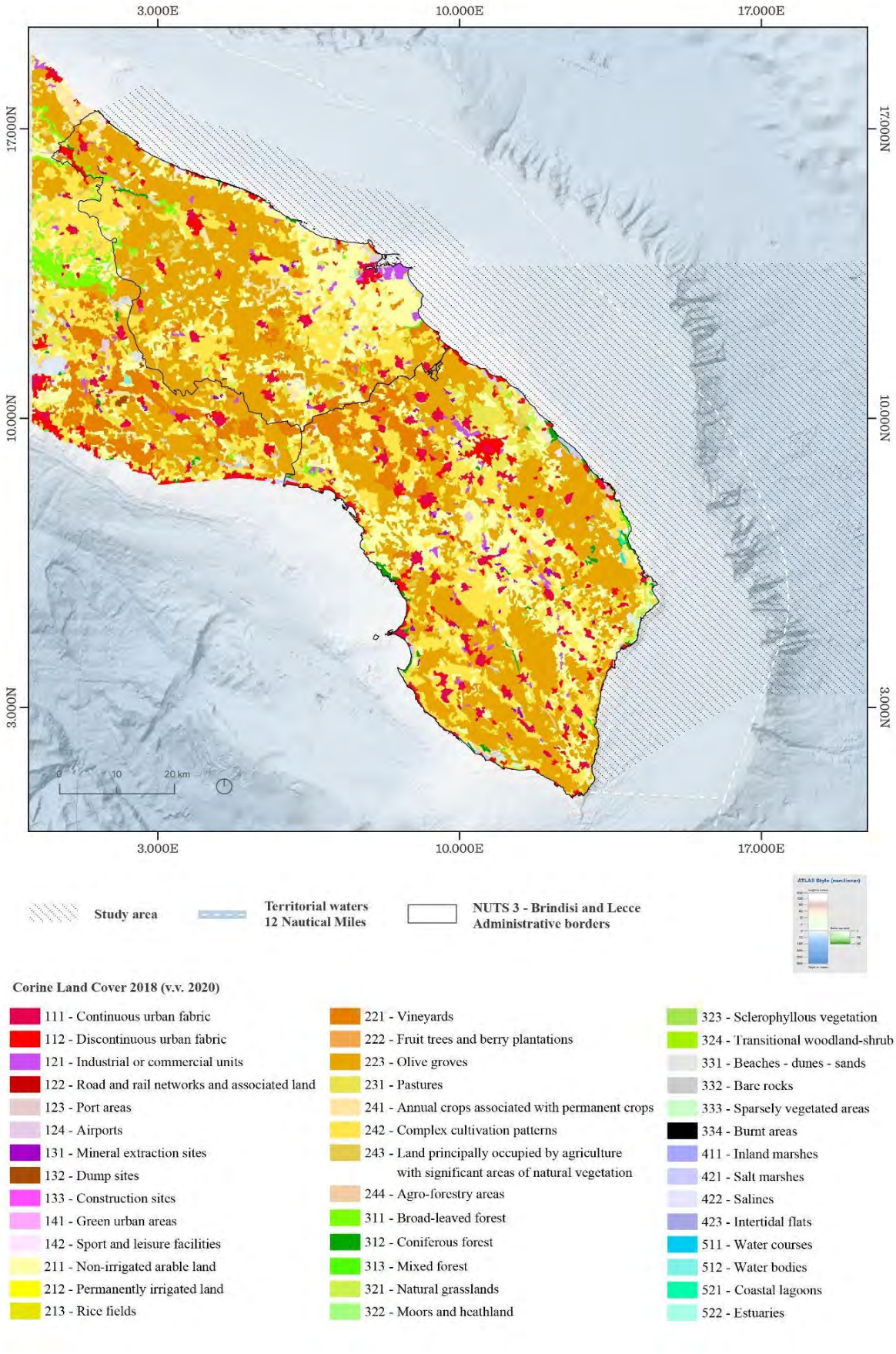

Figure 10. Land cover in Brindisi and Lecce provinces. Source: Corinne Land Cover 2018 (v.v. 2020)

2.3. Anthropogenic activities

The study area is characterized by a series of human activities and related pressure: maritime transport; fishing activity and areas for aquaculture; tourism sector considered as passenger transport, marinas and tourism pressure of coastal municipalities; energy sector consisting of submarine infrastructure such as cables and power lines and areas for hydrocarbon cultivation and extraction; military spaces for national defence; and research and related offshore platforms. Each of these activities is described below and supported by a thematic map.

2.3.1. Maritime transport

The study area is the commercial gateway of maritime transport connecting the Adriatic Sea to the territories of the Mediterranean Sea, one of the busiest seas in the world. Its complex geographical and productive configuration makes the area one of the major maritime hubs in the Mediterranean, fostering the maritime economy related to maritime transport as the main factor of growth of the territories bordering it.

As Figure 11 and Figure 12 show, both cargo and tanker traffic show high intensities in the study area. Within this main artery that runs through the Strait of Otranto, closer to the Italian coastline than to the Albanian one, two small branches with lower intensities arise from the port of Brindisi and Vlora.

Getting into the Ionian Sea generates a bifurcation of the flow, which nevertheless remains of high intensity: one route, continues along the Puglian coast, heading west toward Sicily and Malta; the other continues toward the Middle East.

In comparison to the cargo traffic, which is contained in a well-marked route, tanker traffic shows a remarkable extension that affects almost the entire study area. It spreads from the 100-m isobath along the Italian coast reaching almost the 500-m isobath near the Albanian coast.

If passenger traffic and fishing fleets are added to the flow of cargo ships and tankers, the result makes it possible to highlight the important relationship linking the Puglian and Albanian coasts (Figure 13). In particular, there are two routes with high flow intensity: Brindisi-Vlora, Brindisi-Corfu and Corfu-Saranda.

The intense flow of commercial vessels in and out of the Mediterranean Sea into the Adriatic Sea over the Strait of Otranto prompted the International Maritime Organization (IMO) to adopt a Mandatory Ship Reporting System in the Adriatic Sea (ADRIREP, IMO Maritime Resolution MSC No.139 (76) of Dec. 5, 2002) promoted under the European Straits Initiative (ESI) – including Albania – to monitor all ships passing through the Strait of Otranto and allowing Coastal States of interest to have a comprehensive view of maritime traffic of dangerous and/or polluting goods in the event of an accident. The ADRIREP rules are mandatory for all the ships belonging to one of the following categories: oil tanker ships of 150 gross tonnage and above; ships of 300 gross tonnage and above, carrying on board (as cargo) dangerous or polluting goods, in bulk or in packages.

In this framework, commercial ports play a key role, the development of which is closely connected with aspects of logistics and functional infrastructure, as well as land transport infrastructure. These activities are historically linked to the area and favoured by the European strategic transport network TEN-T.

Specifically, in the study area, since 1 December 2022, Corridor 8, which starts from Brindisi in Italy and ends in Bulgaria, has been integrated into the TEN-T network, starting from the southern Italian ports of Bari and Brindisi and runs through the Albanian ports of Durrës and Vlora.

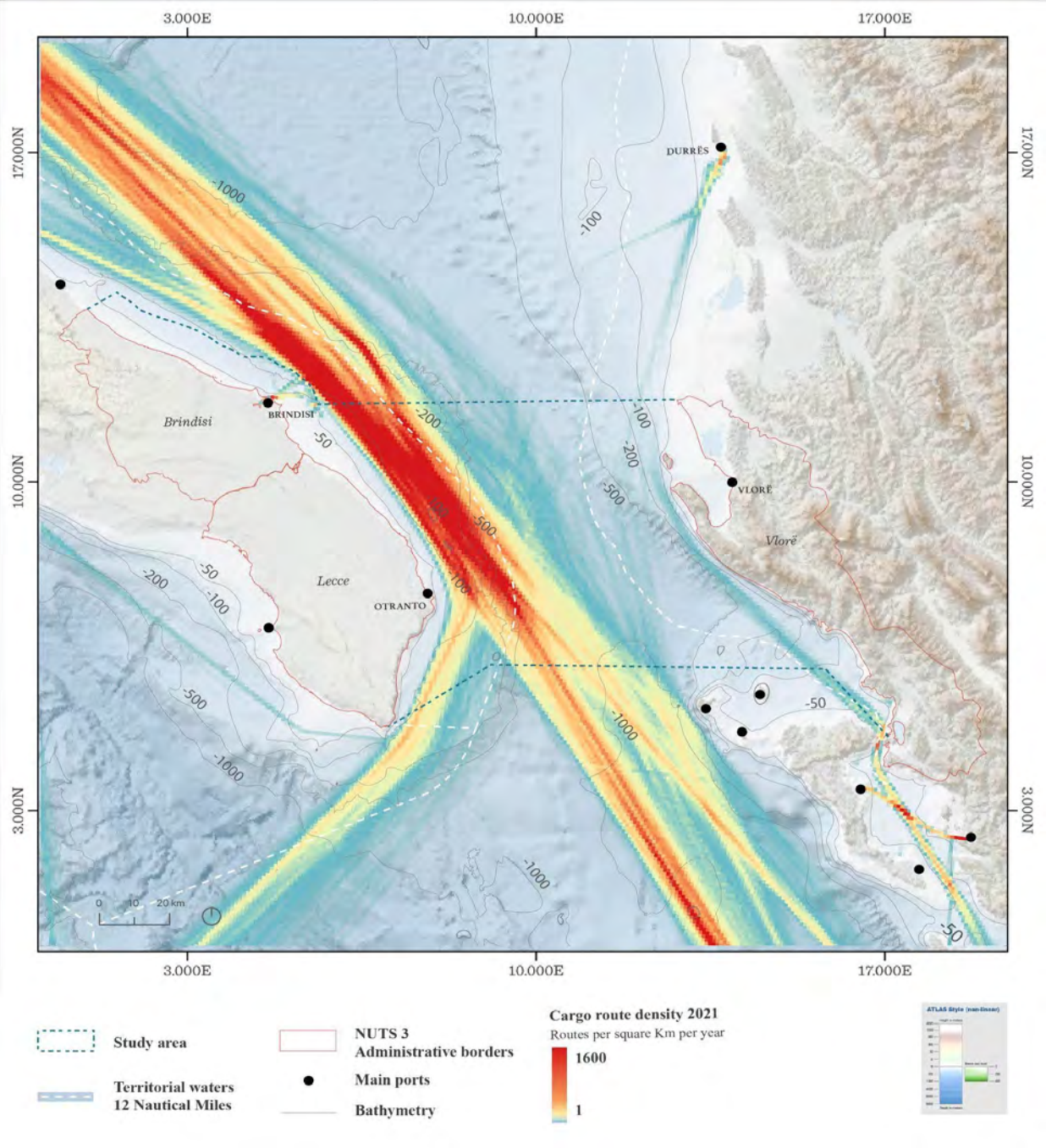

Figure 11. Cargo route density (2021) and main ports. Source: EMODnet for route density and Eurostat for ports

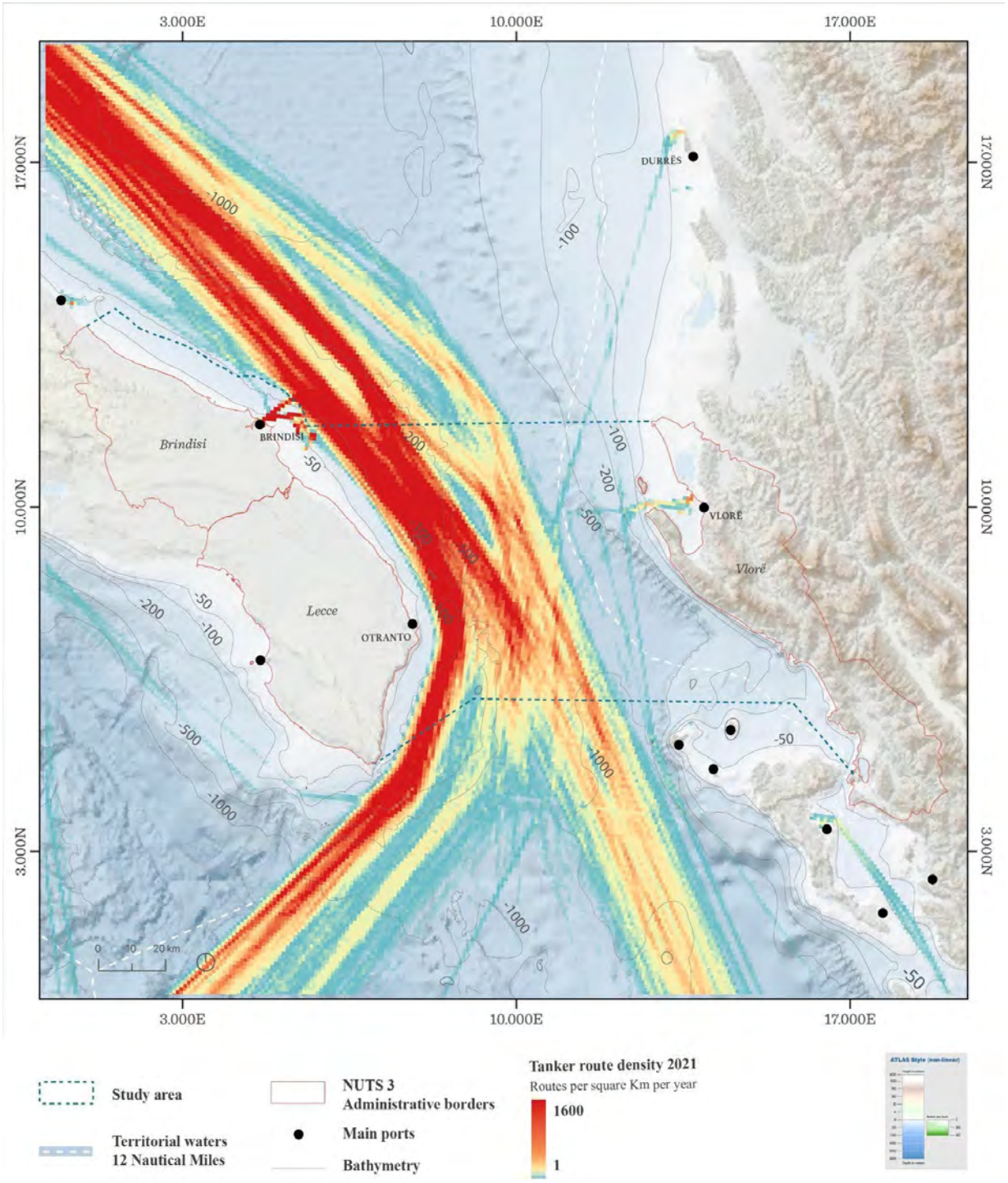

Figure 12. Tanker route density (2021) and main ports. Source: EMODnet for route density and Eurostat for ports

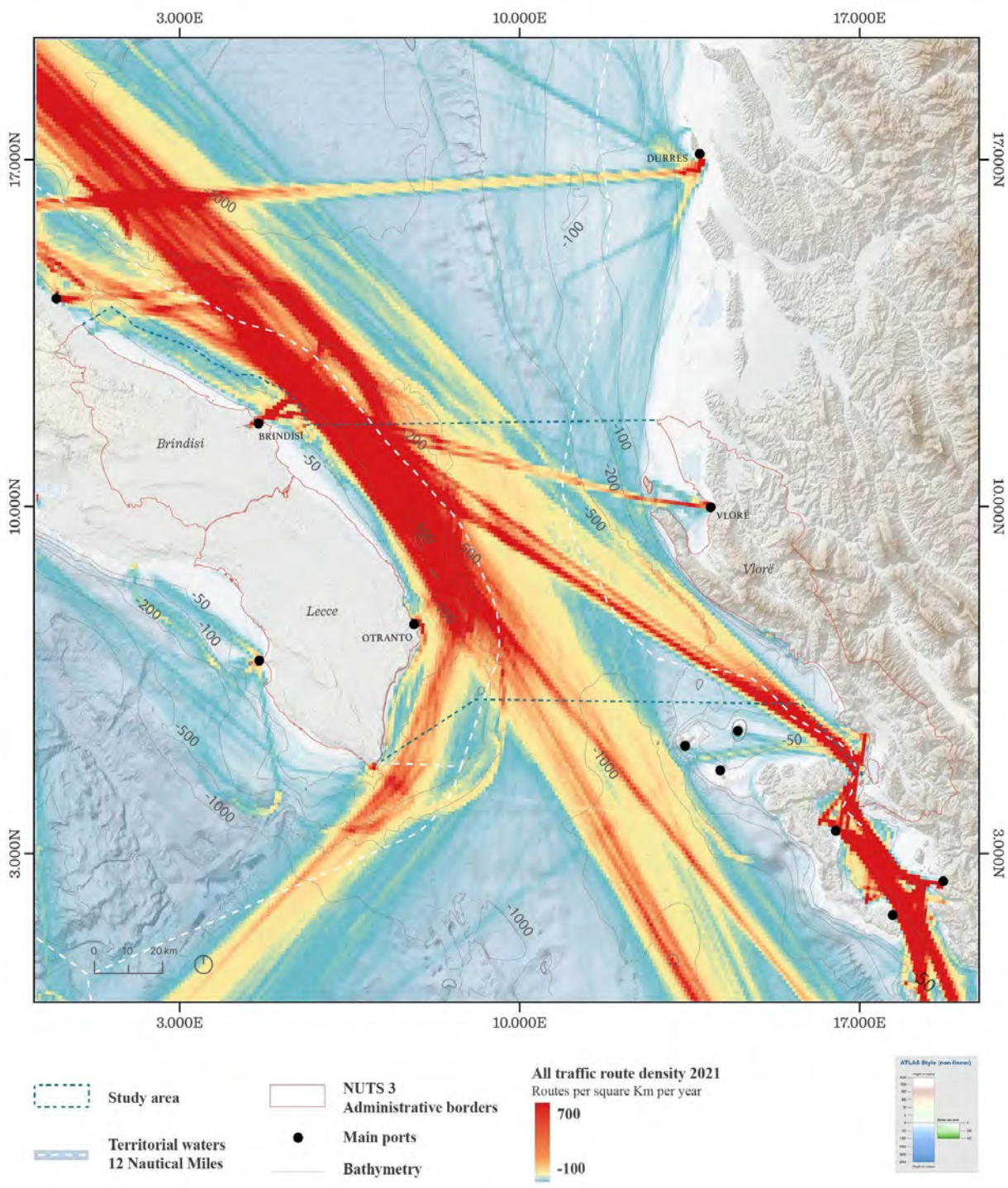

Figure 13. All traffic route density (2021) and main ports. Source: EMODnet for route density and Eurostat for ports

The Port of Brindisi is, together with the port of Bari, the most relevant port of the Southern Adriatic Sea Port System Authority. It is a multi-functional port, with industrial, commercial, and tourist facilities, and plays an important role in the connections between Italy and the eastern part of the Mediterranean basin, primarily the coastal countries of the Balkan Peninsula, Greece, and Turkey.

The traffic volumes recorded by the port of Brindisi since 2015 denote a significant decline in passengers, in conjunction with the progressive concentration of traffic toward the port of Bari. In the last few years, the number of passengers is increasing again. As far as cargo is concerned, the last few years have not recorded any contractions in the overall volumes handled in the port of Brindisi, in relation to which solid and liquid bulk constitute the most relevant fractions.

Table 1. Port of Brindisi, main statistics.
Source: Autorità di Sistema Portuale – AdSP – del Mare Adriatico Meridionale, Ufficio Innovazione Tecnologica

MODELLO ESPO - PORTO DI BRINDISI

	january - december 2018			january - december 2019			january - december 2020			january - december 2021			january - december 2022		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
TOTAL TONS	8.112.888	4.582.556	12.695.444	5.788.759	1.756.172	7.544.931	4.961.790	1.774.202	6.735.992	5.342.021	2.284.711	7.626.732	7.307.937	2.737.184	10.045.121
Number of local passengers and ferries	266.000	266.912	532.912	260.573	259.953	520.526	107.914	113.862	221.776	151.092	161.123	312.215	200.917	199.328	400.245
Number of cruise passengers			104.428			86.096			2.361			8.568			87.753
Number of container in TEU	0	12	12	5	100	105	0	0	0	0	0	0	0	383	383

The Port of Vlora is located south of the city of Vlora, 2 miles north of the Cape Fort. It consists of two peers: the eastern one and the western one (peer zero). The main categories of traffic identified in this bay are ferry boat traffic, cargo vessels, tanker ships, touristic vessels/ cruisers, fishing boats, and pleasure boats. The new PIA petrol terminal is built 2.3 miles NW of Vlora port. The Petrolifera port is equipped with two breakwaters and one central peer. The northern breakwater is 1080 m long with an arch shape.

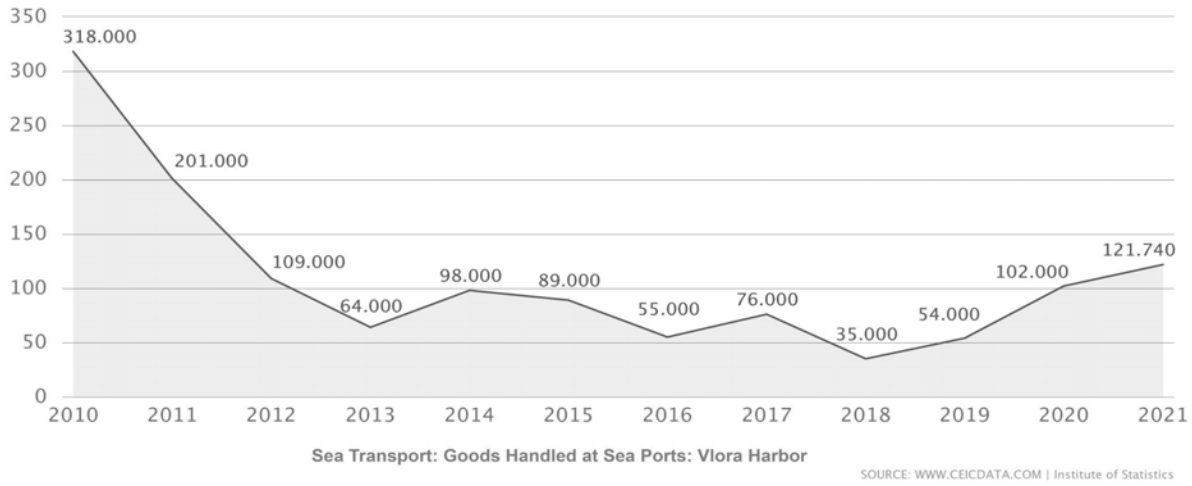

Figure 14. Port of Vlora, goods handled. Source: Institute of Statistics, CEICDATA

Traffic intensity in Vlora Bay has increased significantly from 2014 to 2018 (from 1,251 to 2,356 calls). The growth is due to the increase in tourist boats and yachts, especially in 2017 and 2018. The number of commercial vessels has reduced in the period. Goods have been increasing in the last 4 years reaching 121,740 units in 2021. Currently, the Port of Vlora, including commercial and tourist, is located within the city. However, with the Decision No. 5 of 24.11.2021 of the National Territorial Council the commercial port is planned in the coming period to be moved to the north, in the Triport area, and the former port in the city centre will exclusively become a marina.

Figure 15. Maritime traffic lines and infrastructures in Vlora Bay (2019). Source: Genc Myftiu, 2020

2.3.2. Fisheries

The southern Adriatic has a relatively lower level of fishing than the northern one, as it is characterized mainly by deep habitats. Similarly to the Northern basin, there are facies and typical associations of mobile funds such as of *Ophelia sp.* and of dead leaves of *Posidonia oceanica* and other phanerogams. It contains a batial basin and includes a large depression that reaches about 1,200 m in depth. The open area is dominated by the biocoenoses of offshore and debris funds.

In the southern Adriatic the area potentially exploited by trawlers is 15,000–17,000 km^2 (70% on the western side, 30% on the eastern side). The extension of the trawlable area has a positive gradient from south to north of the basin.

The study area mainly falls within the Geographical Sub-Areas (GSA[2]) 18 "Southern Adriatic Sea", and a small portion falls within the GSA 19 "Western Ionian Sea".

[2] GSAs = Geographic Sub-Areas were established by the General Fisheries Commission for the Mediterranean (GFCM) in the FAO area 37 – Mediterranean and Black Sea – with the aim of promoting the development, conservation, rational management, and best utilization of living marine resources, as well as the sustainable development of aquaculture.

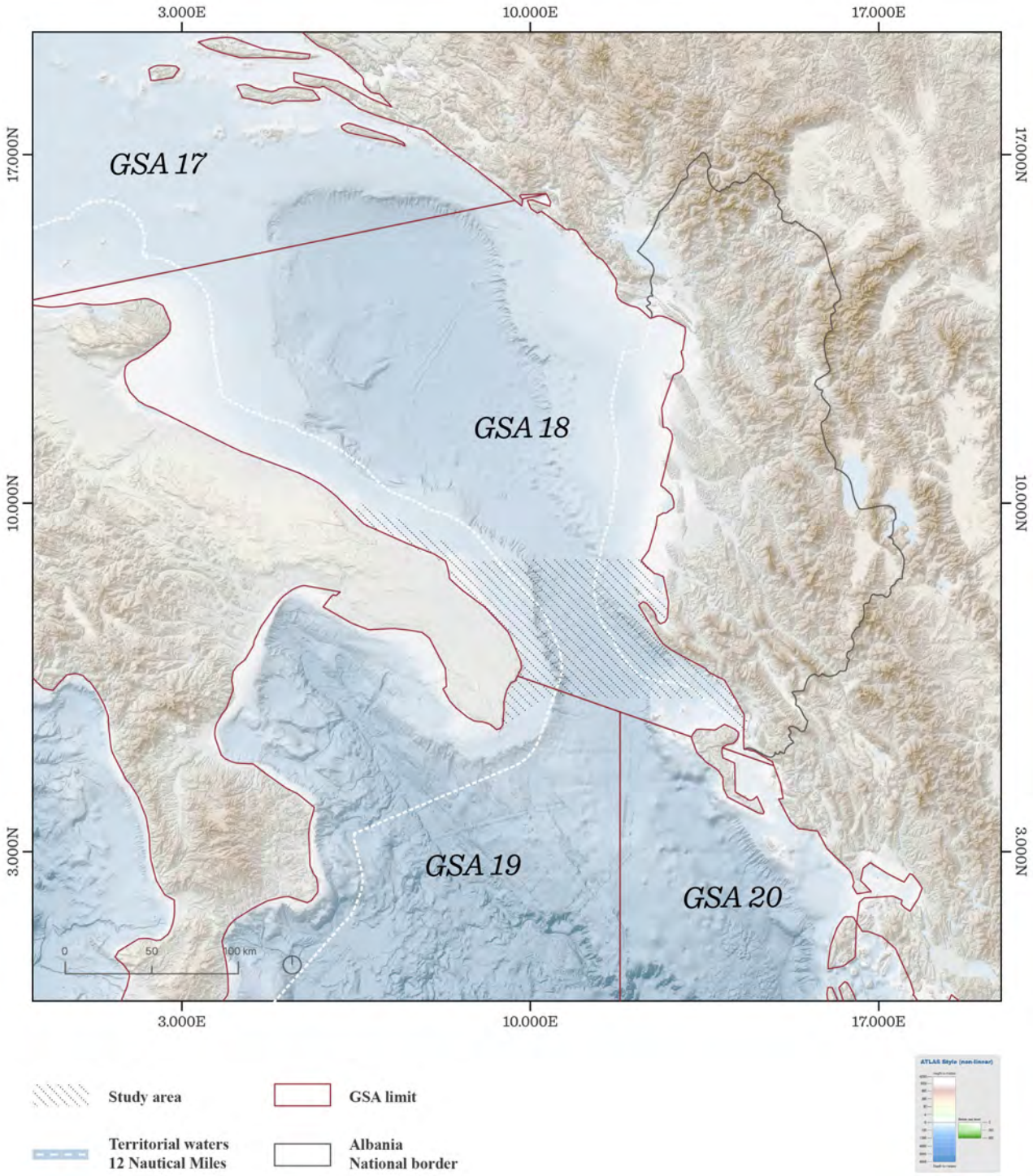

Figure 16. GSA limits. Sources: GFCM

In the GSA, 2,099 vessels were registered in 2022 according to GFCM, the majority of which being from Italy (1,031), followed by the Albanian ones (751) and the Montenegrin ones (317).

In the study area (GSA 18, 2022 GFCM data), the following fishing gears are mainly utilized (Table 2): the bottom otter trawl, the combined gillnets-trammel nets, the fixed longline, and the trammel net. Purse seine activity is mainly carried out by large vessels (from 24 to 40 metres of LOA), present in the ports of Barletta and Molfetta, which mainly fish in the Gulf of Manfredonia and in some cases are also pushed into the GSA 17 (MIPAAF, 2016). Some vessels in Vlora fishing port also exercise the purse seine activity for the small pelagic fishery in the area.

Table 2. Fishing gears utilized in the GSA 18. Source: GFCM, 2022

Main fishing gear	Numbet·of vessels
Single boat bottom otter trawls	634
Combined gillnets-trammel nets	523
Set longlines	323
Set gillnets (anchored)	321
Trammel nets	116
Towed dredges	76
Purse seines	49
Midwater trawls (nei)	18
Beach seines	14
Drifting longlines	12
Mechanised dredges	5
Drift gillnets	4
Traps (nei)	2
Handlines and hand-operated pole-and-line	1
Harpoons	1
Total	**2099**

The Southern Adriatic Sea makes a substantial contribution to the Italian fishery production, with an input comparable to that of the Channel of Sicily, accounting for about 13% of production (Irepa, 2010). The main demersal stocks exploited in the GSA 18 are European hake *Merluccius merluccius*, Norway lobster *Nephrops norvegicus*, and deep-water rose shrimp *Parapenaeus longirostris*.

In 2014 landings of Norway lobster by the Italian trawlers amounted to 442.8 tonnes (STEFC, 2017). The Italian landings of Norway lobster and European hake are entirely sold at local markets, and demand largely exceeds landings. The almost totality of Norway lobster and European hake from GSA 18 fishing grounds is landed in ports located in the same GSA, (Russo *et al.*, 2017). In 2020, Albanian catches amounted to almost 4,580 tonnes (GFCM data).

The landing points for Norway lobster and European hakespecies in the Italian part of GSA 18 are eleven and all located in the Puglian region (Russo *et al.*, 2017). More in general, the main Italian fishing ports in GSA 18 are Manfredonia, Bisceglie, Molfetta, Mola di Bari, and Monopoli.

Albania has four main fishing ports: Durrës (38% of the fishing fleet), Vlora (35%), Saranda (14%), and Shëngjin (12%) of which Vlora and Saranda are in the Vlora region.

Spatial distribution of fishing activity in the study area is described in the following two maps. Figure 17 represents the density of fishing vessels, obtained from Automatic Identification System data in the year 2021..[3] Figure 18 represents the trawling effort recorded during 2006–2018 of fishing vessels larger than 12 m.

Both maps show significant fishing pressure in the western portion of the study area, where valuable benthic habitats (such as cold-water corals) are concentrated. Within the territorial waters, high fishing intensity is recorded along the entire Italian side, with pressures in proximity of the Natura 2000 protected areas and Torre Guaceto MPA. While on the Albanian side, based on available data. fishing intensity is more

[3] The automatic identification system (AIS) is an automatic tracking system that uses transceivers on ships and is used by vessel traffic services (VTS). When satellites are used to receive AIS signatures, the term Satellite-AIS (S-AIS) is used.

concentrated along the 500 m isobath in the vicinity of Karaburun Sazan National Marine Park and in the Gulf of Sarandë, with less intensity instead in the north of the study area along the 100 m and 200 m isobaths.

As regards fisheries management measures in the study area, trawling is not admitted in near-shore areas, as imposed, in Italy, by Article 13 EU Council Regulation 1967/2006 where trawling is banned within 3 nautical miles off the shoreline or within the 50 m depth.

Albania, being part of the GFCM and also in the negotiation phase to join the EU, has similar provisions for restrictions that are on a national scale but also to specific water categories. Some of the most relevant are for example: according to Decision of the Council of Ministers (DCM) No. 402 of 8.5.2013 "*It is prohibited to use trawling gear at a distance of less than 3 nautical miles from the coastline or inside the 50 metre isobath, when such a depth is reached at a smaller distance from the shore*". According to the Order No. 149 of 31.3.2022 "*Any kind of fishing activity is prohibited in the protected area 'Karaburun-Sazan Marine National Park', according to the coordinates determined by the DCM No. 289 of 28.4.2010, 'On the declaration of the "National Park" of the natural marine ecosystem near the peninsula of Karaburun and the island of Sazan' (8). It is prohibited to cast any fishing nets up to the 10 m isobath for the Adriatic Sea and up to the 20 m isobath for the Ionian Sea (9). Fishing with trawlers (bottom or pelagic) is prohibited in the bay of Vlora (limited to the north by the baseline from Cape Karaburun to Treport) (10)".*

A proposal for a FRA named *Deep water essential fish habitats and sensitive habitats in the South Adriatic*, located in the South Adriatic pit was submitted by MedReAct on behalf of the Adriatic Recovery Project to the GFCM's Subregional Committee for the Adriatic Sea in 2018. The proposal for this FRA is still under discussion within FAO GFCM and National governments (see 1.1 for more details). In 2021, the GFCM adopted Resolution 44/2021/3 on a roadmap for the establishment of a fisheries restricted area in the southern Adriatic Sea. The perimeter of the proposed FRA is indicated in Figure 17 and Figure 18.

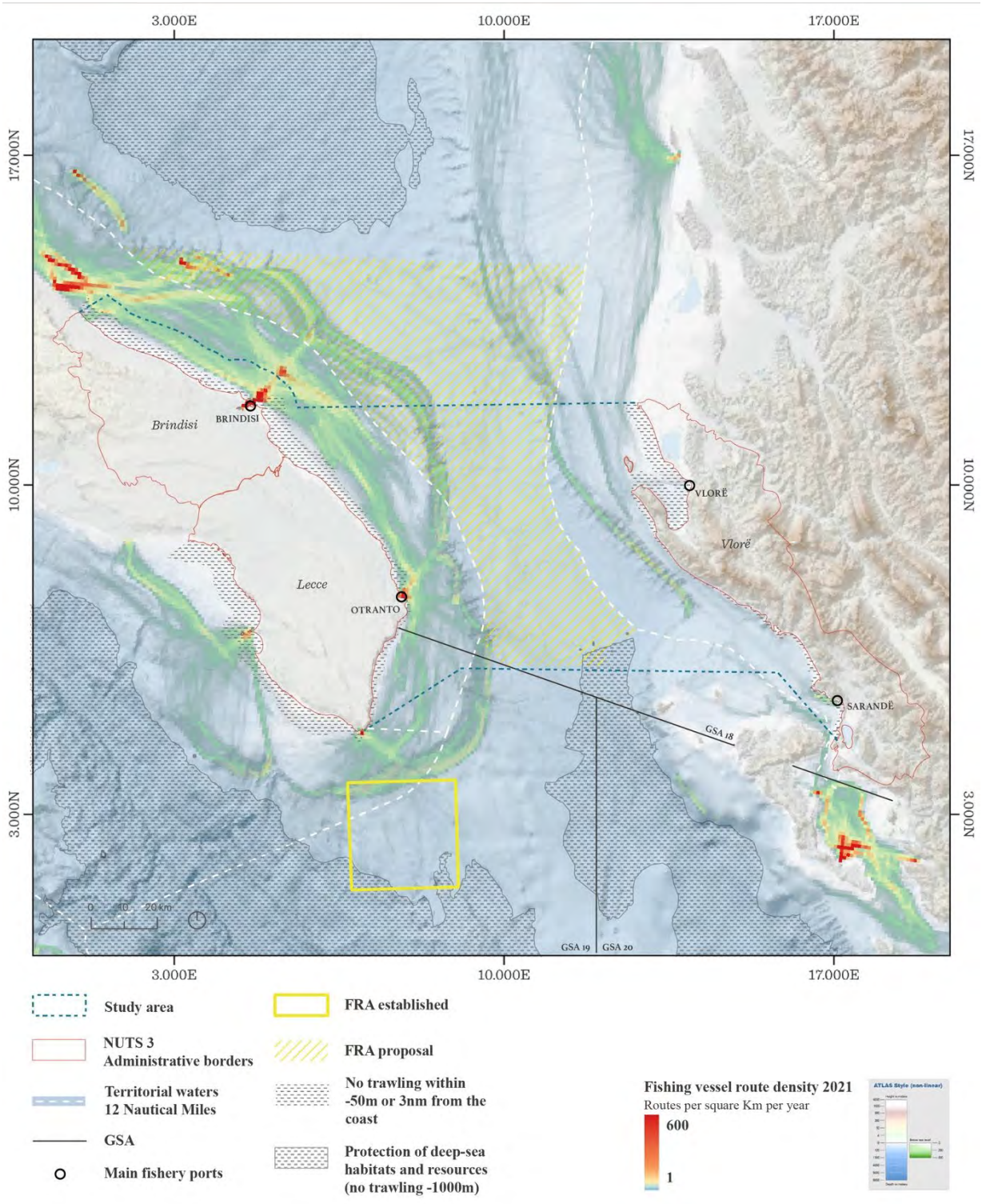

Figure 17. Route density of fishing vessels for 2021 and main constraints of fishing. Source: EMODnet Human Activities for route density of fishing vessels; GFCM for FRA established, proposed, and deep-sea habitat under -1000 m; GSA18 Management Plan for No-trawling area within -50 m and 3 nm

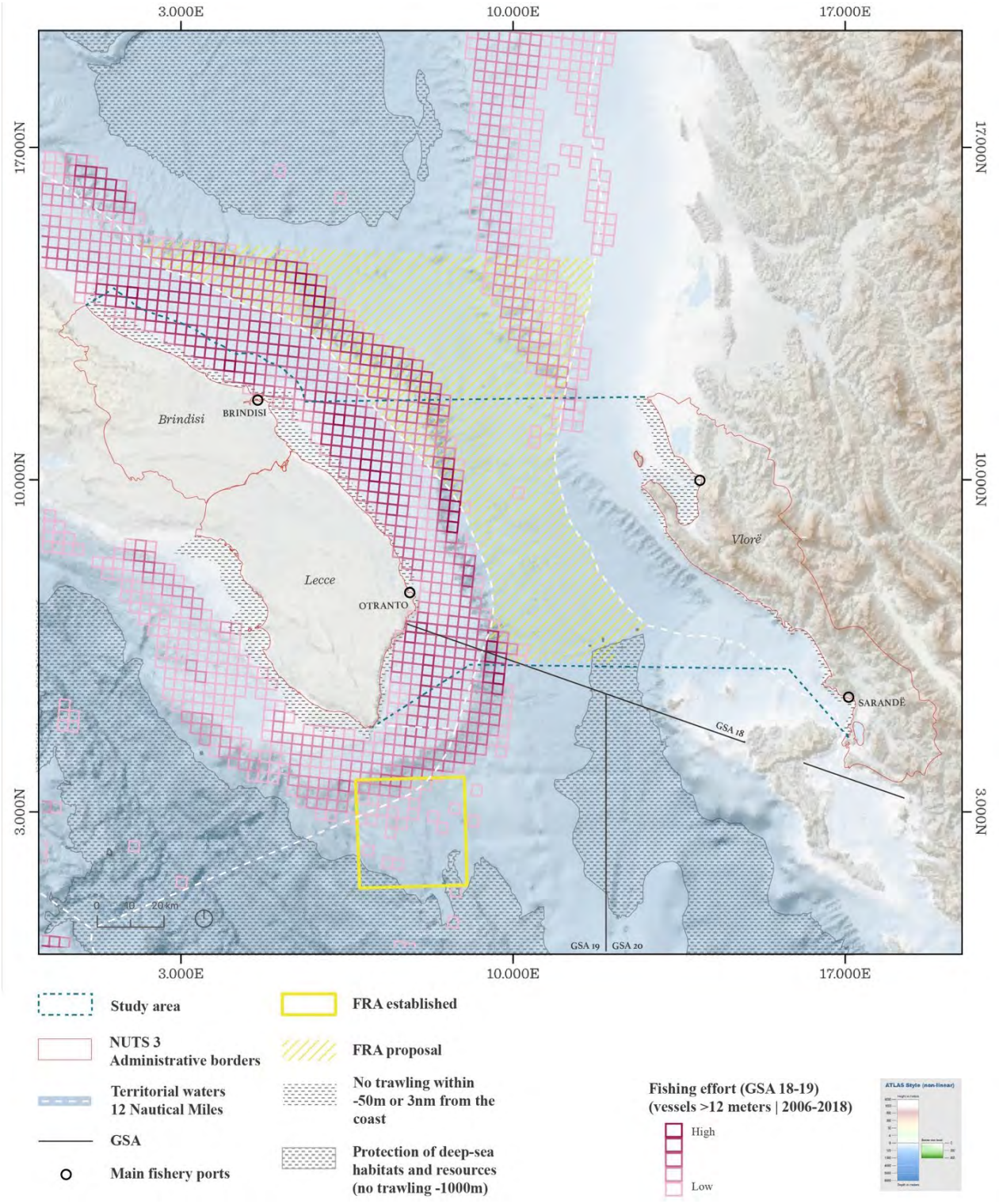

Figure 18. Fishing effort and main constraints of fishing. Source: SID Portale del Mare and Ministry of Agriculture, food sovereignty and forestry – MASAF for fishing effort; GFCM for FRA established, proposed, and deep-sea habitat under -1000 m; GSA18 Management Plan for No-trawling area within -50 m and 3 nm

In the region of Vlora commercial fishery, artisanal small-scale fishery, and recreational fishery are practised. Vlora's fishing fleet is the second biggest in Albania and is mostly skewed toward the bottom fishery. Hence, the majority of vessels are geared with bottom otter trawlers that are used on the sandy bottom. The latter cannot be used in MPA waters, mainly composed of rocky bottoms. Further, it is forbidden by law for large-scale fisheries to fish inside the Vlora Bay (Order No. 149 of MARD of 31.3.2022 and

MP for NMP of K-S, December 2014, UNDP/WWF). As a consequence, commercial fishing effort is negligible in the Karaburun-Sazan area (Kapedani, 2011). Professional fishers use mainly trawlers and purse seiners. The fish fauna of commercial interest is made of several demersal species and groups, small and big fishes, crustacean and molluscs, fish species, and commercially important crustaceans. Along the Kanali area, lines and trawling around 230 m are used to catch European hake *Merluccius merluccius*, Atlantic horse mackerel *Trachurus trachurus*, deep-water rose shrimp *Parapenaeus longirostris*, surmullet *Mullus surmuletus*. Some fishermen catch groupers and rockfish by lines (Genc Myftiu, 2020). Artisanal fishing is practised along the coasts of Rrëza, Kanal-Karaburun and Sazan. It covers all forms of fishing activity using fixed and selective gear such as hooks, fixed nets, trammel nets, and gill nets.

2.3.3. Aquaculture

During the past decade, Albania's aquaculture production has expanded, thanks to the spreading of different types of aquaculture activities. About ten species are cultured (both marine and terrestrial), of which the main marine ones are Mediterranean mussel *Mytilus galloprovincialis*, European sea bass *Dicentrarchus labrax*, and gilt-head sea bream *Sparus aurata*. Total aquaculture production has increased steadily over the past years from 3,450 tonnes in 2012 to 6,258 tonnes in 2018, the value of which was about 22 million USD (© FAO, 2011–2020). The finfish cage culture is positioned on the coast of the Ionian Sea, starting from the bay of Vlora to Saranda (Cape of Stillo). Until 2020 in the bay of Vlora there were seven aquaculture activities cultivating fish in cage, producing altogether about 75% of the national production of sea bream and sea bass; while in the area of Saranda there were eight aquaculture activities, of which five cultivated sea bream and sea bass and three cultivated mussels (DCM No. 130 of 7.2.2021 – AZA).

Identification of the Allocated Zone for Aquaculture (AZA) in the Coastal Areas of Albania has been approved with DCM No. 130 of 7.2.2021 and revised with the new DCM No. 461 of 26.7.2023.

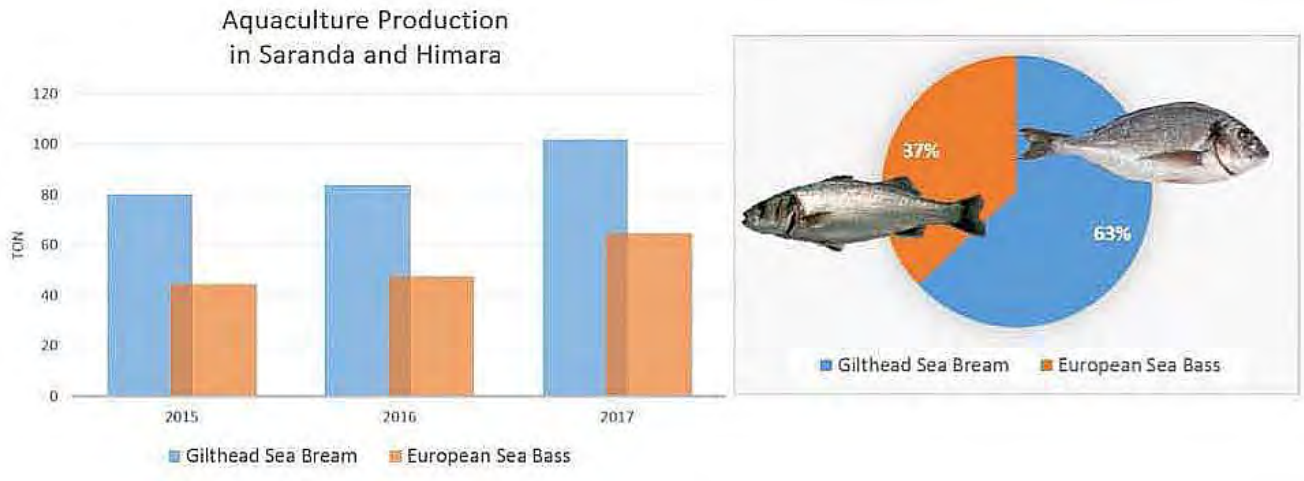

Figure 19. Graphical presentation of the production of gilthead seabream and European seabass, respectively in Saranda and Himara, from 2015 till 2017 (on the left) and pie chart presentation of the general production of these two species from 2015 till 2017 (on the right). Source: Bakiu et al. 2019

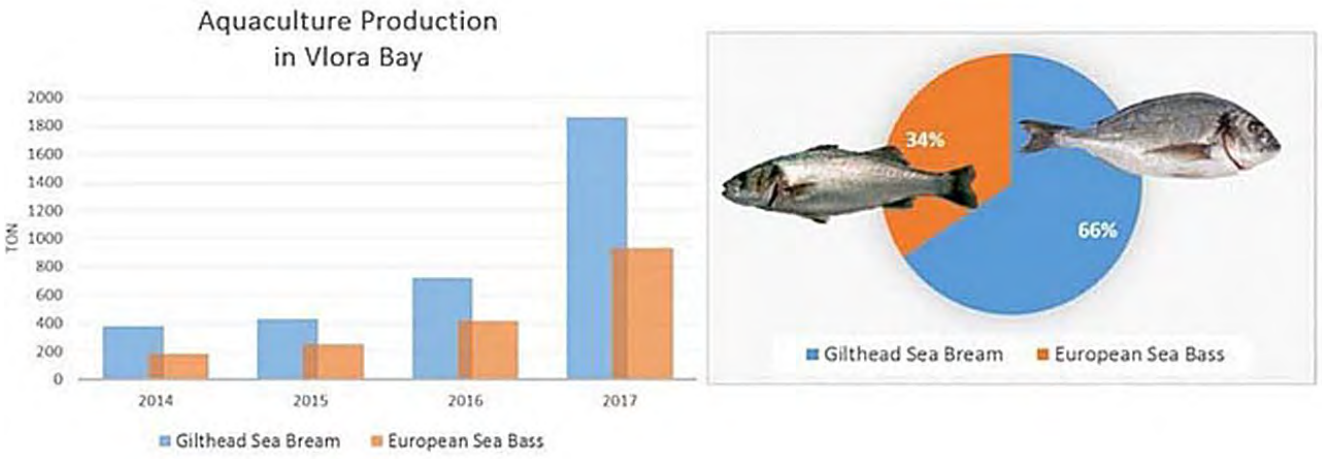

Figure 20. Graphical presentation of the production of gilthead seabream and European seabass, respectively in Vlora Bay, from 2014 till 2017 (on the left) and pie chart presentation of the general production of these two species from 2014 till 2017 (on the right). Source: Bakiu et al. 2019

Puglia plays a leading role in the context of Italian mariculture. The latest data (MiPAAF, 2014) show a production volume of 12,000 tonnes for a value of more than 28 million euros in 2013, with a total of 70 plants in 2020 (ISPRA), most of which are located in the Gulf of Taranto, outside the study area. The production percentage trends show a decline in both shellfish and fish production over the years. About 80 per cent of aquaculture facilities are for shellfish farming and the remainder for fish farming. The main plants are in the Gulf of Taranto, but additional ones are also situated in the province of Brindisi and in Otranto.

In the framework of the project "Acquacultura pugliese 4.0" suitable areas for marine aquaculture have been identified. They are indicated in Figure 21.

Table 3. Aquaculture production in Puglia. Source: MiPAAF, 2014

	Production trends (var%)	
	2011/2013	2002/2013
Shellfish	-11,13	+16,58
Fish	-53,91	-33,07
Employees	949	
Number of facilities	64	
Species	Mytilus, Sea bass, Gilthead seabream, Sharpsnout seabream, Oyster, Eel, Clam, Mullet	
Technologies	Tub, cage, basin, on the bottom, suspension	
Production volume (t)	12.873,7	
Production value (€)	28.452.142	

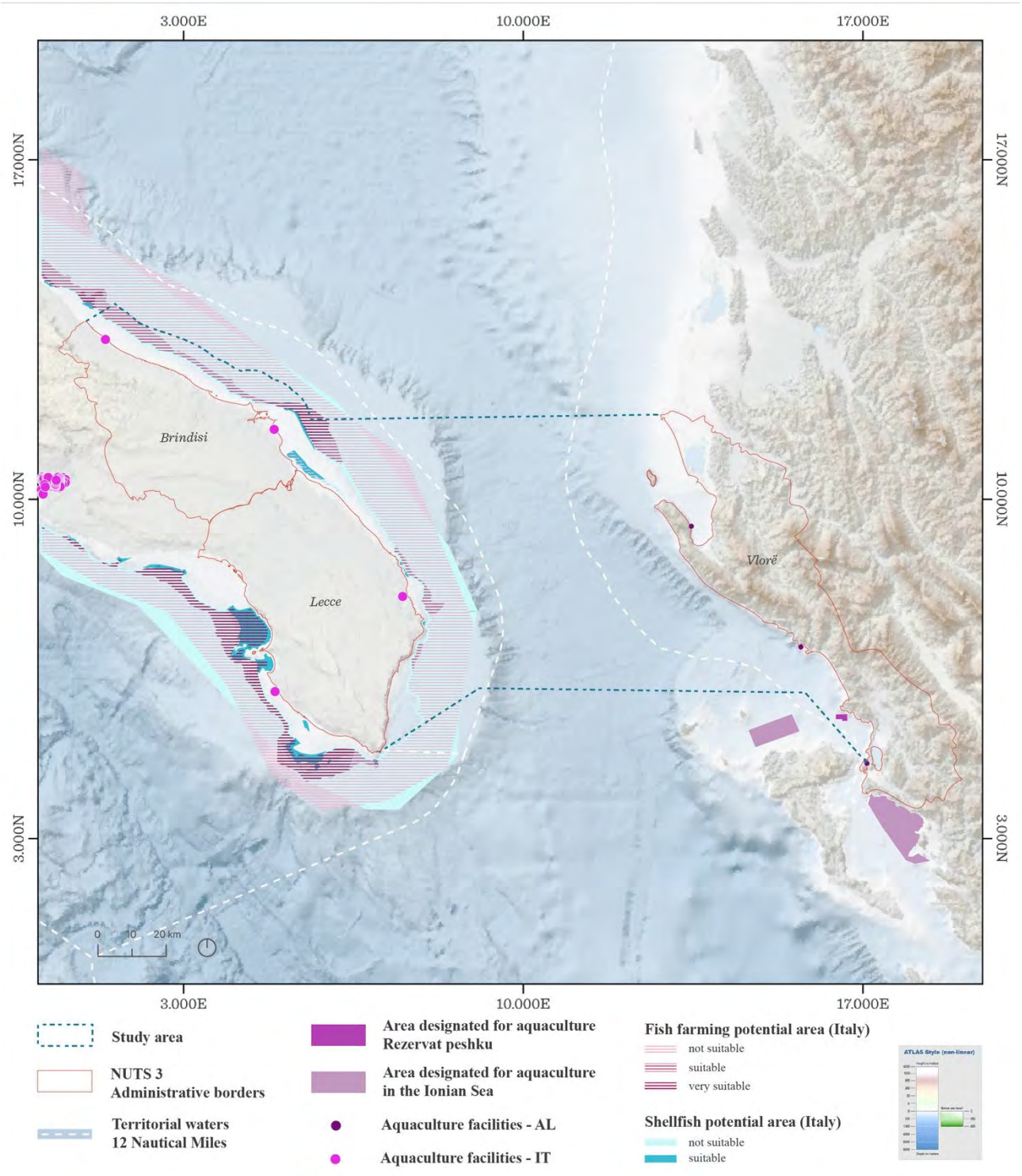

Figure 21. Aquaculture in Puglia and Vlorë. Source: Acquacoltura Pugliese 4.0 – FEAMP – Unisalento for Potential areas of Fish farming and Shellfish; SID Portale del Mare for Aquaculture facilities – IT; Bakiu et al. 2019 for aquaculture facilities – AL; Geoportal of the Albanian Government – ASIG for Area designated for aquaculture – Rezervat peshku

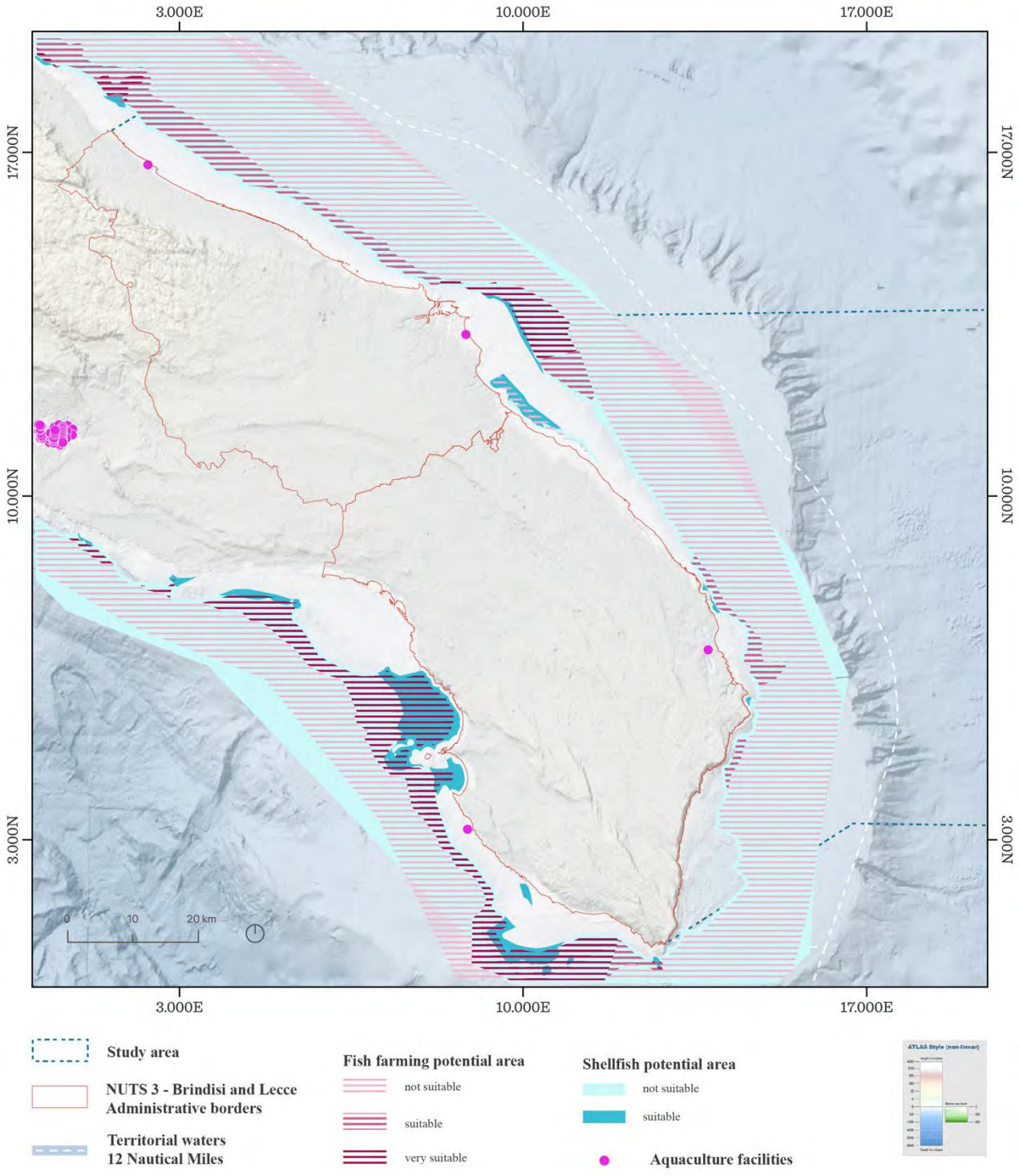

Figure 22. Aquaculture in Puglia. Source: Acquacoltura Pugliese 4.0 – FEAMP – Unisalento for Potential areas of Fish farming and Shellfish; SID Portale del Mare for Aquaculture facilities – IT

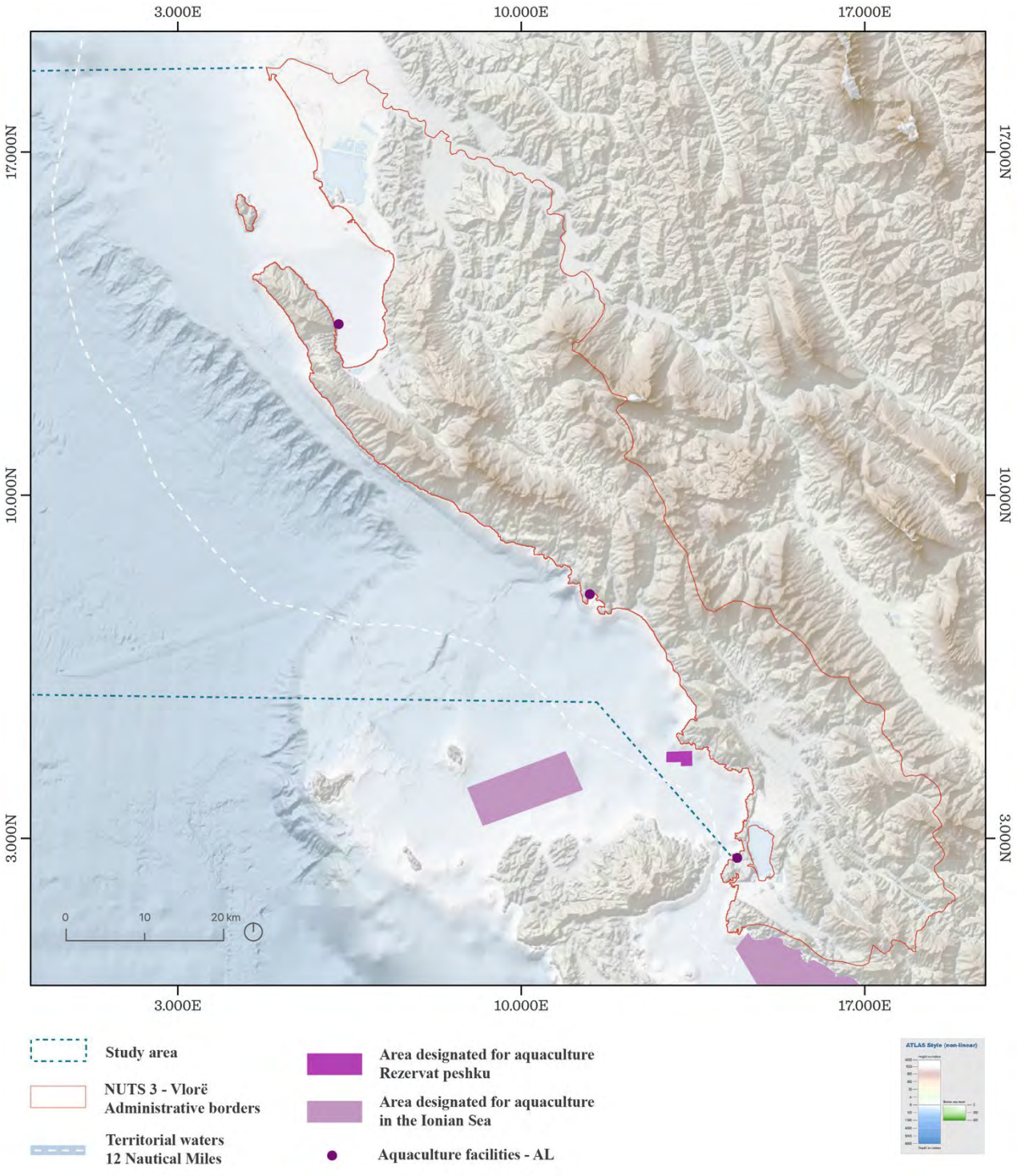

Figure 23. Aquaculture in Vlora. Source: Bakiu et al. 2019 for aquaculture facilities – AL; Geoportal of the Albanian Government – ASIG for Area designated for aquaculture – Rezervat peshku

2.3.4. Tourism

The tourism sector is a central driver in the maritime economy of both the Italian territory, with particular reference to the Puglian coast and, in recent years, on the Albanian territory, especially along the coast of Vlora region.

Based on a study carried out by the International Centre for Tourism Economics (CISET) estimated that about 60 per cent of Puglia's tourist arrivals have the sea product as their main motivation. If presences are considered, due to the higher number of nights spent in the area, the weight of seaside tourists on the overall regional flows increases, accounting for about 70 per cent of the total presences recorded in Puglia in July and August.

Further considerations for the Brindisi and Lecce coastline are suggested by ISTAT data on tourism pressure in coastal municipalities, calculating the ratio of presences to municipal population. A correspondence can be identified between touristic hotspots and the location of protected areas, namely the Natura 2000 areas and Torre Guaceto MPA. Examples of this situation are the municipality of Brindisi, where tourists arrive but do not stay overnight, and the municipalities of Otranto and Ostuni.

Regarding Albania, touristic presences in different areas of the country and with different proximity to the coast are available (Table 3). Compared to the total, the largest number of visitors can be found concentrate in areas close to the coast (59.3%). In the country, almost all visitors are accommodated in "Hotels and similar accommodation" (98%).

Table 4. Number of visitors in Albania per area and closeness to the coastline. Source: INSTAT

	2019	2020	2021
Regionality			
North	327,752	128,178	328,030
Centre	459,774	245,508	458,645
South	465,970	291,494	443,590
Closeness to the Coastline			
Far from the Coast	682,525	352,242	501,088
Near the Coast	570,971	390,006	729,177

Tourism shows a strong seasonality in Vlora region too, with the peak presences in July and August (Institute of Statistics of Albania – INSTAT).

Strong tourist presence along the coast generates pressures both on land and at sea. Maritime passenger flow, in particular, on the Brindisi-Vlorë connections registered high intensity in 2021 contributing to determine a significant pressure in the study area, and particularly in Karaburun Sazan National Marine Park, and the Gulf of Sarandë.

In Vlora region tourism is an emerging sector with the number of visitors increasing every year. About 70% of visitors are Albanian, while the remaining are foreigners, mainly from Kosovo and North Macedonia.

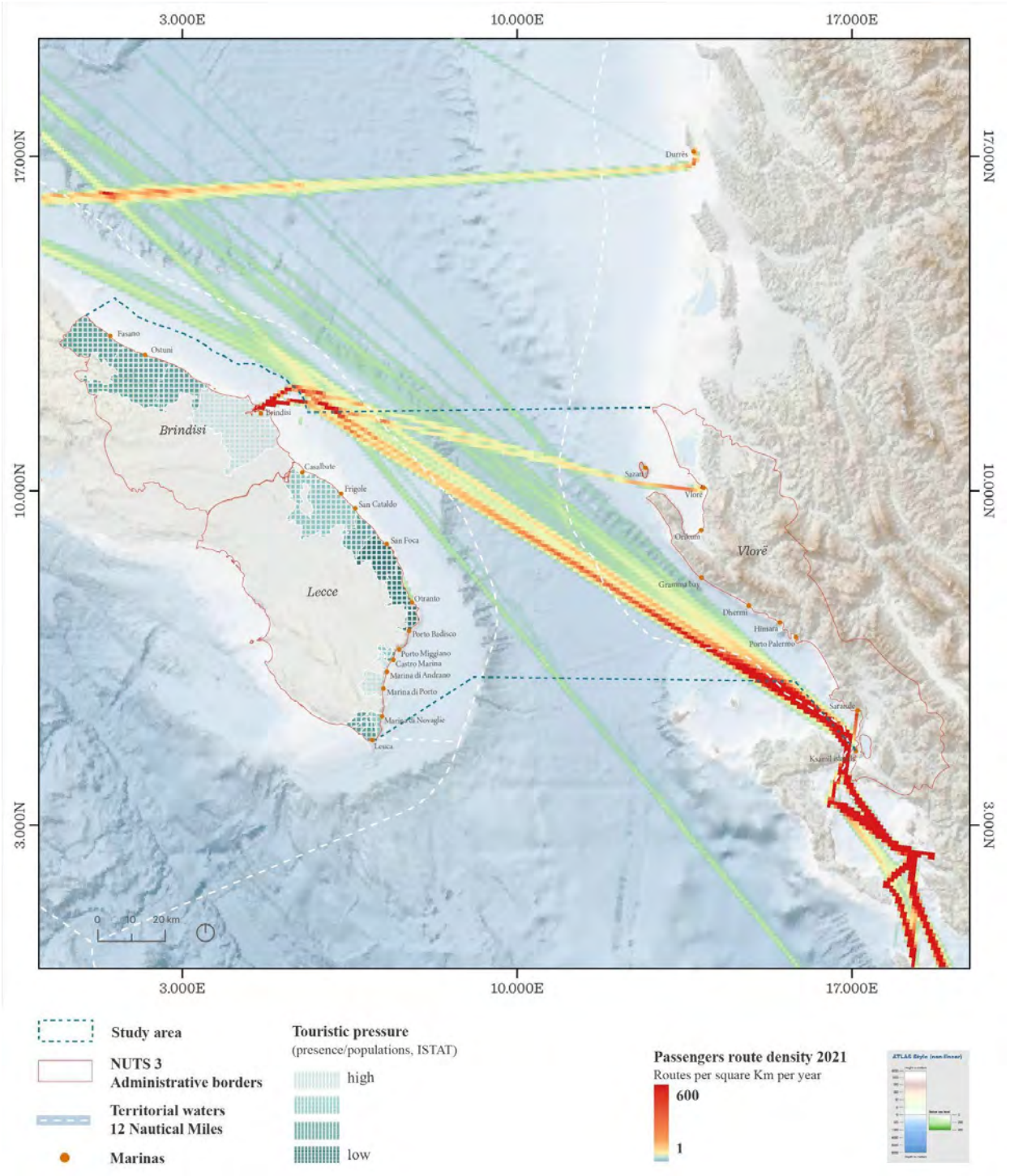

Figure 24. Tourism sector in the study area. Source: ISTAT for touristic municipality pressures; SID Portale del Mare for Italian marinas; Albanian National Tourism for Albanian marinas; Emodnet for passenger route density

Figure 25. Touristic locations in Vlora. Source: Genc Myftiu, 2020

2.3.5. Energy

As the map shows, hydrocarbon cultivations and exploitations, telecommunication cables and onshore stations, and power and gas pipelines were considered for the energy sector.

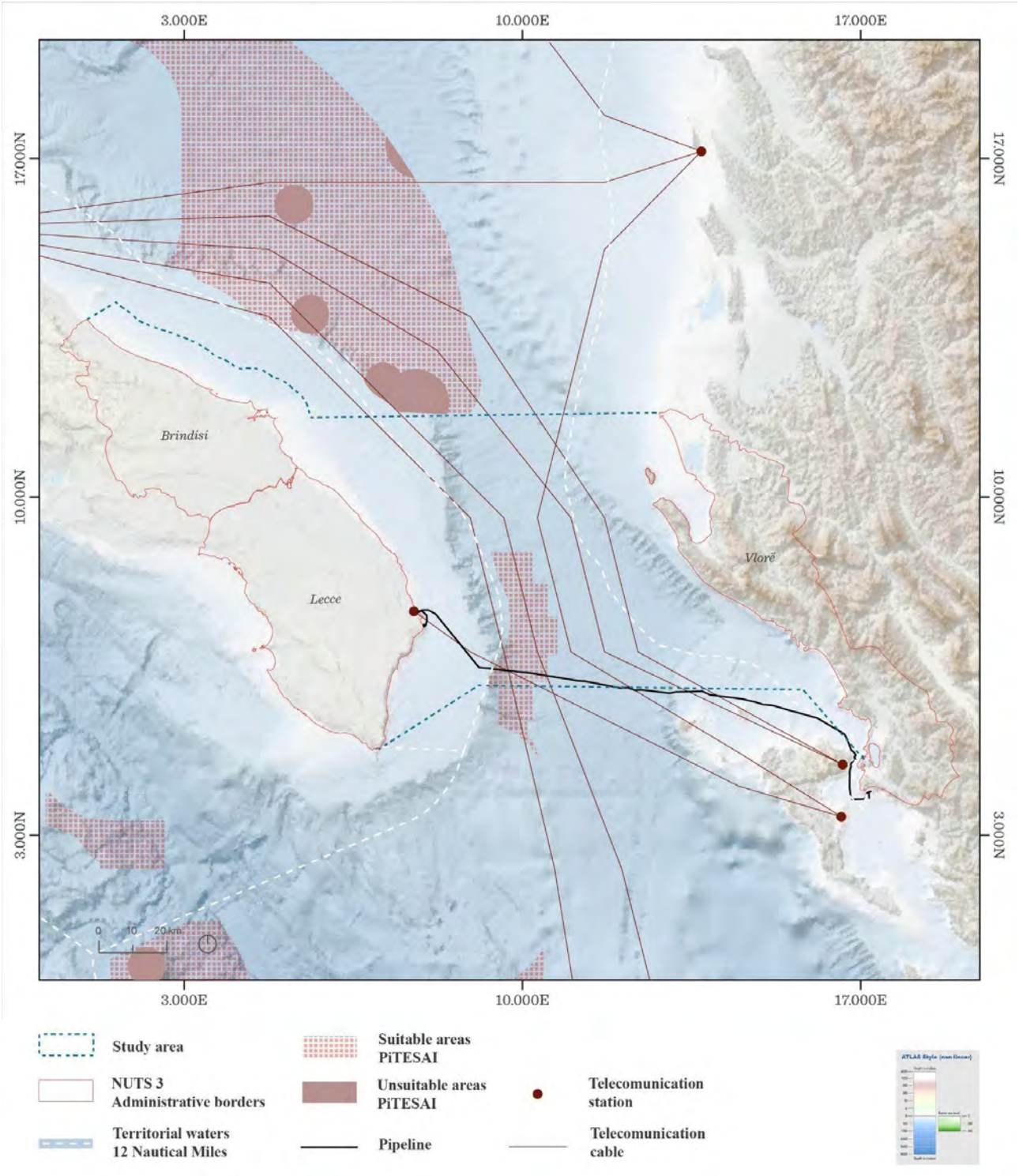

Figure 26. Energy sector in the study area. Source: Emodnet for telecommunication cables and stations; SID Portale del Mare for hydrocarbon suitable and unsuitable areas and pipeline

In the study area there are no offshore hydrocarbon extraction activities nor wind farms located. However, in Italy, the "*Piano per la transizione energetica sostenibile delle aree idonee*" (PiTESAI) was approved in December 2021. The plan identifies the areas where exploitations and cultivations of hydrocarbons (onshore and offshore) are allowed in the national territory. Two layers of information are represented: eligible areas and unsuitable areas. Eligible areas are those areas where new exploration and exploitation permits can be applied for. New exploration permits and the continuation of existing ones can only be granted for gas, not oil. For unsuitable areas, existing exploitation permits or applications for exploitation permits can continue under specific conditions defined by PiTESAI itself (so no new exploration activities are allowed in the unsuitable area). All areas outside are permanently closed to hydrocarbon exploration and exploitation.

Regarding the Albanian territory, exploration, and development of oil and gas fields (Figure 12) are divided into onshore and offshore blocks. Licensing for all vacant blocks is managed by the National Agency of Natural Resources (AKBN) and currently, all offshore blocks are vacant.

Albania has two oil and gas terminals on the coast: Porto Romano in Durrës and Petrolifera in Vlora. Each store liquid petroleum gas, crude oil, diesel, gas, and other liquid and dry products.

Several infrastructures for the transmission of electricity, telecommunications, and gas are present in the area. The power line, operated by the Italian company Terna, affects part of the southern border of the study area and connects Otranto in Puglia to Greece, passing near Butrinti National Park.

A dense network of telecommunications cables starts in Bari and runs centrally to SAIS-EBSA connecting the Adriatic Sea to the Mediterranean. One line connects Otranto to Corfù Island in Greece and the only stations on land receiving signals are in Otranto and Durrës.

In the area, the Trans Adriatic Pipeline (TAP) is located (Figure 27) – a pipeline about 850 kilometres long that originates in Greece, in Kipoi, at a location on the border with Turkey. From there it winds through Greek territory for about 335 kilometres to the town of Devoll in Albania. Here begins the second section, the Albanian section, which continues for another 215 km on land before reaching the Adriatic Sea. The underwater section of the pipeline is about 105 km long and crosses the Strait of Otranto, reaching a maximum depth of 810 metres.

The last section is the one in Italy: the TAP (via a micro tunnel) lands on the coast north of San Foca and ends 8 km further at the Pipeline Receiving Terminal in the municipality of Melendugno. The pipeline in Italy consists of an underwater pipeline (offshore section) about 45 km long and an underground pipeline (onshore section) about 8 km long and a Pipeline Receiving Terminal (PRT) located in the municipality of Melendugno, in the province of Lecce. The system will initially have a capacity of 10 billion cubic metres of natural gas per year, which can be increased up to 20 billion cubic metres per year.

Figure 27. Trans Adriatic Pipeline – TAP. Source: TAP, https://www.tap-ag.it/

2.3.6.
Underwater cultural heritage

In Vlora Bay, there are about seven shipwrecks, since WW II and later, which compound historical sites and biodiversity created during the years. They are: "Rosandra3", "Regina Margherita", "Interpido", "Rovigno", "Lucian", "Stampella", "Andromeda", "Po"; also, these historical relicts are subject to continuous looting and pillage by metallic and treasure hunters which during their activity cause pollution as well. It is important to highlight these cultural and touristic patrimonies be under certain custodians and/or protection to allow for wise use of their touristic and historical values.

Figure 28. Underwater cultural heritage in Vlora region. Source: SID Portale del Mare for Underwater cultural heritage buffer-alert; IUCN for protected landscape; Genc Myftiu (2020) for Underwater cultural heritage Vlora Bay

Regarding underwater archaeological sites in the Puglian coast, data on areas of archaeological significance are available thanks to the Archeomar Project initiated in 2004 by the General Directorate of Archaeology of the Ministry of Cultural.

For security reasons it is not possible to know the correct location, nor the type of submerged property which is why it has been represented through an alert zone. It turns out, in any case, that the entire Puglian coast within the 12 nm has a high density of submerged heritage, such as historical harbours, sea battles areas, age-submerged settlement sites, shipyards, and shipwrecks. In 2018, a wreck dating back from the 7th century BC was found in the Strait of Otranto, at a depth of 780 m and 22 nm off the Italian coast (Marina Militare, 2021).

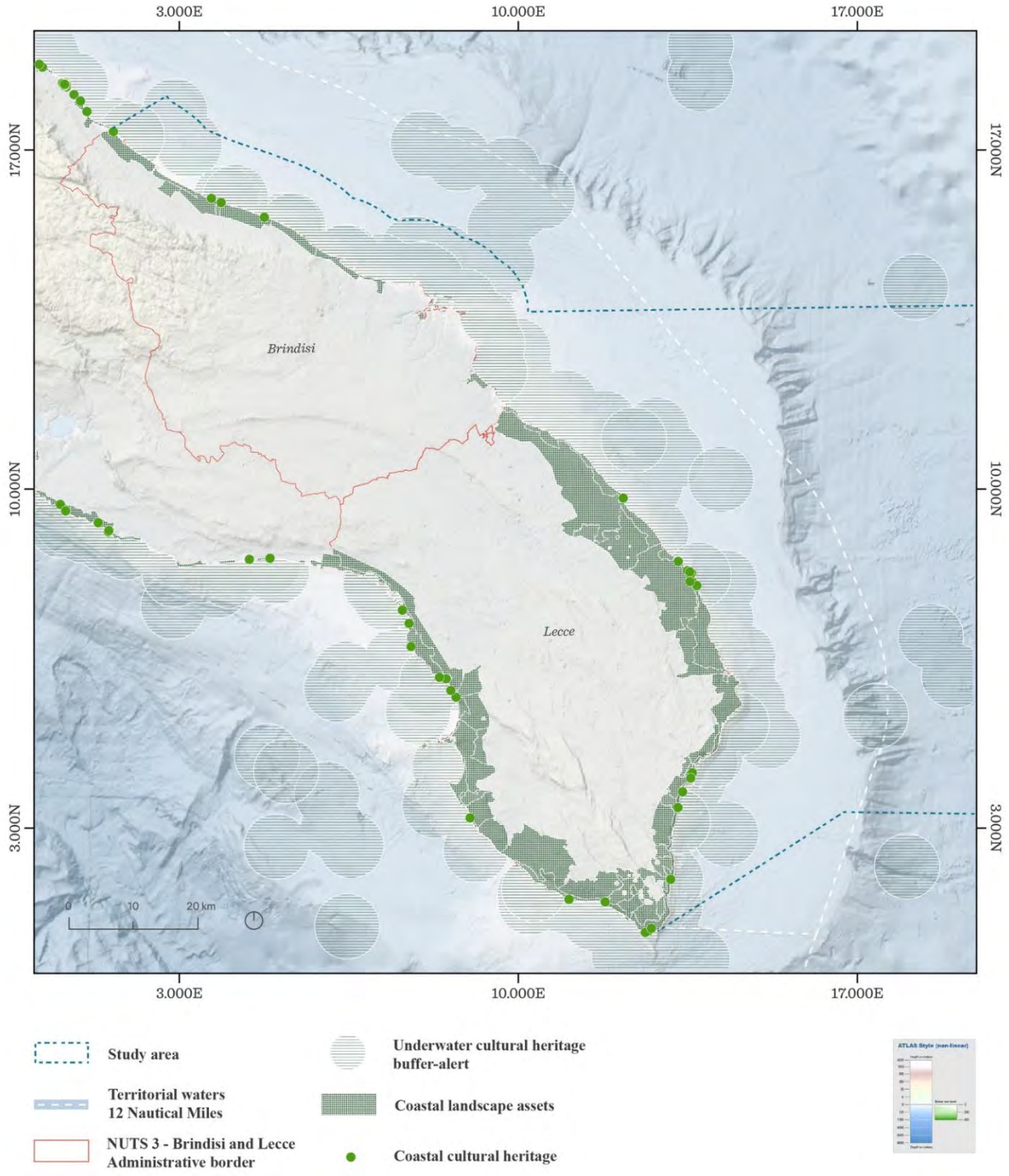

Figure 29. Underwater cultural heritage in Brindisi and Lecce provinces. Source: SID Portale del Mare for Underwater cultural heritage buffer-alert; Coastal landscape assets and coastal cultural heritage

2.4. Ecological components

The study area is characterized by steep slopes, high salinity and a maximum depth of about 1000 m. It represents the area of exchange between the Adriatic Sea and the Mediterranean Sea through the Otranto Strait, which has a sill that is 800 m deep.

2.4.1. Benthic habitats

Due to its morphological and oceanographic characteristics, the study area is characterized by a high diversity of bottom habitats. Following the European Network Information System (EUNIS) classification, the most representative seabed habitats are described. The coastal areas are characterized by the presence of A5.39 Mediterranean biocenosis of coastal terrigenous muds and A5.46 Mediterranean biocenosis of coastal detritic bottoms. Along Puglian coasts extended areas are characterized by A5.535 Posidonia beds and A3 Infralittoral rocks and other hard substrates. the Mediterranean communities of bathyal muds (A6.51) and the facies of sandy mud with *Thenea muricata* (A6.511) in the offshore area. The area encompasses an almost continuous belt of patchy cold-water coral sites along the entire south-western margin (Puglian), connecting the Adriatic populations with those inhabiting the Ionian margin – Santa Maria di Leuca coral province (Angeletti *et al.*, 2014). Deep-sea corals (A6.61) form megabenthic communities dominated by a variety of cnidarians, including frame-builders scleractinians (*Madrepora oculata*, *Lophelia pertusa*) and representing the backbone of the cold-water coral communities (SEIS EBSA web site). Stony corals as *Desmophyllum dianthus* and *Stenocyathus vermiformis* are also present with the yellow coral *Dendrophyllia cornigera*), antipatharians (*Leiopathes glaberrima*) and gorgonians (*Callogorgia verticillata*) as major habitat forming taxa. These are found often in association with sponges like *Pachastrella monilifera*, *Poecillastra compressa* and serpulids (Freiwald *et al.*, 2009; Taviani *et al.*, 2011; Angeletti *et al.*, 2014; Oceana, 2014). Deep-sea corals (A6.61) (cold-water corals) are included in Annex I of the Habitats Directive.

Overall, these communities play an important role in hosting unique bioconstructions built by cold-water corals and sponges and a relevant biodiversity of associated benthic species (Ramieri *et al.*, 2022). They are also used by many mobile species, potentially also migratory organisms as cetaceans, that find food, shelter and suitable conditions for their reproduction; indeed, they are defined as essential fish habitats also for species of commercial importance (e.g. *Aristaeomorpha foliacea*, *Aristeus antennatus*, *Merluccius merluccius*, *Nephrops norvegicus*, *Pagellus bogaraveo*) (Ramieri *et al.*, 2022 and references therein).

Posidonia oceanica meadows, which are also identified as a priority habitat type for conservation under the Habitats Directive (Dir 92/43/CEE), are present along the entire Puglian coast, with an interruption in correspondence to main ports.

In Vlora Bay, a large Posidonia bed is present off Sazan Island. A *Cymodocea nodosa* bed is present as facies on the shallowest sandy bottoms, close to the Vlora beach. The muddy detritic bottom (DE; sensu Pere's, 1967) was also identified as a narrow belt along the Vlora town coast, slightly deeper than the Caulerpa colonization belt.

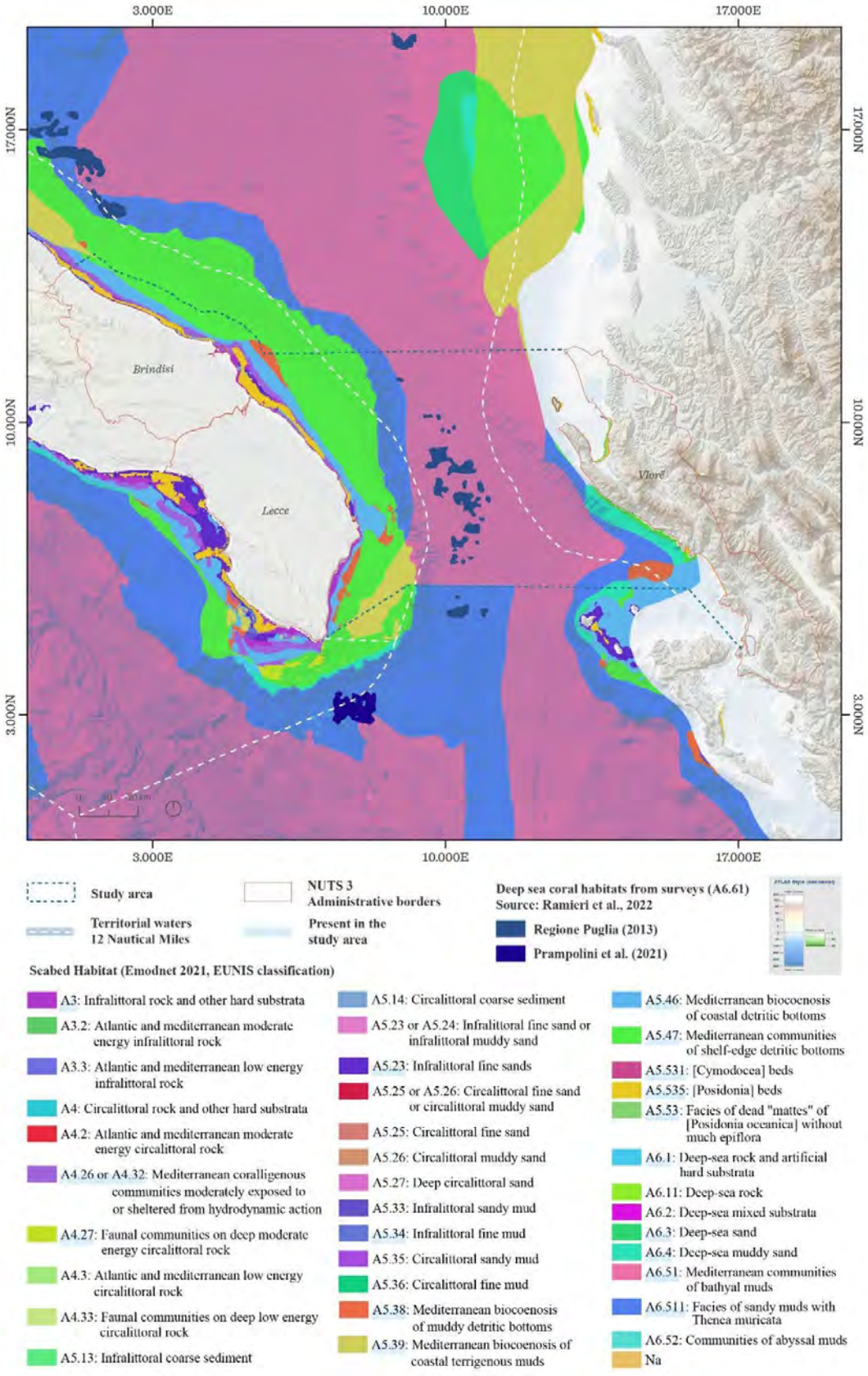

Figure 30. Seabed habitats under EUNIS classification in the study area. Source: EMODnet seabed habitat; deep-sea coral communities' distribution, corresponding to EUNIS habitat A.6.61: Ramieri et al., 2022 and sources indicated therein (surveys by Puglia region – Biomap project 2013 and CNR-ISMAR – Prampolini et al., 2021)

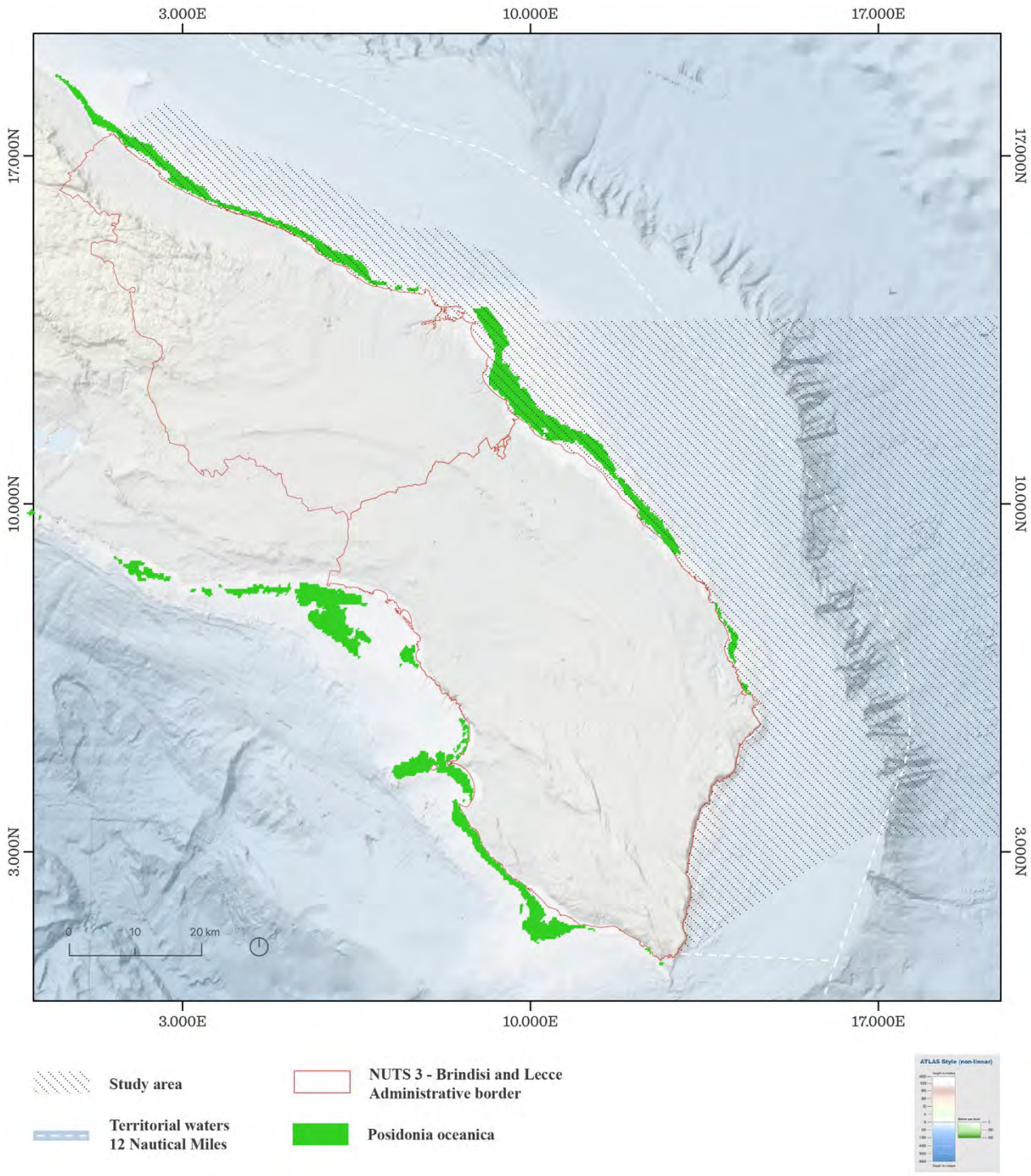

Figure 31. Posidonia Oceanica in Puglia region. Source: EMODnet Biology

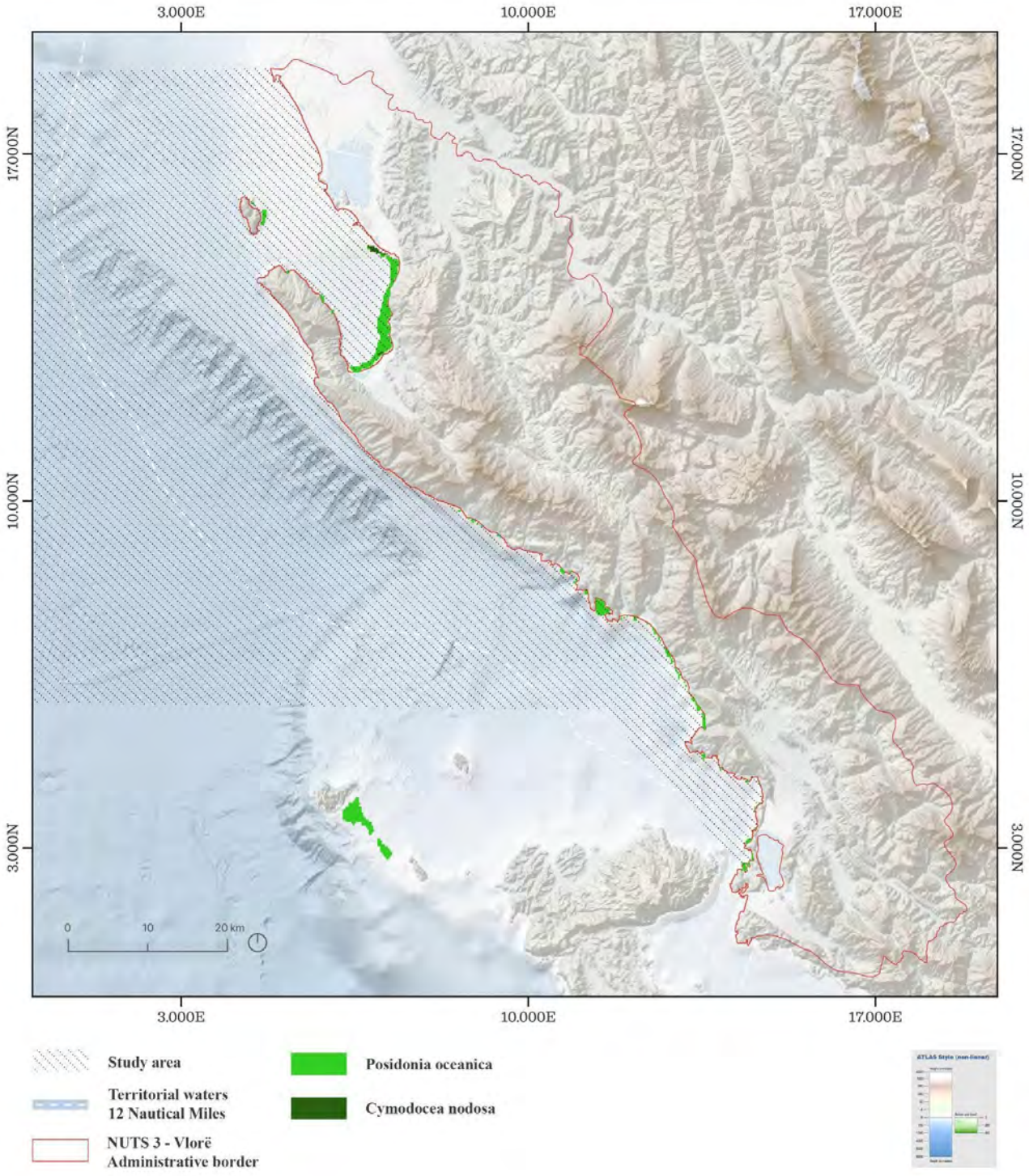

Figure 32. Posidonia Oceanica and Cymodocea nodosa in Vlora region. Source: EMODnet Biology

2.4.2.
Essential fish habitats

The study area is characterized by the presence of nursery and spawning areas for many commercially valuable species, like for example *Parapenaeus longirostris* (Deep-water rose shrimp), *Merluccius merluccius* (European hake), *Mullus barbatus* (Red mullet), *Eledone cirrhosa* (Horned octopus) (MEDISEH project, Giannoulaki *et al.*, 2013; Carlucci *et al.*, 2009).

Generally, the nurseries of thermophile and halophile species, such as the deep-water rose shrimp, are mainly localized along the eastern side of the south Adriatic, where nurseries of other coastal and deep-water species also occur, possibly as an effect of a lower fishing pressure (Colloca *et al.*, 2015).

Adult aggregations (spawning areas) of blackmouth catshark *Galeus melastomus* are present in muddy bottoms with deep bathyal biocenosis (VP) and *Gryphus vitreus* or *Isidella elongata* facies (MEDISEH, 2013). Spawner aggregation of the giant red shrimp (A. foliacea) partially overlap with its nursery areas and are mainly localized along the eastern border of the South Adriatic pit offshore the Albania coasts (Mediterranean Sensitive Habitats, 2013).

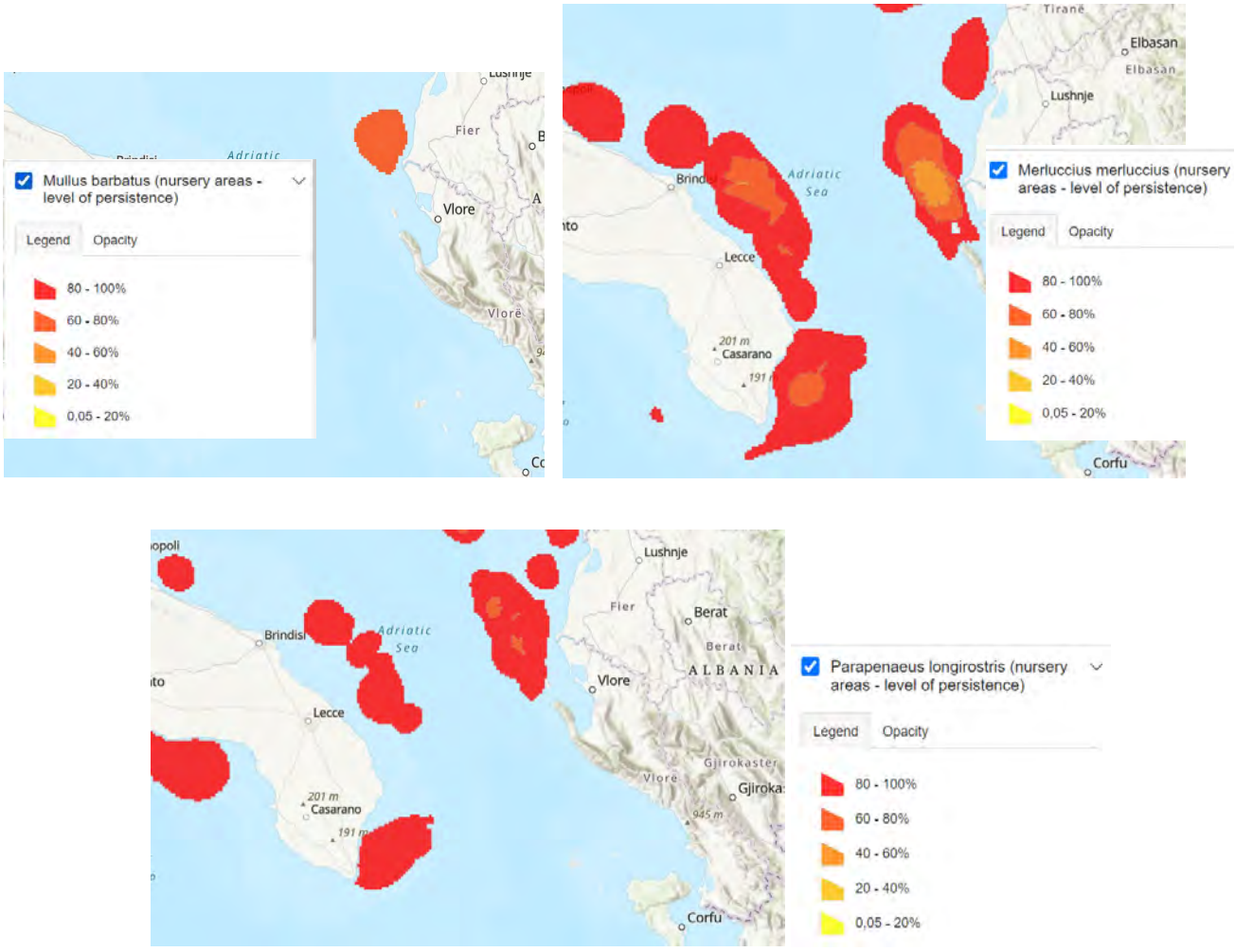

Figure 33. Nursery ground in the area. Source: OCEANA and MEDISEH project available from https://europe.oceana.org/essential-fish-habitats-viewer/

2.4.3.
Marine megafauna

The South Adriatic Pit is also characterized by open sea zooplankton, particularly euphausiids, also known as krill. There are also mesopelagic and deep zooplankton in the area (Viličić, 2008). This is providing feeding grounds for some important cetacean species. In fact, the study area includes important habitats for Mediterranean megafauna species, *Ziphius cavirostris* (Cuvier's beaked whales), *Stenella coeruleoalba* (striped dolphin), and *Tursiops truncatus* (common bottlenose dolphin) and *Caretta caretta* (loggerhead turtle). All these species are listed in Annex II of the SPA/BD Protocol as well as in the Annexes II and IV under the Habitats Directive (Širović and Holcer, 2020). In the large areas of the South Adriatic and Ionian EBSA several other taxa of conservation concern, namely *Balaenoptera physalus* (fin whale), *Physeter macrocephalus* (sperm whale), *Monachus monachus* (monk seal), and *Chelonia mydas* (green turtle) are also recorded (EBSA web site). Additionally, the area is crossed by diverse species of sharks and tuna.

Foraging, breeding and nesting areas have for loggerhead turtle have been investigated in the MYSEA project. Evidence of the presence of this species along the Puglian coasts are documented (Figure 39).

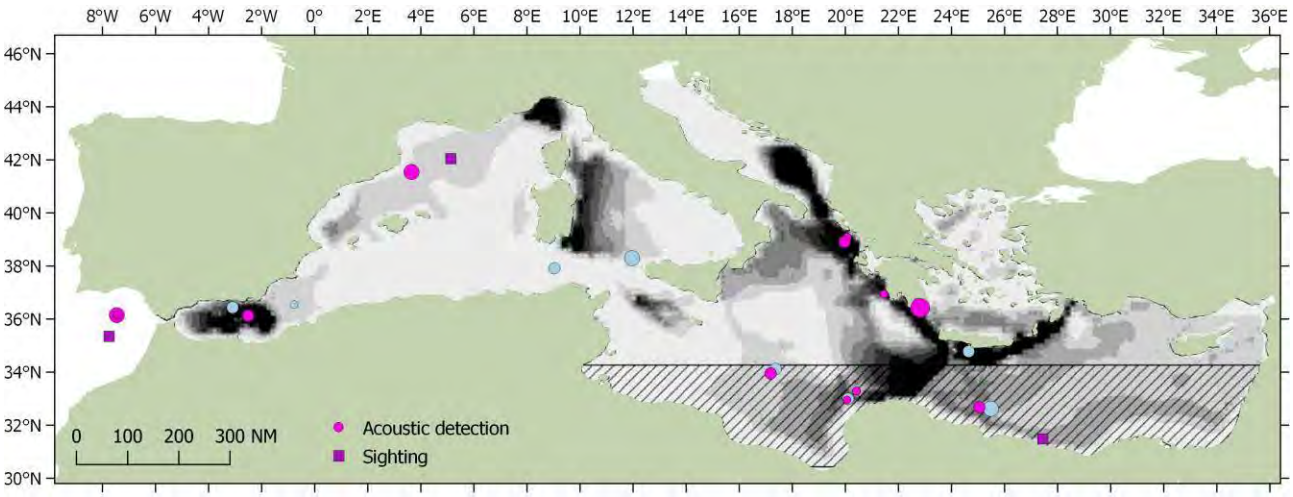

Figure 34. Sightings/detections of beaked whales (Ziphius cavirostris) made by all survey vessels during the ASI survey (pink squares/circles respectively). A predicted density map from Cañadas et al., 2018 is overlaid in monochrome showing those regions likely to contain ideal habitat for Cuvier's beaked whale (the predictions in the striped region were considered unreliable due to low sample size).
Source: ACCOBAMS (2021)

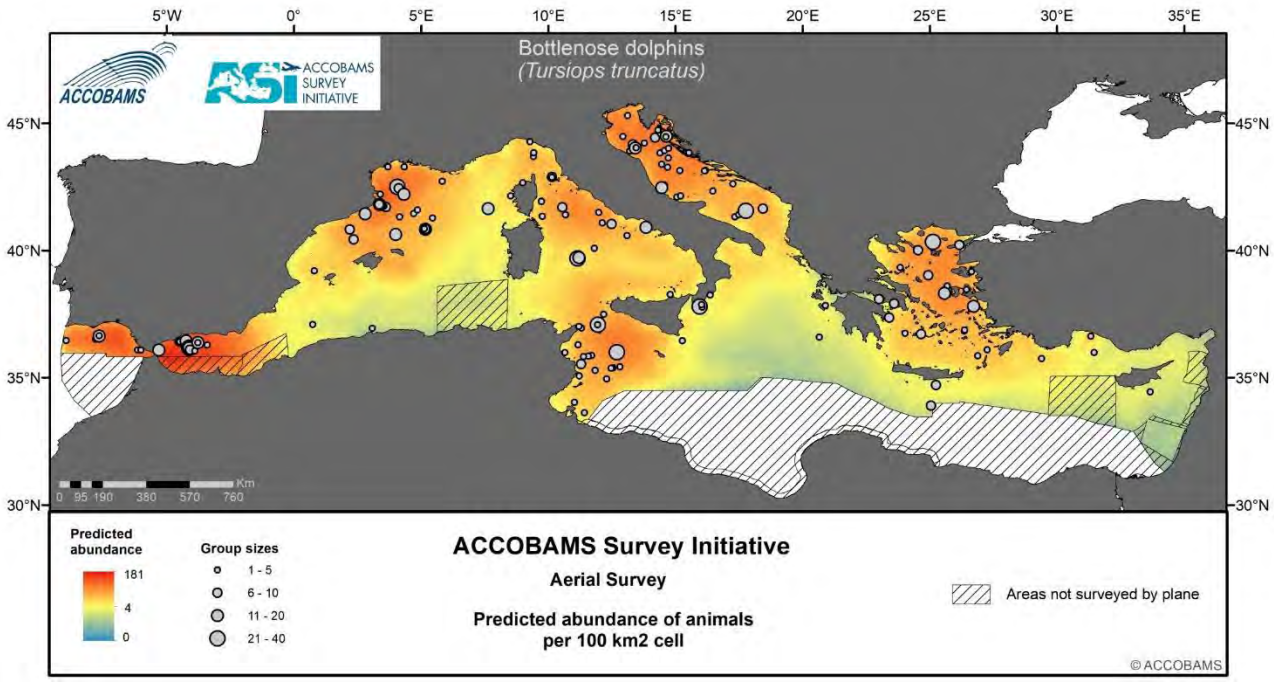

Figure 35. Abundance of bottlenose dolphins. Source: ACCOBAMS (2021)

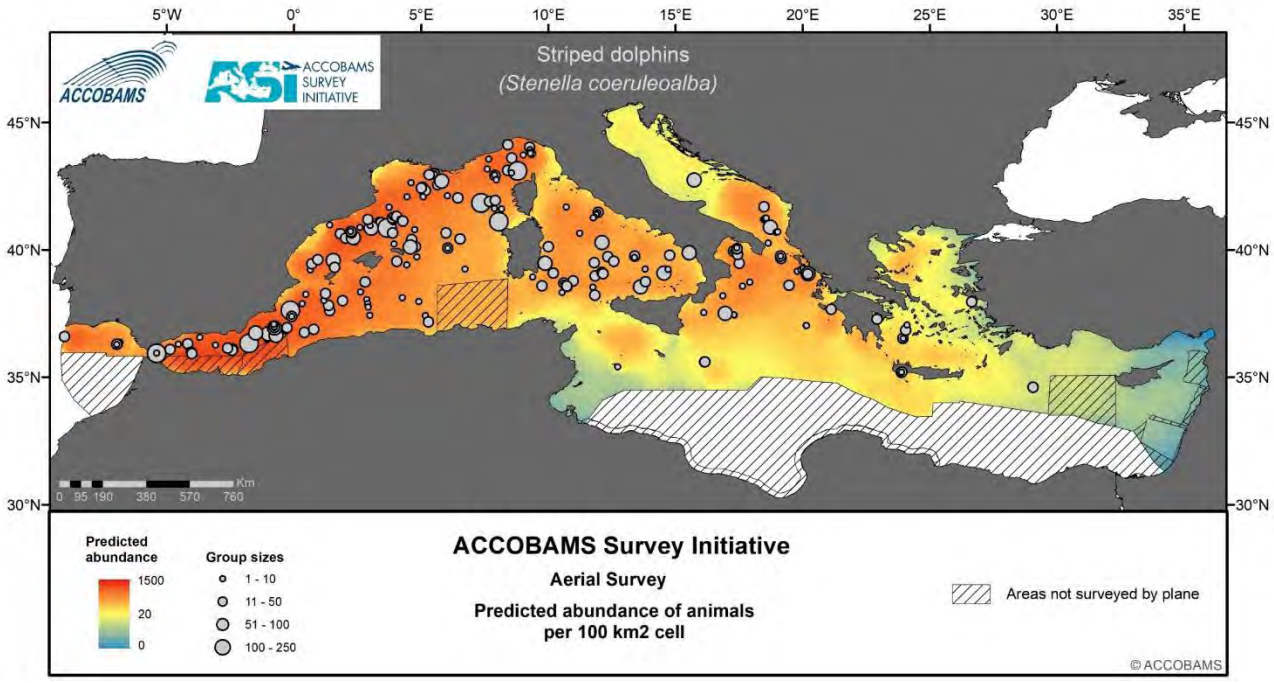

Figure 36. Abundance of striped dolphins. Source: ACCOBAMS (2021)

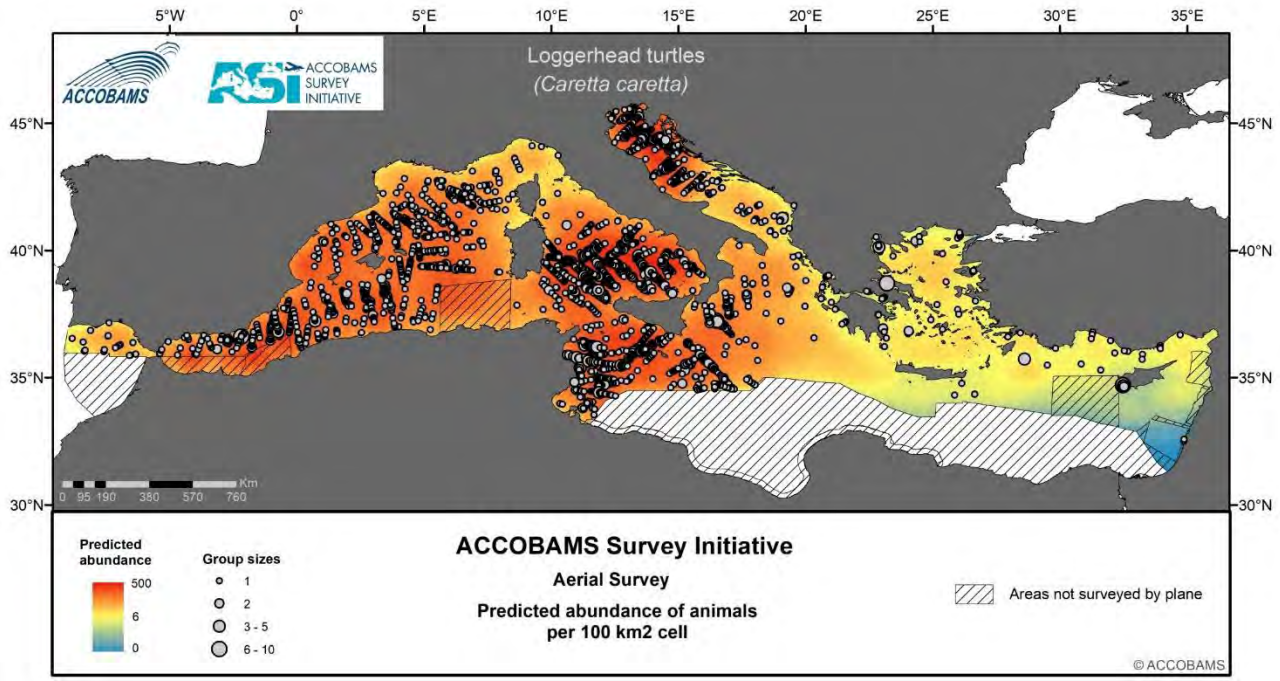

Figure 37. Abundance of loggerhead turtles. Source: ACCOBAMS (2021)

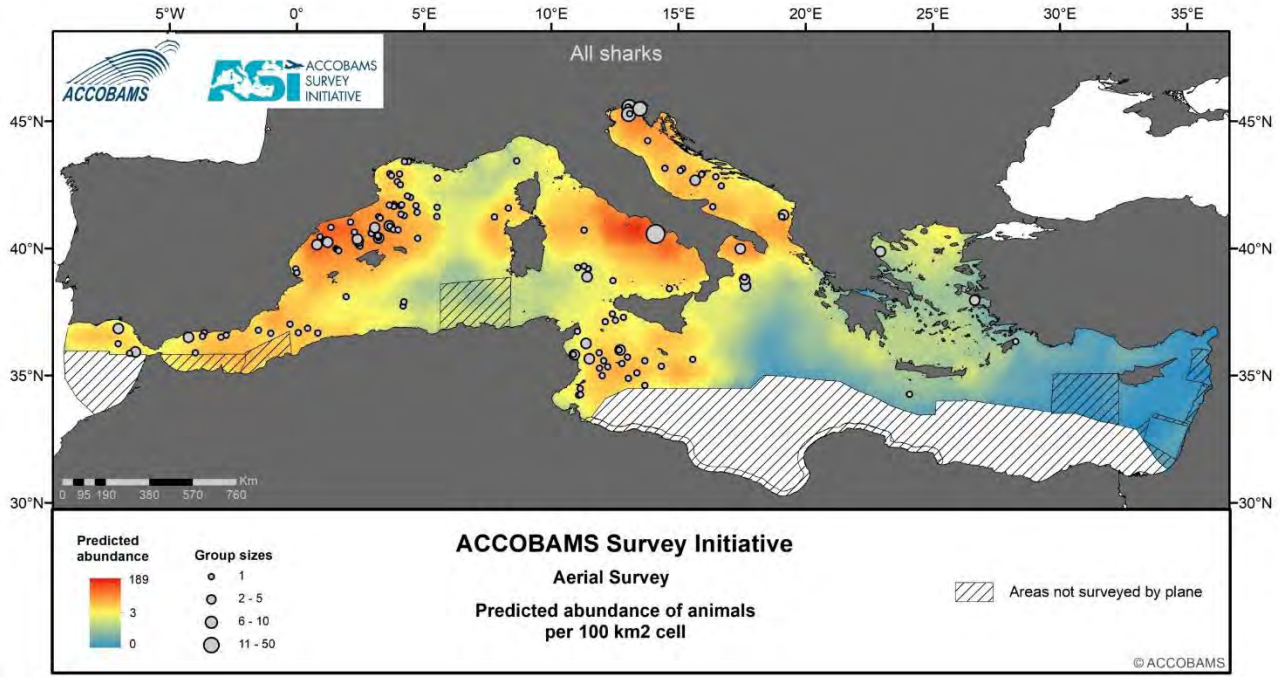

Figure 38. Abundance of shark specimens. Source: ACCOBAMS (2021)

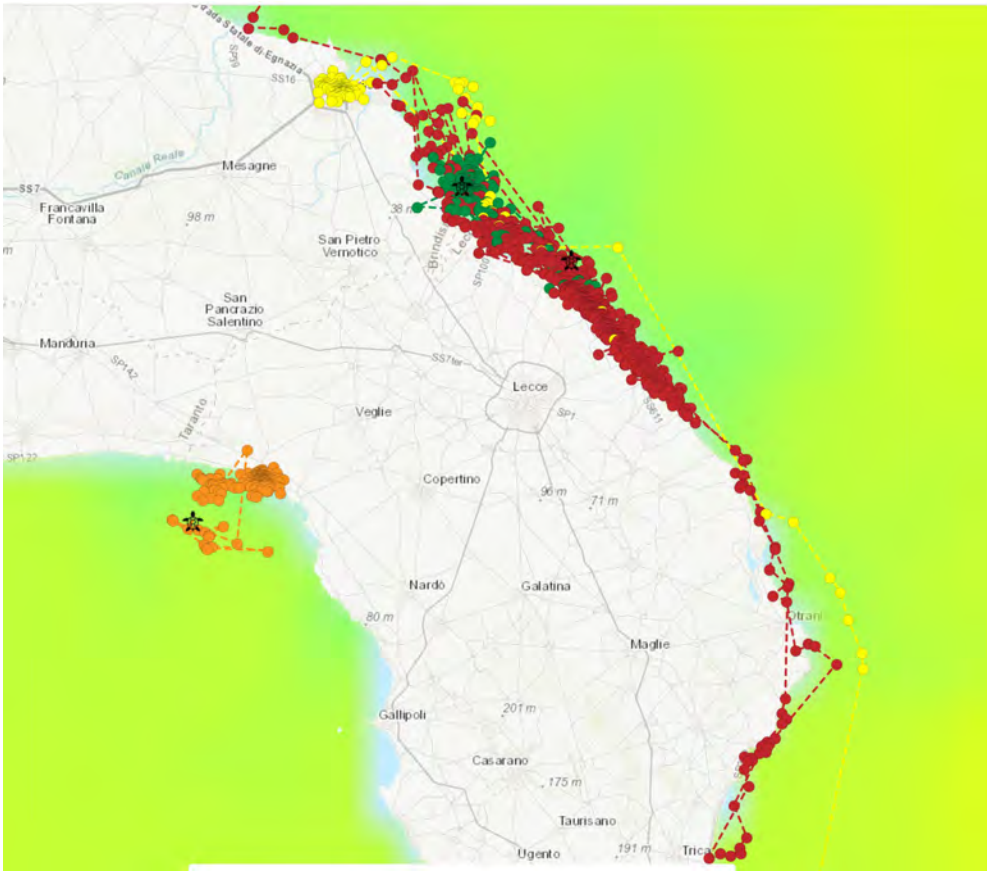

Figure 39. Observations of Caretta caretta individuals. Source: MYSEA project

2.5. Environmental impacts

Overexploitation of fish stocks

The Adriatic is one of the most productive seas of the Mediterranean but also known to be overexploited. In the study area (Southern Adriatic, GSA 18 and 17), exploited fish resources include demersal species, deep-water species and pelagic ones. Evidence of overexploitation is available in the area for several species, but also fluctuations and coastal trends in total stock biomass and spawning stock biomass have been documented (MIPAAF, 2011; MIPAAF, 2018; Marine Stewardship Council, 2018).

The General Fisheries Commission for the Mediterranean has recognized these issues and has put in place specific management plans:

- For demersal fisheries in the Adriatic Sea (GSA 17 and 18): a Multiannual management plan[4] towards the sustainable fishing of European hake (*Merluccius merluccius*), Norway lobster (*Nephrops norvegicus*), common sole (Solea solea), deep-water rose shrimp (*Parapenaeus longirostris*) and red mullet (*Mullus barbatus*) by means of otter trawls, beam trawls, bottom pair trawls and otter twin trawls in the Adriatic Sea (GSAs 17–18) was adopted in 2019. This was reinforced by an additional recommendation in 2021..[5] To reach the maximum sustainable yield target in 2026, fishing effort reduction was set in 2022 to 7% for bottom otter trawls and 3% for beam trawls (GFCM, 2022).

[4] Recommendation GFCM/43/2019/5 on a multiannual management plan for sustainable demersal fisheries in the Adriatic Sea (geographical sub-areas 17 to 18).

[5] Recommendation GFCM/44/2021/1 on the establishment of a fishing effort regime for key demersal stocks in the Adriatic Sea (geographical sub-areas 17 to 18).

- Sustainable exploitation of small pelagic stocks in the Adriatic Sea (GSA 17 and 18). A first management plan was established in 2013 to manage fishing of sardine (*Sardina pilchardus*) and European anchovy (*Engraulis encrasicolus*) and several recomendations were adopted in the following years. In 2021 a new management plan was adopted, aiming at providing high long-term yields consistent with maximum sustainable yield (MSY) and to guarantee a low risk of stock collapse while maintaining the sustainability and relative stability of fisheries. For 2022 and 2023, a transitional fishing regime has been established foreseeing national or joint catch limits aligned with annual reductions of 5% for European anchovy and 8% for sardine in 2022, and 5% for European anchovy and 9% for sardine in 2023.

Impacts on marine megafauna

The maritime activities in the area exert multiple pressures on marine megafauna. A variety of evidence is available for the larger area of the South Adriatic and Ionian EBSA (MBPC project, 2022). Maritime traffic has increased in recent years in the Adriatic, with potential threats on megafauna including collisions, acoustic, chemical, and biological pollution. The hydrocarbon industry through seismic surveys, acute and chronic pollution, and additional marine traffic can also determine a significant impact on the environment. Seismic surveys can have a particular impact on noise-sensitive species including Cuvier's beaked whales and other cetaceans, sea turtles, bony fish, and invertebrate species. Fisheries can also determine impacts of marine megafauna, through set nets and long lines that may cause significant and unsustainable levels of bycatch of non-target species, for example, on turtles. Offshore renewable energy may also have implications for the habitats in which they are sited and the species that use them. Finally, military naval exercises that use live fire have the potential for causing mortality or serious injury in species that are particularly affected by rapid changes in pressure, such as cetaceans. The use of low and mid-frequency sonars deployed by warships and submarines has been proven to cause live stranding in noise-sensitive species, particularly beaked whales.

Although outside the study area, the results of the investigation by Pulcinella *et al.* (2019) show the relationship between the intensity of fishing efforts and the occurrence of bycatch of the sea turtle *Caretta caretta* in the North and Central Adriatic Sea. Estimation of bycatch of various megafauna organisms is available for the Northern Adriatic Sea in Fortuna *et al.* (2010).

Impacts on benthic habitats

It is well known that bottom trawling has a negative impact on deep water corals such as *Lophelia pertusa*, *Madrepora oculata* and the bamboo corals *Isidella elongata* and its associated species. The bamboo coral *Isidella elongata* is a forest-forming alcyonacean that dwells on deep-sea soft bottoms and is present in the Otranto Strait. These corals are directly impacted by trawling activities which destroy or remove them. In addition, indirect impacts due to increased resuspension of bottom sediment are induced. Long-term indirect effects have also been observed, including an impoverishment of continental-slope ecosystems (Maynou and Cartes 2012). In addition to trawling nets, numerous other fishing gears can also potentially modify the integrity of benthic assemblages, such as gillnets, trammel nets, and long lines (Bo *et al.*, 2014). The recovery of the direct and indirect damage produced by bottom trawling on these habitats may take decades or centuries, according to the slow growth rates of deep-water corals.

Recent studies conducted in the Otranto Strait (Carbonara *et al.*, 2022) demonstrate that the areas colonized by *Isidella elongata* are showing a constant spatial extent but a decreasing biomass over time. Changes in the basal diameter distribution of the colonies were observed, with a significant decrease in the sizes from 2014 to 2020. These results suggest an increasing fishery-related impact from a developing deep-sea fishery occurring in the study area. The bamboo coral in the study area represents a hotspot of biodiversity in the context of the bathyal environment.

Marine litter accumulation

In order to frame the relevance of this impact in the study area it is useful to consider the available data at the level of the Adriatic-Ionian basin. Also if not specific for study the area, this data highlights the relevance of the problem. Vlachogianni *et al.* (2018) assessed 31 beaches in the Adriatic Sea between 2014 and 2016, where in total 180 surveys were performed, and a total of 70,581 marine litter items were classified, recorded

and removed. Items varied widely in abundance and types (Figure 40, top-left).

Aggregated results at national level (Figure 40, top-right) show that abundance of litter with an average value of 0.28 items/m^2 (280 items/100 m stretch) in Italy and 0.22 items/m^2 (219 items/100 m stretch) in Albania, respectively.

Marine litter items recorded were classified into 8 major groups of material types on an aggregated basis at the national and regional (Adriatic-Ionian) level. The majority of litter items were made out of artificial/anthropogenic polymer materials. In almost all countries of the Adriatic-Ionian region plastic items were in the range of 74–92% of total items recorded (with the exception of Albania, where plastics accounted for 54.3%), while at the regional level the amount of plastics reached 91%. The second most abundant group of litter items found in the region were glass/ceramics (3.2%), followed by items made of metal (1.5%), paper (1.4%) and cloth/textile (1.1%). Rubber items represented 0.6% of the total 70,581 items recorded in the region and only some 0.1% were classified as unidentified items and/or chemicals.

Plastic pieces larger than 2.5 cm and smaller than 50 cm in the longest dimension (G79) accounted for the highest percentage 19.89% (14,040 items) of the total litter items recorded in all surveys, followed by polystyrene pieces larger than 2.5 cm and smaller than 50 cm (G82) with 11.93% (Table 3). The third most abundant items were cotton bud sticks (G95) accounting for 9.17% of total items recorded, followed by plastic caps/lids from drinks (G21) with 6.67% and cigarette butts and filters (G27) with 6.60%. These are followed by plastic caps/lids unidentified (G23), mussel & oyster nets (G45), crisp packets/sweet wrappers (G30), glass or ceramic fragments 2.5 cm (G208) and other identifiable plastic/polystyrene. The top-ten item lists are available also at the national level. Figure 40 – bottom, reports the top-10 items of the Italian Adriatic beaches.

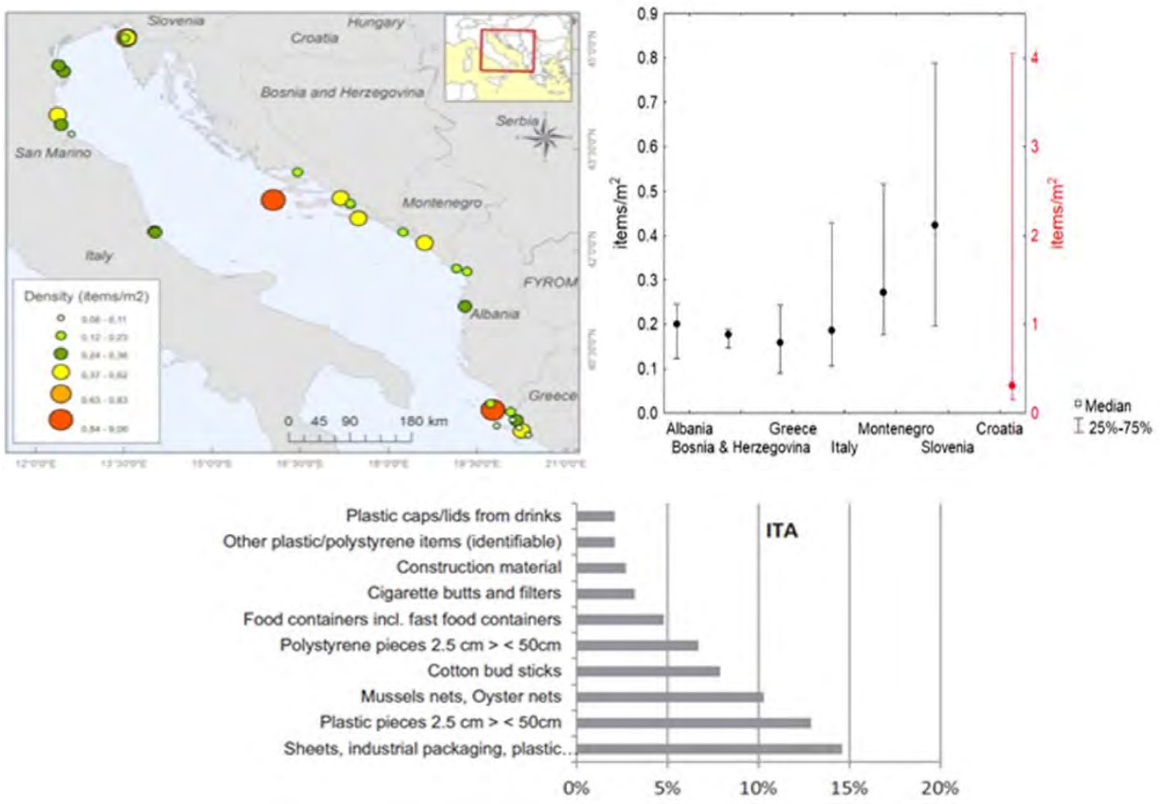

Figure 40. Top-left: spatial distribution of beach litter densities on investigated beaches; Top-right: beach litter densities on an aggregated basis at the national level (Croatia is on the secondary y-axis), whiskers indicate the interquartile ranges, the black dots denote the median values; Bottom: Top-ten items of the Italian Adriatic beaches. Source: Vlachogianni et al. 2018

Specific data and information for the study area confirm the presence of marine litter on the beaches is an important environmental issue (Figure 41). The importance of fishery and aquaculture-related litter is highlighted for the Puglian coast. Little data is available for the Albanian coast, but it also highlights the relevance of these marine litter sources.

Monitoring of marine litter in the Vlora bay have been conducted on a project bases (UNDP September 2018). The most affected sites have been shown to be the highly frequented beaches situated on the east side of the Karaburun island (Genc Myftiu, 2020).

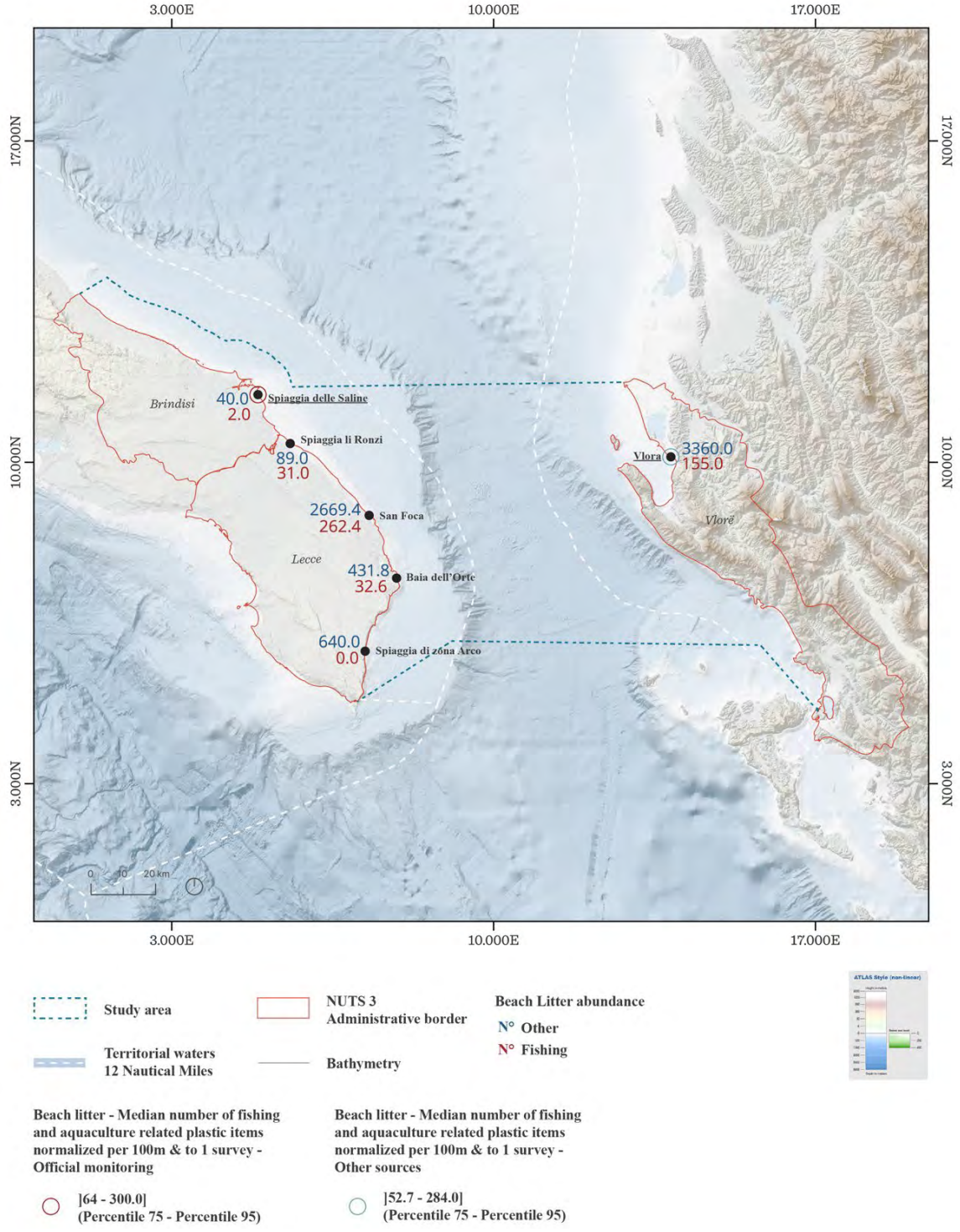

Figure 41. Occurrence of fishing and aquaculture-related plastic items on beaches in the study area. Source: EMODnet Chemistry; Capo Bianco, Monitoraggio Strategia Marina – Ministero dell'Ambiente, IT; Spiaggia Saline Punta della Contessa, Brindisi (BR), Legambiente Onlus, IT; Spiaggia Li Ronzi, Casalabate (LE), Legambiente Onlus, IT; 2 SP366, 73026 San Foca, Italie, Surfrider Foundation Europe, IT; Baia dell'Orte, spiaggia di cala casotto, Surfrider Foundation Europe, IT

With reference to marine litter accumulation on the sea bottom, Giménez *et al.* (2022) detected a positive correlation between the number of litter items observed in Puglian sites and the total percentage of individuals of structuring species affected by necrosis. The results suggest that human activities, such as fishing along the coast and indirect human pressure, are negatively affecting these habitats. Lines and ropes were overall the most abundant marine debris found at all four sites surveyed, confirming the impact of maritime activities in the area. The most affected areas were near important ports, while the lowest abundance of fishing gear and marine litter was recorded in the two sites along the Adriatic coast, which were away from major populated centres.

Coastal erosion

Significant erosive phenomena are occurring in the Puglian coastline: Bruno *et al.* (2020) analyse the evolution in the period 2005–2017 showing that about 34% of the regional sandy coast (127 km) suffered from erosion processes (Table 5, Figure 42). Further analyses carried out by exploiting orthophotos taken in 2008, 2010 and 2011 highlight those sandy coasts suffered a sharp and sudden deterioration between 2008 and 2010, leading to the erosion of about 31% of the total coastline. Previous data show that 130 km of sandy coastline had already receded over the period 1960–1992.

Table 5. Annual Shoreline change rates of different Puglian coast Physiographic Units (PU) in the periods 1960–1992, 1992–2005 and 2005–2017. The study area is encompassed by PU3 and PU4. Source: Bruno et al., 2020

	Sandy Shoreline	Average Width	Erosion 1960–1992	Erosion 1992–2005	Erosion 2005–2017
	(km)	(m)	(%)	(%)	(%)
PU1	81.9	30.6	21.0	22.3	39.6
PU2	77.9	29.9	32.5	28.0	31.9
PU3	36.3	18.4	55.4	3.2	43.2
PU4	62.8	19.8	64.9	23.9	31.9
PU5	18.7	23.3	19.2	16.1	45.3
PU6	42.1	20.4	25.8	4.3	22.9
PU7	46.5	29.6	26.5	2.3	25.3
Total	366.2	25.5	35.5	16.2	33.2

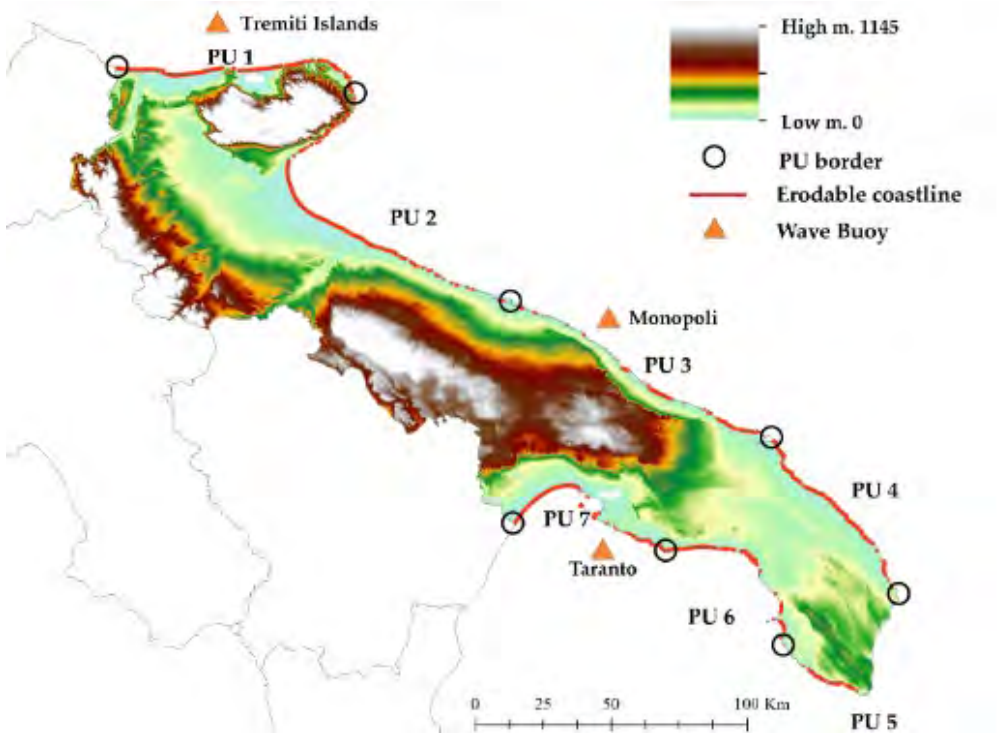

Figure 42. Coast line segments exposed to erosion (red lines). PU = Physiographic Unit. Digital elevation model from www.sit.Puglia.it. Source: Bruno et al. 2020

Vulnerability to flooding

Regarding vulnerable areas at risk of flooding, both from rivers and sea, Figure 43, shows the low-elevation coastal zone (LECZ), defined by the NEAT assessment tool study for Good Environmental Status (GES) for the Coast and hydrography Ecological Objectives (Eos) in the Adriatic (2022) as the terrestrial area within the 10-km-wide coastal strip that is contiguous with the coastline and has an elevation of less than 5 metres above sea level.

It can be noticed in the North of Vlora region, Figure 44, the LECZ extends deep inland, even beyond the width of the 10-km coastal zone.

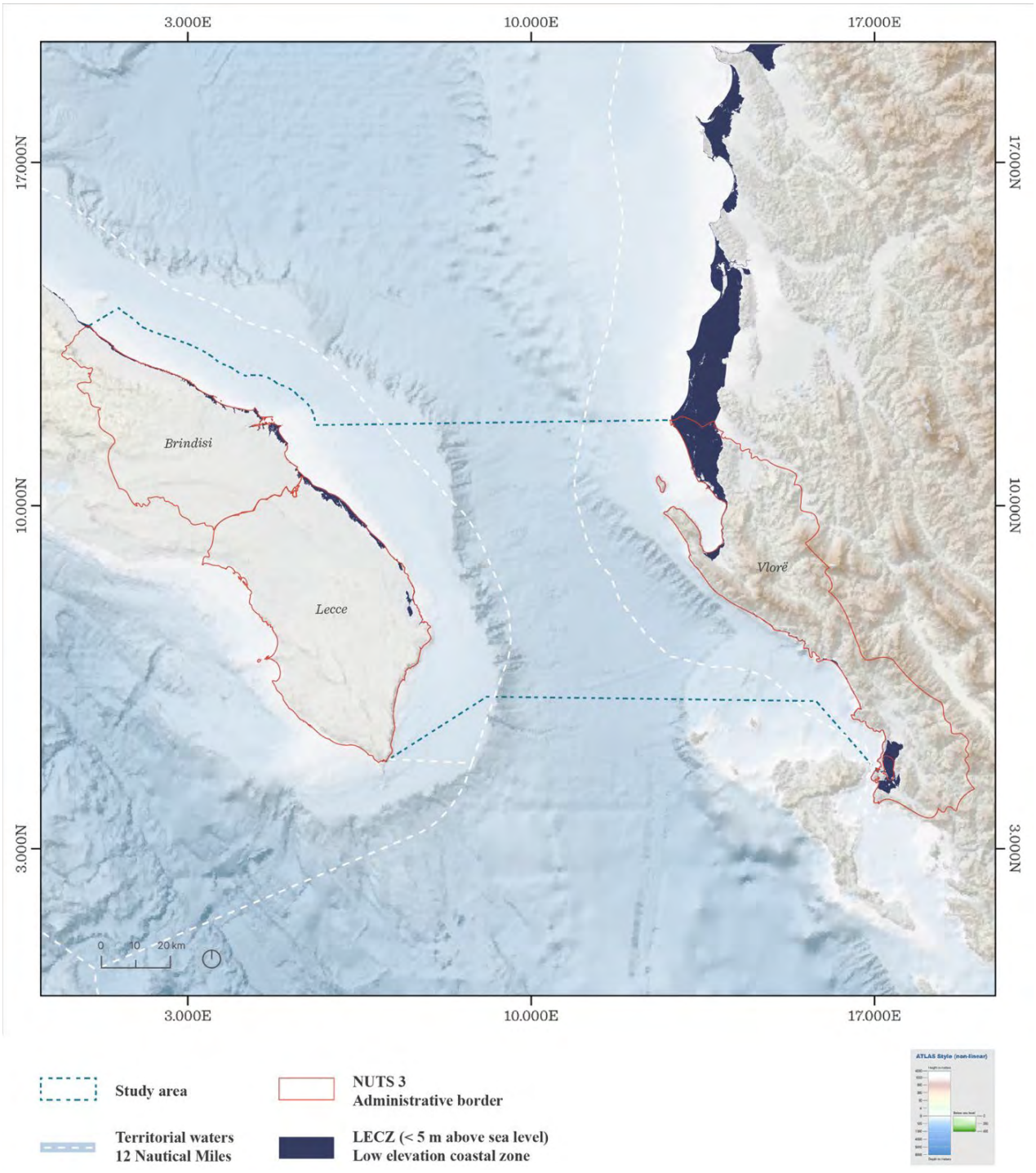

Figure 43. Low elevation coastal zone in Puglia and Vlora.
Source: NEAT assessment tool for GES for the Coast and hydrography EOs in the Adriatic, 2022

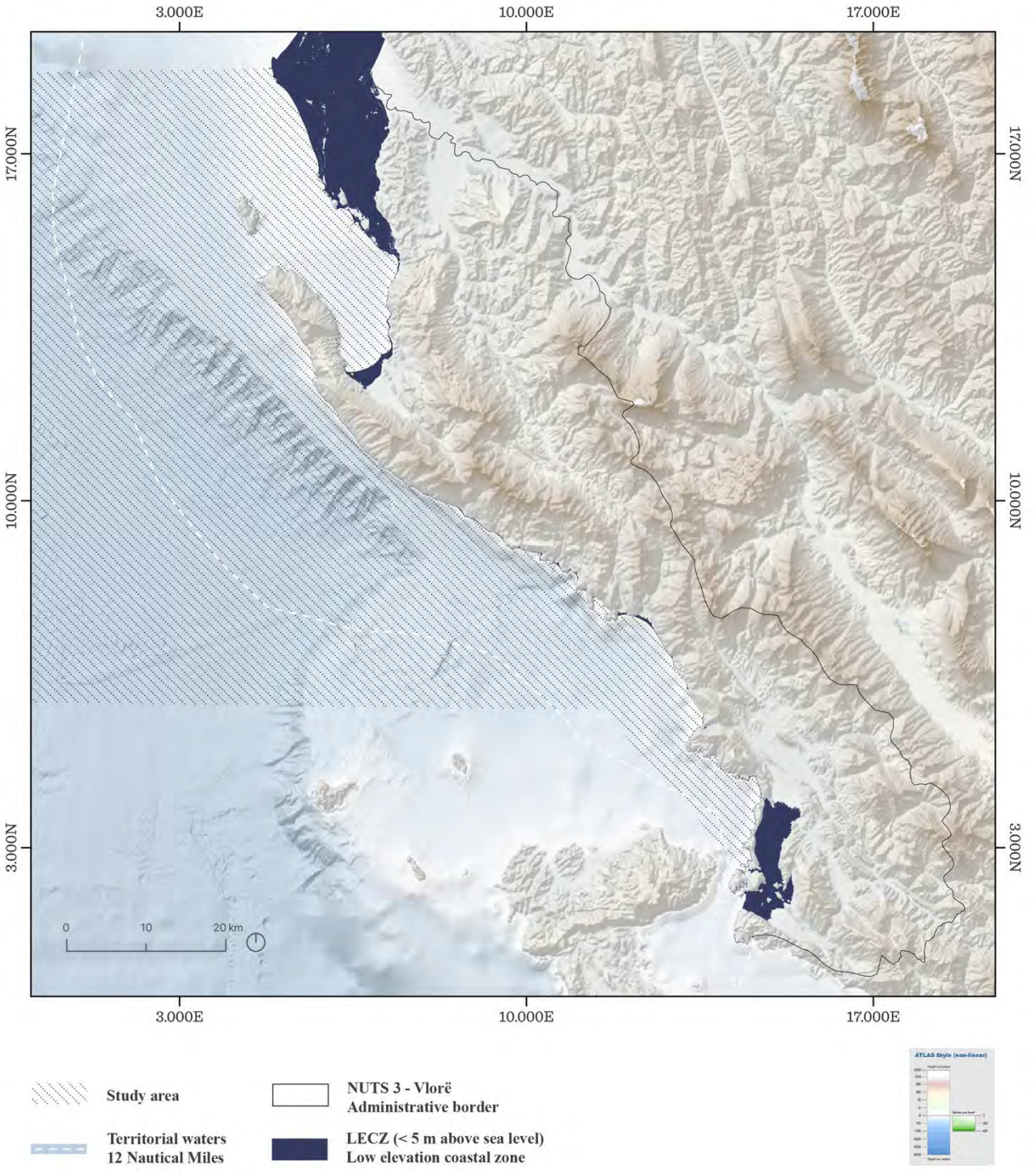

Figure 44. Low elevation coastal zone in Vlora. Source: NEAT assessment tool for GES for the Coast and hydrography EOs in the Adriatic, 2022

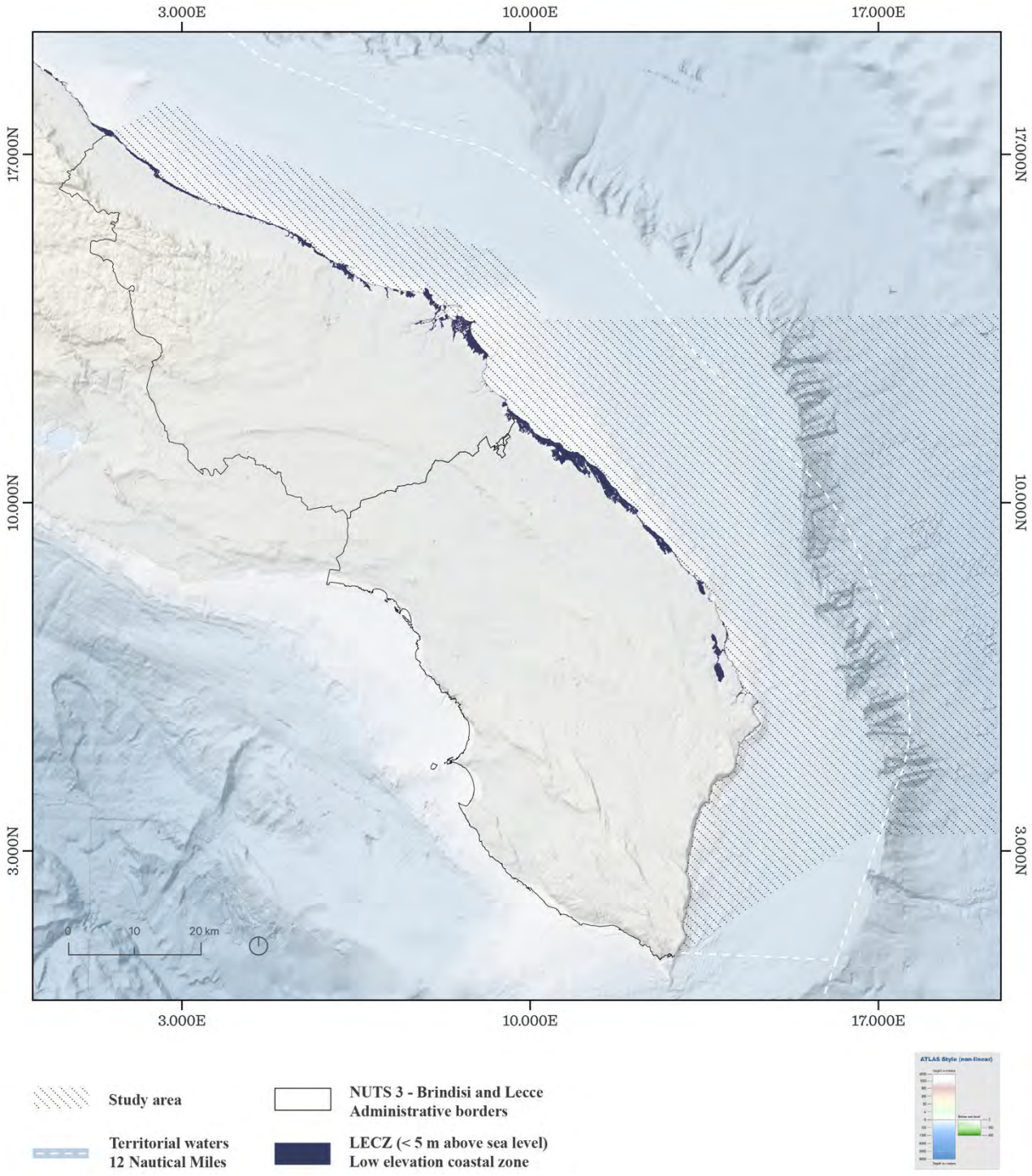

Figure 45. Low elevation coastal zone in Puglia. Source: NEAT assessment tool for GES for the Coast and hydrography EOs in the Adriatic, 2022

The coast of Vlora, as depicted in Table 6, covers within the 10 km from the shoreline an area of 1,614.59 square kilometres. Of this area, 13.68% (about 220 km^2) has an elevation of less than 5 m above sea level.

With a smaller extension, the provinces of Brindisi and Lecce also present LECZ areas, specifically 3.99% (796,90 km^2) for Brindisi and 4.49% (884,58 km^2) for Lecce.

If within the LECZ area land use is overlapped (Table 7), it is possible to identify that in the case of Vlora (Figure 46) out of the total area of 220 km^2, 81.47 km^2 is agricultural land (37%), 60.67 km^2 is waterbodies (28%),

27.42 km^2 natural and forest areas (12%) and that 16.04 km^2 are urbanized areas (7%).

On the coast of Brindisi and Lecce provinces (Figure 47), on the other hand, the highest extent within the LECZ is represented by agricultural areas and urbanized areas. In particular, in the case of Brindisi, there is an extension of 10.99 km^2 of agricultural lands (15%) and 9.47 km^2 for the urbanized ones (13%).

Table 6. LECZ areas in Vlora, Brindisi and Lecce and their percentages within the 10 km coastal zone. Source: NEAT assessment tool for GES for the Coast and hydrography EOs in the Adriatic, 2022

Administrative unit	LECZ [km^2]	Coastal zone (0–10 km) [km^2]	Percentage of LEZ within the coastal zone
Vlorë County	220.82	1,614.59	13.68%
Brindisi	31.82	796.90	3.99%
Lecce	39.71	884.58	4.49%

Table 7. Areas of different LCLU classes in the LECZ. Source: NEAT assessment tool for GES for the Coast and hydrography EOs in the Adriatic, 2022

Administrative unit	Built-up [km^2]	Agricultural [km^2]	Forest and semi-natural [km^2]	Wetlands [km^2]	Waterbodies [km^2]	Grand Total [km^2]
Vlorë County	16.04	81.47	27.42	35.22	60.67	220.82
Brindisi	9.47	10.99	6.34	3.46	1.56	31.82
Lecce	6.14	12.63	8.13	8.39	4.42	39.71

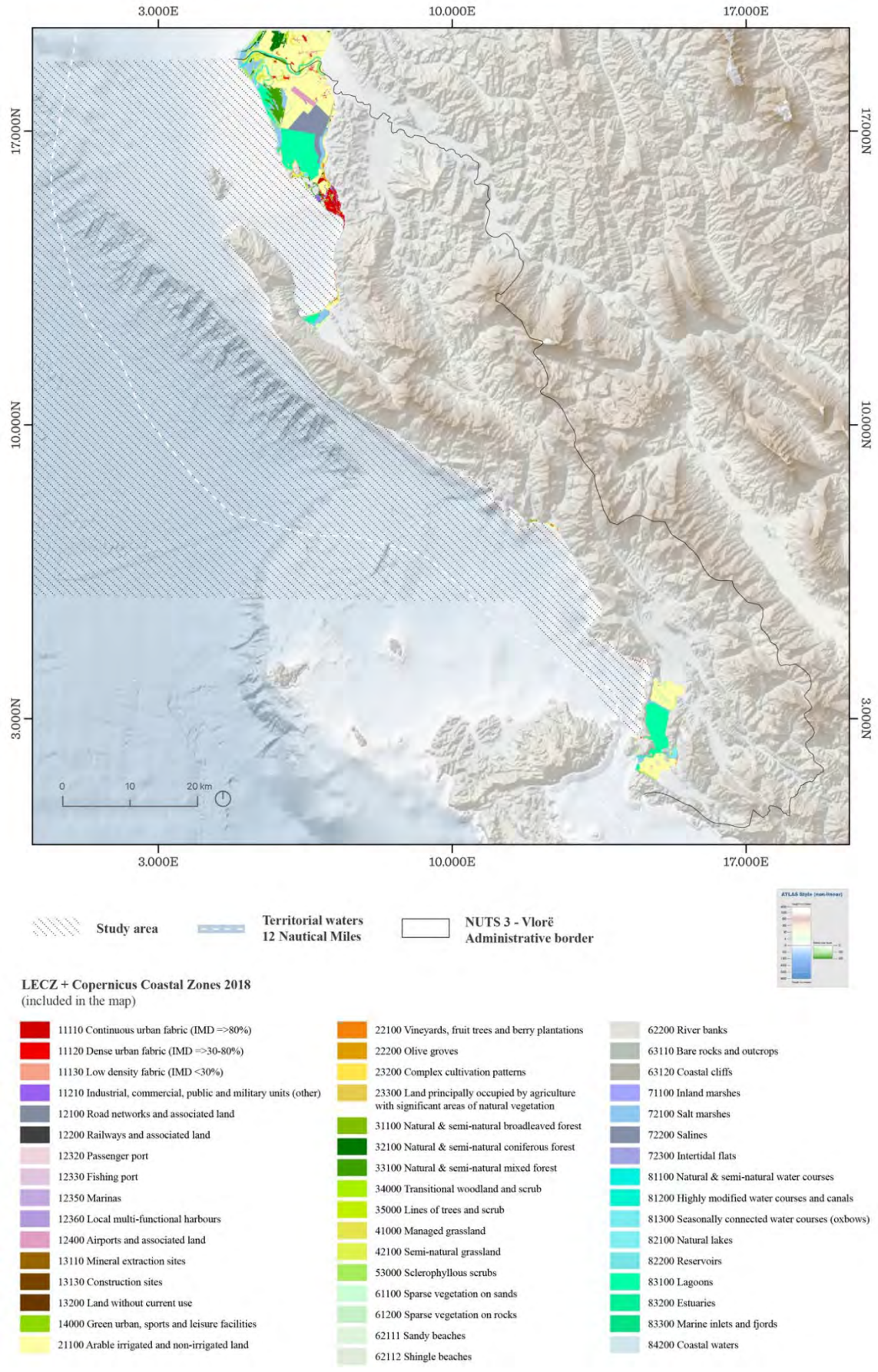

Figure 46. LECZ and CCZ in Vlora County. Source: NEAT assessment tool for GES for the Coast and hydrography EOs in the Adriatic, 2022

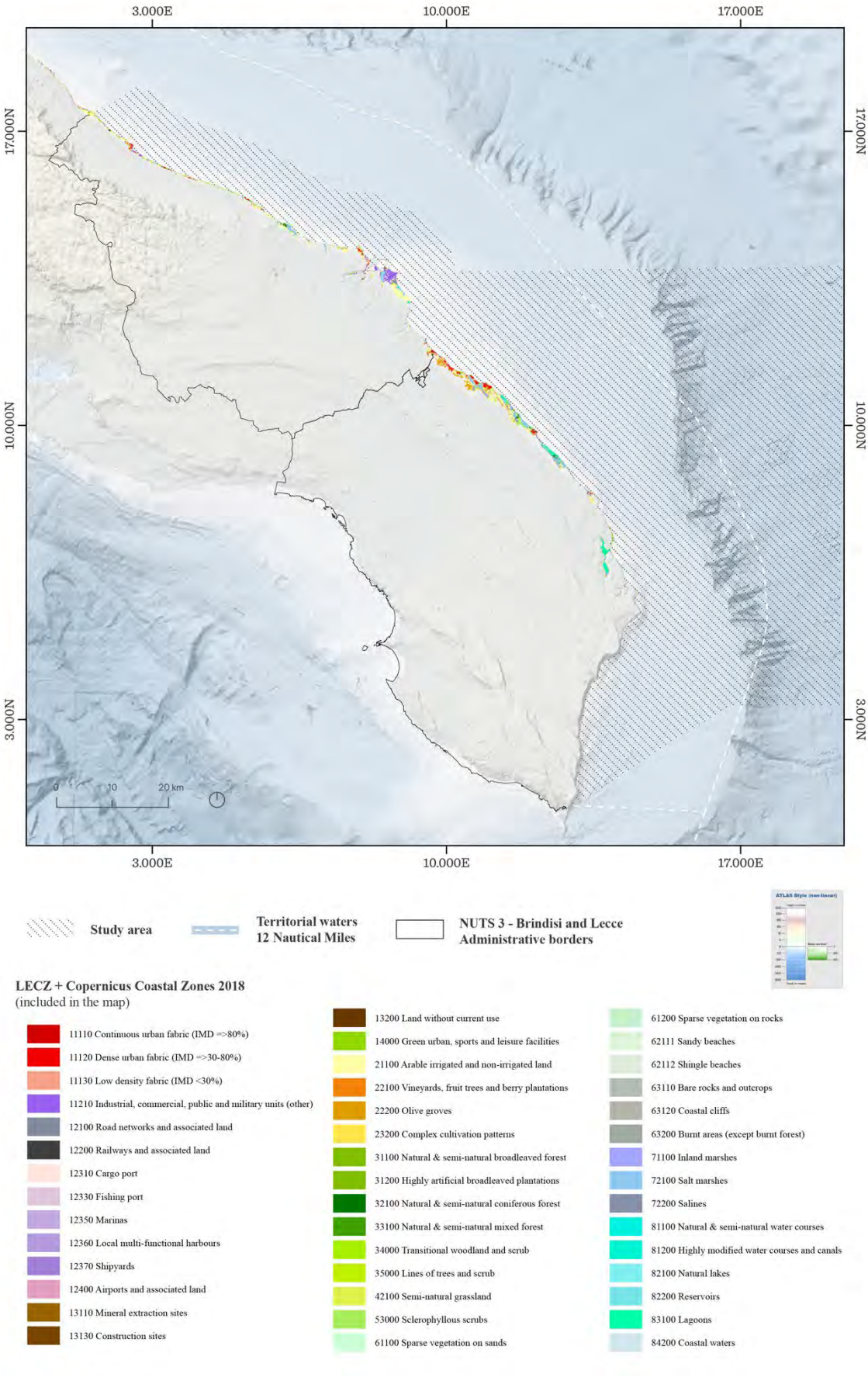

Figure 47. LECZ and CCZ in Brindisi and Lecce provinces. Source: NEAT assessment tool for GES for the Coast and hydrography EOs in the Adriatic, 2022

Summary of impacts

With reference to the South Adriatic and Ionian (SEIS) EBSA area, Ramieri *et al.* (2022) have highlighted the areas most impacted by human activities.[6] Some of the areas with the highest values of estimated impacts are located in front of the coast of the Puglia region, approximately 15 nm offshore the city of Brindisi. Areas with high level of estimated impact are located in a wide area about 20 nm offshore Bari, in the centre of the Otranto Strait. The pressures generated by maritime traffic and fisheries (trawling activities in particular) emerge as the most important factors in determining these estimated levels of environmental impact.

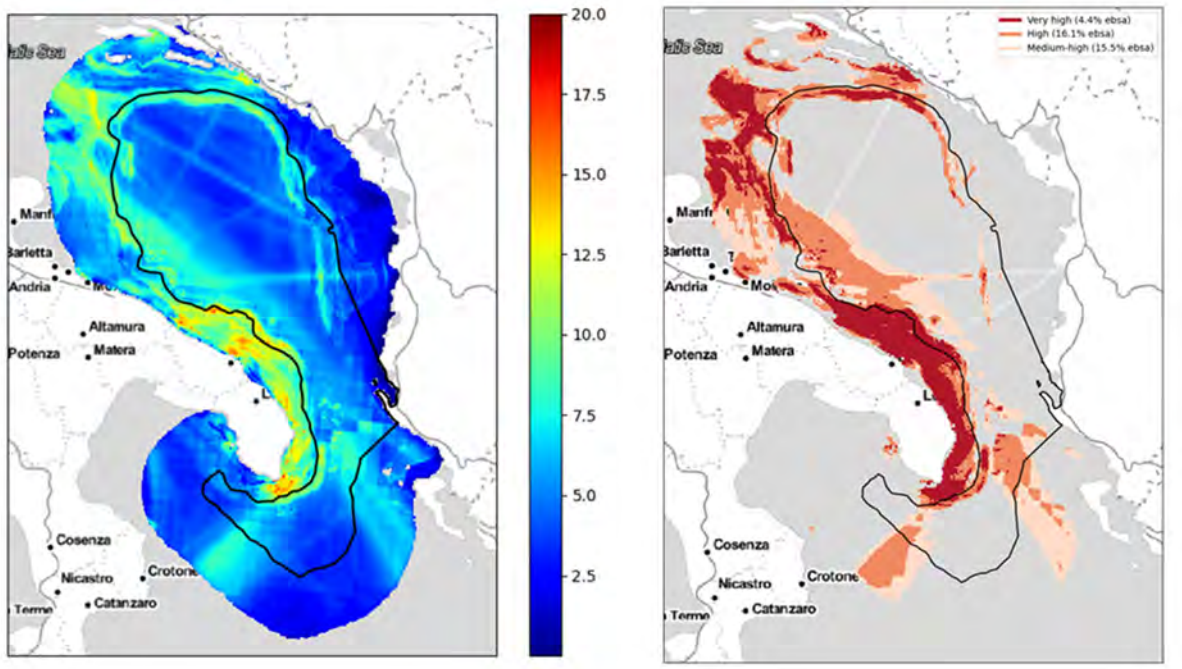

Figure 48. Spatial distribution of CEA score = estimated environmental impact (left) and priority areas of concern (right). Source: Ramieri et al. (2022)

With the same analysis, the authors also analyse the impacts on some individual environmental components analysed in detail. Priority areas of concern for the marine megafauna and for A6.61 seabed habitat (Communities of deep-sea corals) are shown in Figure 49. Regarding megafauna, 98% of estimated impact is due to maritime traffic and fishing, through pressures such as the introduction of synthetic and non-synthetic compounds, marine litter, collisions and incidental catches. Of the impacts estimated for the A6.61 seabed habitat (deep-water corals), 99% are caused by maritime transport and trawling. In addition to the pressures due to the introduction of substances and litter, abrasion and changing in siltation are also very relevant in this case (13% and 12%, respectively). The priority areas of concern are located in the Bari canyon and in the Otranto Strait.

With reference to the wider area of the SEIS EBSA, the following CBD (Convention of Biological Diversity) criteria are identified: important benthic communities (deep-sea cold-water corals and deep-sea sponge aggregations); critical habitat for Cuvier's beaked whales; important habitats for spinetail devil ray, striped dolphin, loggerhead turtle, tunas, sharks and birds; adjacent historical habitats of the endangered Mediterranean monk seal. Being most of these biological elements at risk in the study area, potential impacts can be considered for all of them.

[6] The analysis is based on the application of the so-called CEA tool (Menegon *et al.*, 2018a, 2018b). CEA is a python-based Free and Open Source Software (FOSS) for geospatial analysis to support of Maritime Spatial Planning and marine environmental management. CEA is based on the methodology originally developed by Halpern *et al.* (2008) and later modified by Andersen *et al.* (2013) and incorporates key aspect of environmental risk assessment, i.e. the explicit identification of the source-pressure-pathway-receptor linkages (Judd *et al.*, 2015; Stelzenmüller *et al.*, 2018).

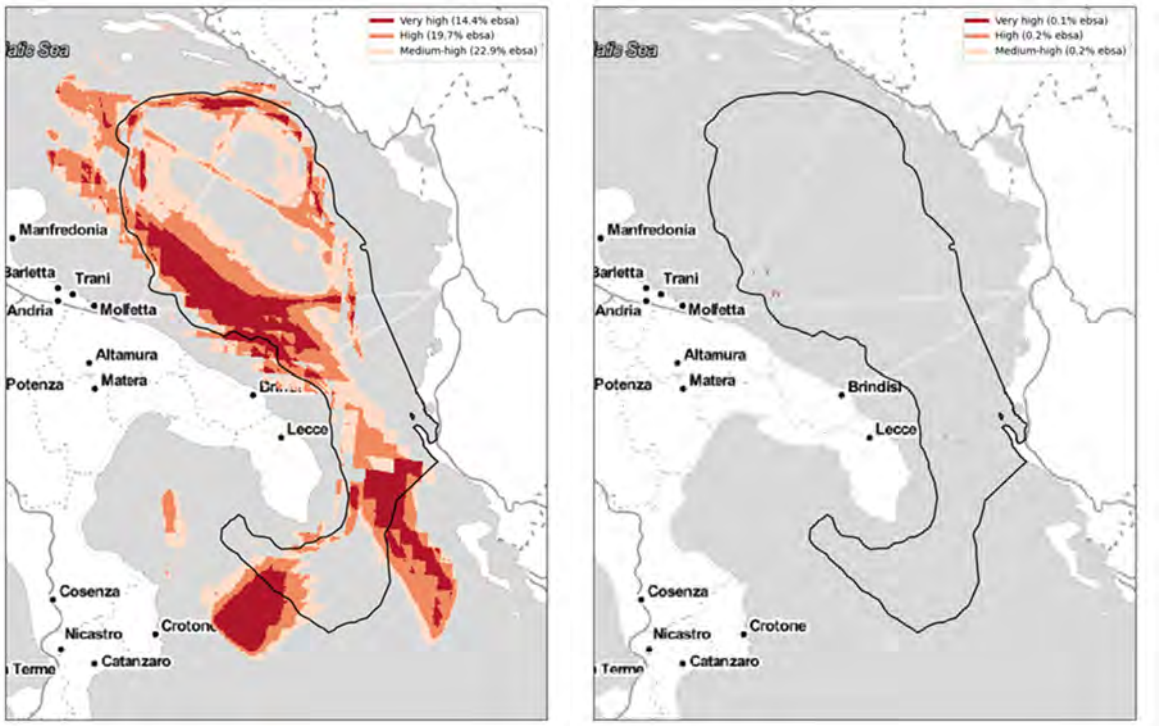

Figure 49. Priority areas of concern for megafauna (left) and for A6.61 seabed habitat – communities of deep-sea corals habitat (right). Source: Ramieri et al. (2022)

With reference to the coastal areas, in Vlora Bay, risks for marine and coastal environment from human activities have been identified (Genc Myftiu, 2020). Specifically, impacts from fishing activities due to illegal fishery practices (date mussel fishery, trawling, and use of explosives) are highlighted. Illegal trawling is reported to contribute to loss of over 50% of *Posidonia oceanica* meadows on the sea floor inside the bay. Illegal fishing on rocky shores produce a decline in macroalgae cover such as Cystoseira spp. For the Karaburun-Sazan National Park, risk related to ship accidents and pollution and to the presence of debris is identified, together with the pressures derived from uncontrolled frequentation by land and sea.

Along the Puglian coast, impacts on coastal ecosystems, particularly on *Posidonia oceanica* meadows, can occur, linked to intense touristic pressure (bathing tourism, nautical tourism), fisheries (including recreational ones) and water and sediment pollution (including from marine debris). As described above, coastal erosion also represents an issue, posing risks to the terrestrial coastal ecosystem. Coastal erosion is linked to a variety of factors, including climate change dynamics, soil use but also the presence/absence of marine coastal ecosystems like seagrass meadows that provide a natural barrier to waves.

2.6. Areas identified for marine protection

In the study area, several types of areas defined for the protection of marine habitats and species are identified: Marine Protected Areas, Natura 2000 sites, National Parks, a Managed Natural Reserve, and two Special Protected Areas of Mediterranean Importance (SPAMI). Part of the study area is included in the Ecologically or Biologically Significant Area (EBSA) of the South Adriatic and Ionian Sea. In addition, Cetaceans Critical Habitats (CCH), as defined under ACCOBAMS, are present in the study area. A list of the established protected areas is reported in Table 8. These areas are represented in Figure 50 and Figure 51.

Table 8. Areas for biodiversity and ecosystem protection

Name	Designation	Cod-NAT2000	Management plan	Area (ha)	Area Type	Class-IUCN
Puglia						
Litorale brindisino	SAC – SCI	IT9140002	Yes	7,256	Coastal and marine	
Torre Guaceto e Macchia S.Giovanni	SAC – SCI	IT9140005	Yes	7,978	Coastal and marine	
Torre Guaceto	MPA – SPA – SCI – SPAMI	IT9140008	Yes	548	Coastal and marine	IV – Habitat/species management area
Foce Canale Giancola	SAC – SCI	IT9140009	No	54	Coastal	
Stagni e Saline di Punta della Contessa	SPA – SCI – SAC	IT9140003	Yes	2,858	Coastal and marine	
Bosco Tramazzone	SAC – SCI	IT9140001	No	4,406	Coastal and marine	
Rauccio	SAC – SCI	IT9150006	No	91	Coastal and marine	
Aquatina di Frigole	SAC – SCI	IT9150003	Yes	3,163	Coastal and marine	
Torre Veneri	SAC – SCI	IT9150025	Yes	1,742	Coastal and marine	
Le Cesine	SAC – SCI	IT9150032	No	2,148	Coastal and marine	
Torre dell'Orso	SAC – SCI	IT9150004	Yes	60	Coastal	
Alimini	SAC – SCI	IT9150011	Yes	3,716	Coastal and marine	
Costa Otranto – S.Maria di Leuca	SAC – SCI	IT9150002	No	6,093	Coastal and marine	
Bosco le Chiuse	SAC – SCI	IT9150021	No	37	Coastal	
Vlora						
Pishe Poro	Managed Nature Reserve	–	?	1,499	Coastal and marine	IV – Habitat/species management area
Vjose-Narte	Protected Landscape	–	Yes	19,729	Coastal and marine	V – Protected Landscape/Seascape
Karaburun-Sazan Marine National Park	SPAMI – National Park	–	Yes	12,571	Coastal and marine	II – National Park
Butrinti	National Park	–	Yes	9,422	Coastal and marine	II – National Park
The Sazani Island – Karaburun Peninsula	CCH	–	–	39,372	Marine	
Porto Palermo	Natural Park	–	Yes	1,694	Coastal and marine	IV – Habitat/species management area
Overall study area						
Southern Adriatic Ionian Straight Ecologically or Biologically Significant Area	EBSA	–	–	3,816,316	Marine	

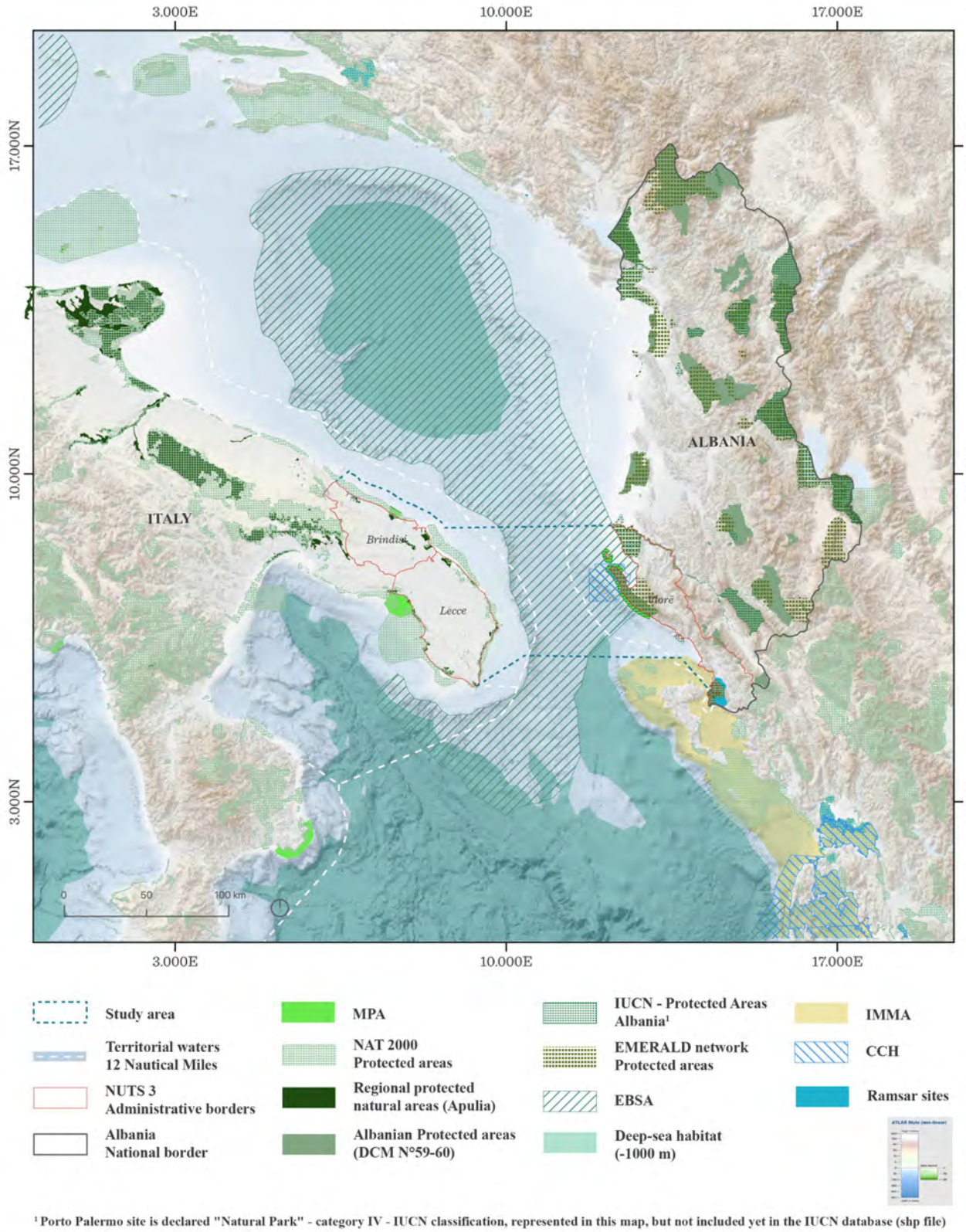

Figure 50. Areas for biodiversity and ecosystem protection. Sources: MAPAMED for MPA, EBSA, Deep-sea habitat, IMMA, CCH, Ramsar sites; Geoportal of the Albanian Government – ASIG for Albania Protected area DCM N°59-60; IUCN for Protected area Albania; SID Portale del Mare for NAT2000 sites; EEA for EMERALD sites

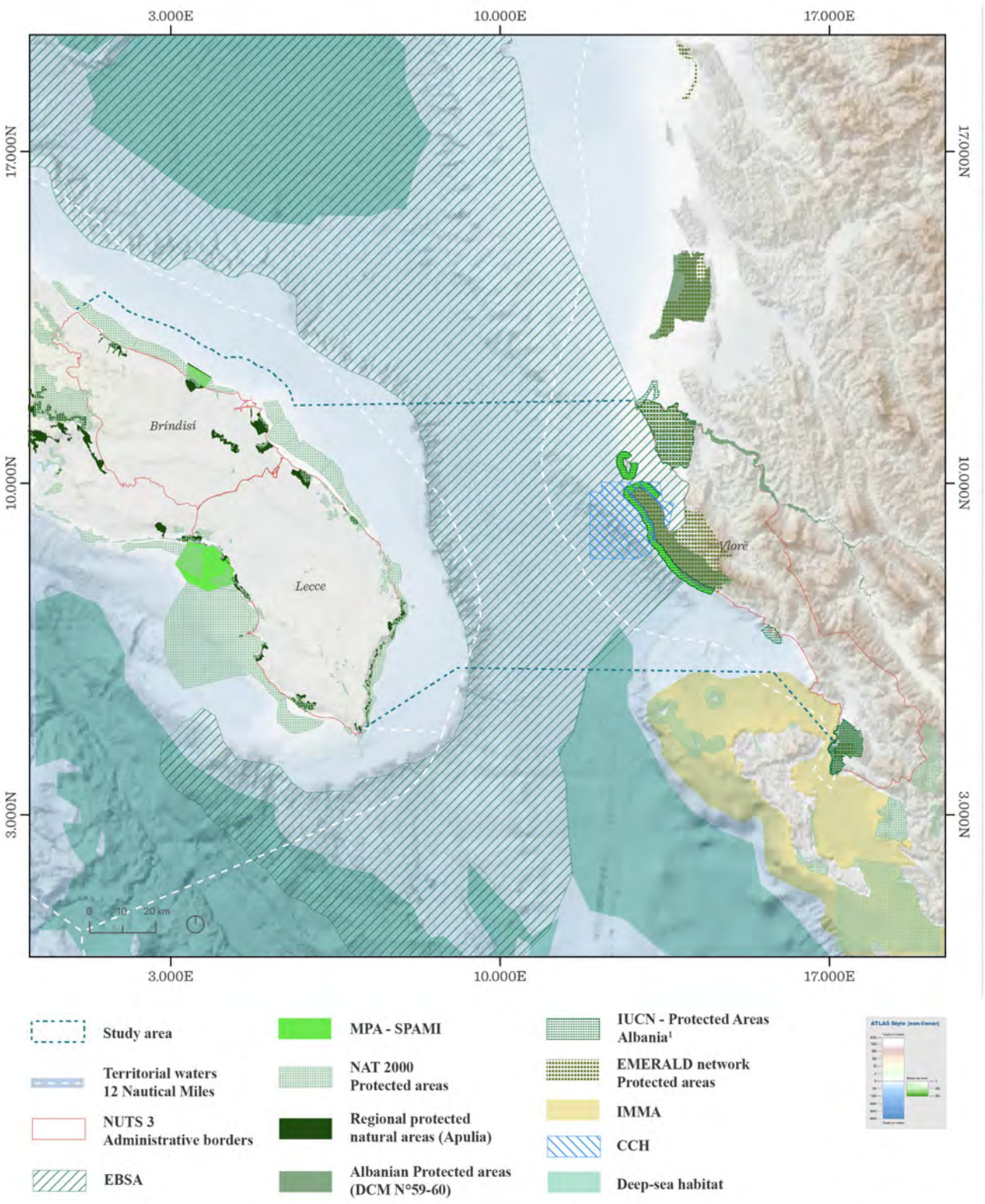

Figure 51. Areas for biodiversity and ecosystem protection in the study area. Sources: MAPAMED for MPA, EBSA, Deep-sea habitat, IMMA, CCH; Geoportal of the Albanian Government – ASIG for Albania Protected area DCM N°59-60; IUCN for Protected area Albania; SID Portale del Mare for NAT2000 sites; EEA for EMERALD sites

In Puglia the Marine Protected Area of Torre Guaceto is located (Figure 52), within the municipalities of Brindisi and Carovigno. The area extends for about 8 km long along the coastline from Apani till Punta Penna Grossa. As reported by SPA/RAC, the area is important for the brackish water community characterized by the presence of the seagrass *Zostera noltii*. The rocky midlittoral is characterized by the presence of red algae (Laurencia sp, and Corallina elongate) and Cystoseria sp. The rocky infralittoral is characterized by photophylous algae and by sea urchin barrens. *Posidonia oceanica* meadows are present in the sandy infralittoral, providing shelter to fish, crustaceans, sponges, bryozoans, hydroids, anthozoans and bivalve mollusks. Some of the precoralligenous formations, mostly localized in front of the Tower of Guaceto, at 15–17-metre depth, are characterized by patches of high density of gorgonians of the species *Eunicella cavolinii*, E. *singularis and E. seeranova*. Main threats and pressures are linked to non-controlled discharges of undetermined organic and inorganic pollutants, to the stranding of solid inorganic reject and to the organic charge that is transported along the littoral from the Northern Adriatic and from Albania. In addition, collection of coastal benthic organisms by visitors of the Reserve do cause impact on the benthic community. The invasive species *Caulerpa racemosa* is also very common. The Torre Guaceto MPA is also included in the SPAMI list.

Threats (on Posidonia meadows, coralligenous and pre-coralligenous): high sedimentation rates, pollution loads from agriculture, treated food industry wastes (edible oil) and treated urban wastewaters.

Measures (for protection of Posidonia meadows, coralligenous and pre-coralligenous): fitodepuration and reuse of wastewaters, monitoring of water quality and sediment load, realization of a system of oceanographic bouys.

In Vlora region the National Marine Park Karaburun-Sazan is strategically located on the eastern shore of the Strait of Otranto (Figure 53) (IUCN category II). It covers a marine area along the coastlines of Karaburun peninsula and Sazani island. *Posidonia oceanica* meadows and coralligenous are present at the infralittoral/circalittoral stage along the western coasts of Karaburun, Sazani island and Rreza e Kanalit area. Three globally endangered marine turtles, with high threat status are present in Albanian waters: loggerhead turtles (*Caretta caretta*), green turtles (*Chelonia mydas*) and a very rare presence of the leatherback turtle (*Dermochelys coriacea*). The area is also a potential monk seal habitat and monk seal has been increasingly being observed in the last 5 years. Five species of cetaceans are reported, among which the short-beaked common dolphin (*Delphinus delphis*), the common bottlenose dolphin (*Tursiops truncatus*) and the sperm whale (*Physeter macrocephalus*). For this reason, the National Park is encompassed within a wider Cetacean Critical Habitat (CCH) area, including waters off Sazani Island and the Karaburun Peninsula for a total area of 124 km^2, identified by ACCOBAMS. According to Birdlife International, the area of Vlora bay, Karaburun peninsula and Çika mountain is also listed as an Important Bird and Biodiversity Area (IBA) for Albania. About 70 species of sea birds have been recorded, among which the pygmy cormorant (*Phalacrocorax pygmaeus*). The National Marine Park is also included in the SPAMI list. (Source: Management Plan of the National Park of marine natural ecosystems of the Karaburun peninsula and Sazan island). Allowed activities for the different zones are indicated in Table 9.

The Marine National Park of Porto Palermo represents a hotspot of biodiversity along the Albanian coast. The ecological characterization of the area has been provided by a study conducted by RAC/SPA (RAC/SPA – UNEP/MAP, 2013). Apart from the terrestrial habitats, hosting protected plant species, marine benthic communities and habitats are very rich and host species of conservation interest: association with *Lithophyllum byssoides*, association with *Cystoseira amentacea* var. spicata, *Posidonia oceanica* meadows, association with *Cymodocea nodosa)*. Fish resources are also very rich, the bay hosted a military area and until 1997 any access and activity was prohibited. Now it still hosts species of international importance as rare or endangered species that require special protection and preservation of their habitat (e.g. Short snouted seahorse, Shortfin mako, Porbeagle, White skate, Sciaena umbra, Brown meagre, Smooth hammerhead, Black-striped pipefish, Shi drum, Swordfish).

Some of the Natura 2000 sites (SAC/SCI) present along the Puglian coast have a management plan. For the sites with no management plan, the Regional Council Regulation n. 6 of 10.05.2016 the Regional Council

issued the "Regulation containing Conservation Measures pursuant to Community Directives 2009/147 and 92/43 and Presidential Decree 357/97 for Sites of Community Importance (SIC)". This Regulation was subsequently updated by means of the Regional Regulation n. 12 of 10 May 2017 and its annex containing the conservation objectives for the sites of the Natura 2000 network of the Puglia region.

Given the characteristics of the sites (covering both coastal and marine areas), many management measures target protection and valorization of terrestrial species and habitats. Other measures are relevant for land-sea interactions processes (e.g. reduction of pollution from rivers and discharges, control of sediment load, reduction of beach erosion, protection of dune systems). Measures relevant for the marine environment are aimed, for example, at improving knowledge on seagrass meadows state and dynamics, monitoring water quality, reducing impacts on seagrass meadows from anchoring, regulating touristic fluxes, regulating fishing activities especially trawling.

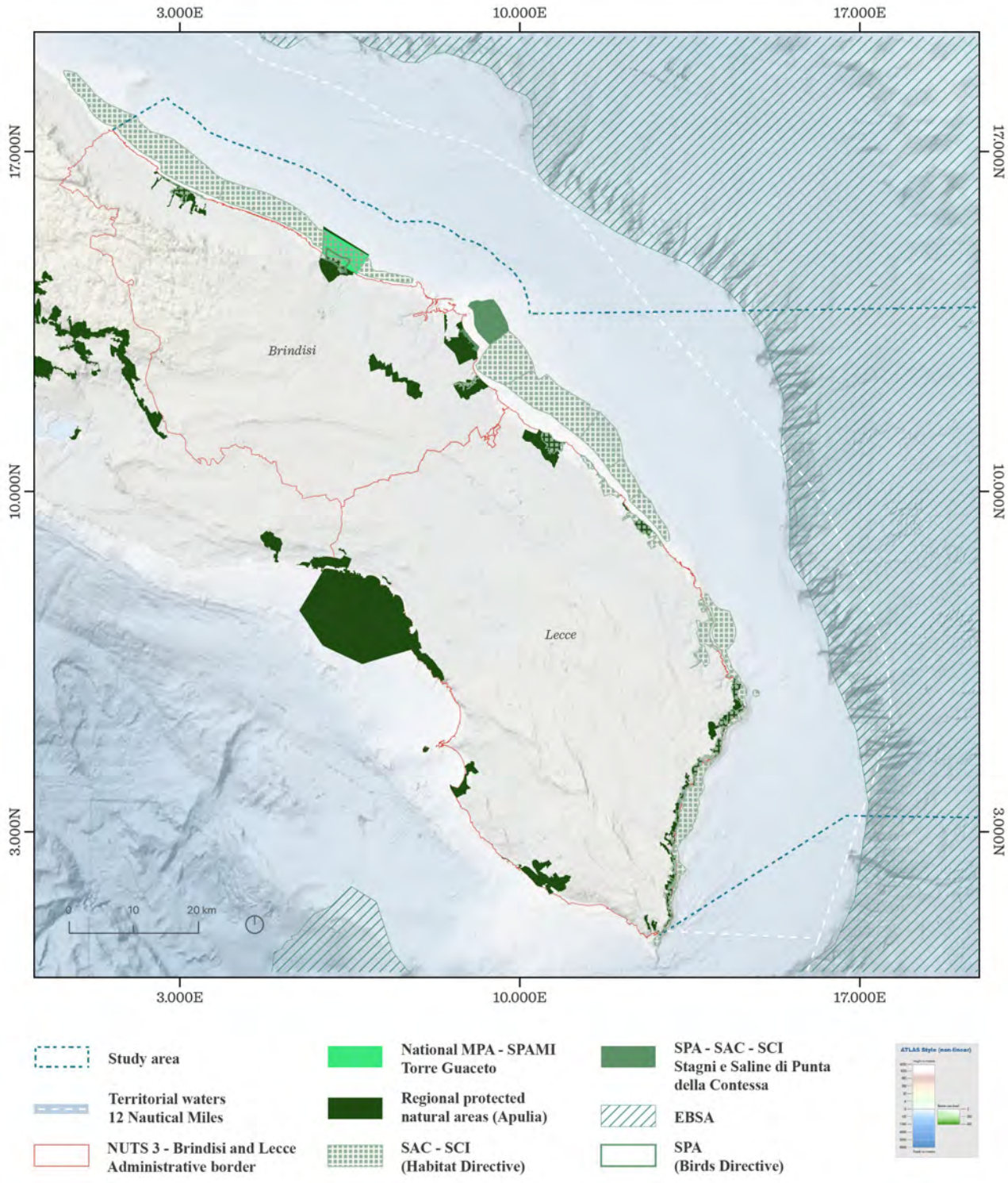

Figure 52. Protected areas close-up Italy. ***Only areas pertinent to the study area are represented****. Sources: MAPAMED for MPA – SPAMI, EBSA, SPA; SID Portale del Mare for NAT2000 sites*

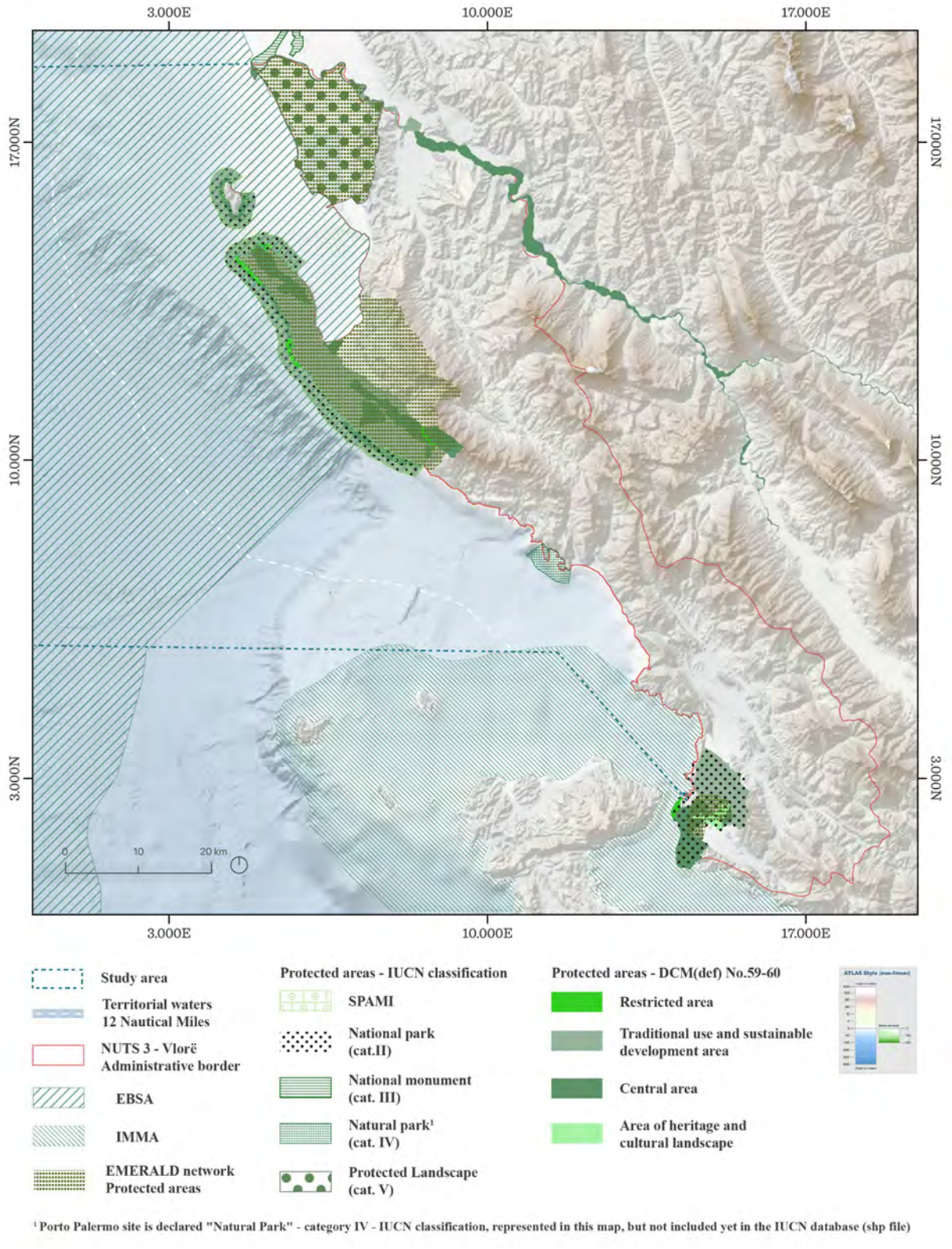

Figure 53. Protected areas close-up Albania. ***Only areas pertinent to the study area are represented.*** *Sources: MAPAMED for MPA, EBSA, IMMA, CCH; Geoportal of the Albanian Government – ASIG for Albania Protected area DCM N°59-60; IUCN for Protected area Albania; EEA for EMERALD sites*

Table 9. National Marine Park Karaburun-Sazan. 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 f« fishing (law on Fisheries). Only sport and traditional fishing is allowed, commercial fishing is not allowed.
Boating (excursions)	N	R	R	R	Special perm it 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 SOZ.
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 shou d 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 skis in any zone. Other motor water sports are allowed only in RZ. EMZ & SDZ – only non-motor water sports. Clear division of water sports 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	

Table 10. Marine Protected Area of Torre Guaceto. Information source: Interministerial Decree 4 December 1991 – Institution of marine natural reserve "Torre Guaceto" (N – PROHIBITED; R – REGULATED)

Activities	Zone A – Integral reserve	Zone B – General reserve	Zone C – Partial reserve	Regulation
Damage and removal of mineral formations	N	N	N	
Navigation with any kind of vessel (except for service boats)	N	N	R	Sailing and rowing are permitted, as well as professional fishing boats and tour boats
Professional fishing	N	N	R	Fixed nets
Recreational fishing	N	N	R	Fishing lines from boats or the beach, no boulters
Mussel collection	N	N	R	Authorization is needed
Collection of other flora and fauna elements	N	N	N	
Any kind of action changing the morphological, physical and chemical characteristics of waters, including the discharge of debris and wastes and dredging	N	N	N	
Introduction of weapons, explosives and chemicals	N	N	N	
Any activity disturbing studies and research programmes	N	N	N	

2.7. Other Effective Area-Based Conservation Measures

Definition OECMs (Other Effective Area-Based Conservation Measures)

OECM is defined by the International Convention on Biological Diversity (CBD), the International Union for the Conservation of Nature (IUCN) and the EU Commission as "*A geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity with associated eco-system functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values*" (CBD, 2018; IUCN, 2019; EU Commission, 2022).

OECMs may therefore include areas which have some form of legal protection that is not related to the protection of habitats and species (e.g. areas designated for water protection, flood prevention areas, agroforestry landscapes, military areas with restricted access, fisheries restriction measures, underwater cables sites) but indirectly promote the conservation of biodiversity.

OECMs can be counted towards the EU target if:

- the area is covered by a national or international legislative or administrative act or a contractual arrangement aiming to achieve long-term conservation outcomes
- conservation objectives and measures are in place, and
- effective management and monitoring of the bio-diversity in the area is in place.

Proposal for a Fishery Restricted Area (FRA) under the General Fisheries Commission of the Mediterranean (GFCM)

On behalf of the Adriatic Recovery Project, in 2018, MedReAct[7] submitted a proposal for a Fishery Restricted Area named *Deep water essential fish habitats and sensitive habitats in the South Adriatic* to the GFCM's Subregional Committee for the Adriatic Sea.

The proposed FRA core area covers important nursery and spawning grounds of valuable deep-water stocks and Vulnerable Marine Ecosystems. The core area is surrounded by a buffer zone where other important nurseries and spawning grounds and complex and heterogeneous habitats are found. The goals of this proposed FRA are to protect: (1) a site of unique physical features influencing the dynamics of waters circulation and water exchange with the whole Mediterranean basin; (2) important Essential Fish Habitats for valuable species such as deep water shrimps (e.g. *Aristeomorpha foliacea*), deep-water rose shrimp (*Parapeneus longirostris*), European hake (*Merluccius merluccius*) and blackmouth catshark (*Galeus melastomus*); (3) a key area for sea turtles, tuna, swordfish, sharks and an important migratory corridor for megafauna like cetaceans; and (4) an area containing Vulnerable Marine Ecosystems (deep-water corals) that could be significantly impacted by bottom trawling.

The proposed FRAs covers fisheries for GFCM priority stocks in the Adriatic (European hake) and other species such as Blackmouth Catshark (*Galeus melastomus*), Giant red shrimp (*Aristeomorpha foliacea*), Norway lobster (*Nephrops norvegicus*) and Deep-water rose shrimp (*Parapeneus longirostris*).

These stocks are shared by the Contracting Parties of the GFCM (mainly Italy, Montenegro, Albania).

Suggested management measures to be implemented in the FRA:

- Core area of the FRA: Permanent closure of the area to any professional fishing activity with towed nets, bottom set nets, and set longlines.
- Buffer area of the FRA: (1) Any demersal fishing activity shall be subject to a special fishing authorization if they can demonstrate that they have carried out fishing activities in the area in the last five years. Members and cooperating non-members of the GFCM shall compile and transmit to the GFCM Executive Secretary the list of authorized vessels. Vessels not complying with the GFCM conservation and management measures shall not be authorized to fish in the FRA buffer area. (2) The authorized vessels shall be allowed to fish for a maximum of two days per week.

More elaborations on the proposal were asked by the countries. In response to that, GFCM has adopted the Resolution 44/2021/3[8] providing for a roadmap for the establishment of an FRA in the southern Adriatic sea and stating that the Parties should:

a) investigate the monitoring activities needed to identify a possible FRA (fleet behaviours, impacts on sea bottom, observers on board) in the southern part of geographical sub-area 18

b) implement an ad hoc socio-economic survey covering the fleets operating in the area

c) design an ad hoc scientific survey for a better definition of Vulnerable Marine Ecosystems (VMEs) to identify a possible FRA

d) ensure that the key components of a future proposal include VMEs, Essential Fish Habitats (EFHs), spatial fishing fleet dynamics and socio-economic impacts, as provided by the national administrations.

According to the Resolution, in 2023, the Parties should jointly evaluate the possibility of establishing an FRA with the aim of protecting relevant VMEs and EFHs identified, following a bottom-up approach and engaging with relevant stakeholders. The GFCM should examine such proposal at its annual session in 2023.

[7] MedReAct was founded in 2014 at the initiative of a group of activists to counter the loss of biodiversity in the Mediterranean Sea.

[8] Resolution GFCM/44/2021/3 on a roadmap for the establishment of a fisheries restricted area in the southern Adriatic Sea (geographical sub-area 18).

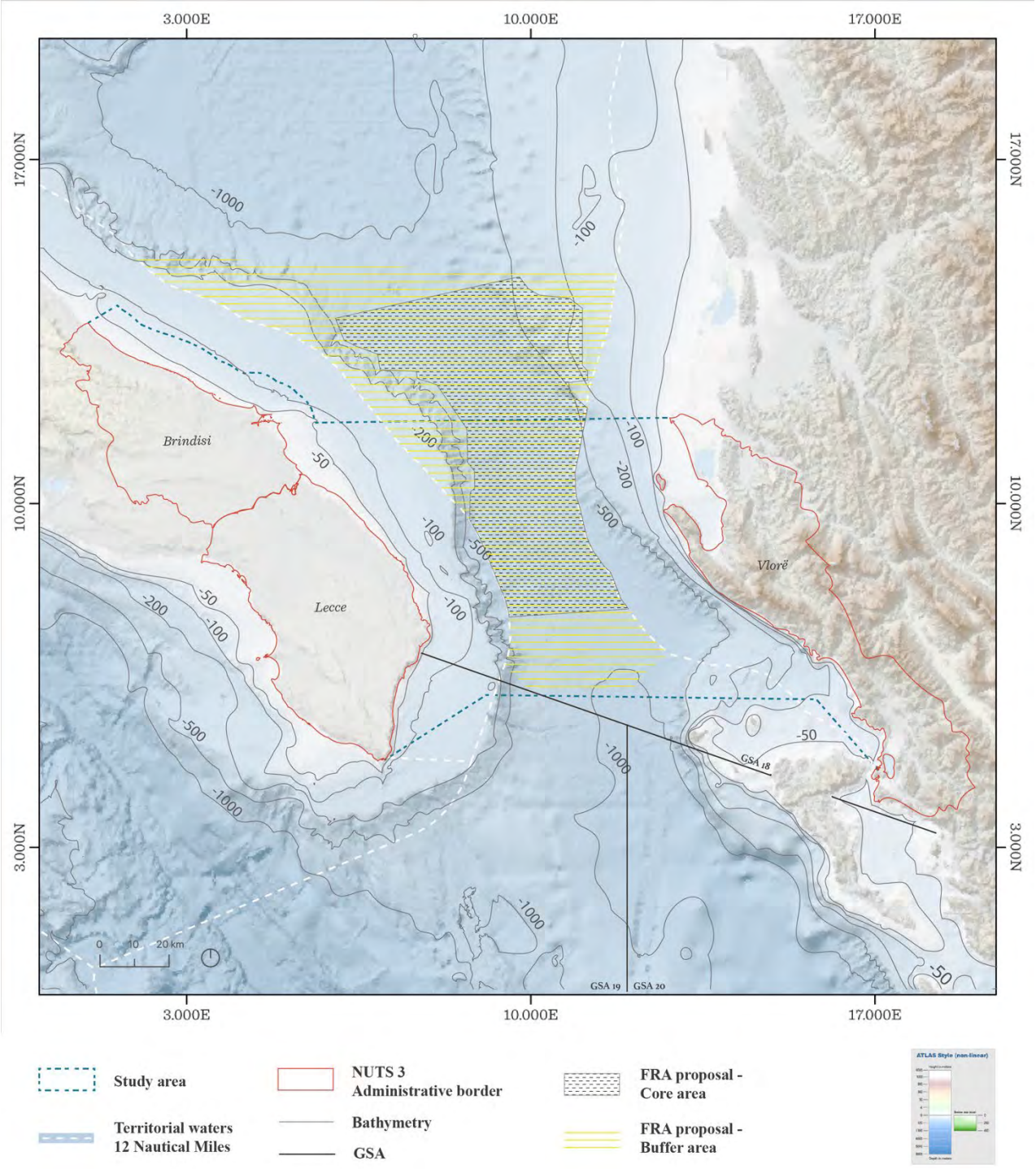

Figure 54. Fishery Restricted Area proposal. Source: GFCM for FRA and GSA, EMODnet for bathymetry

Other elements useful to identify ABMTs in the area

In the framework of the MSP Pilot Project for Vlora region, risks for biodiversity and ecosystems due to the maritime traffic lines that goes around and north of Sazani island (big ships, oil tankers, etc.) were identified. Within workshop activites (Tirana on 10–13 December 2020), the possibility to manage the passage into the Sazani strait, allowing the transit for small and leisure boats only was discussed. Taking into consideration the rich marine biodiversity (including the presence of monk seal) and a great number of cultural heritage areas located in both marine sides of the strait, there might be the possibility to apply for a Particularly Sensitive Sea Area (PSSA) under the IMO.

Puglia region, as part of the work of the Local Consultative Commission for fishing and aquaculture (in which ARPA Puglia also participates), proposed urgent measures for the protection of the local fish population of amberjack (*Seriola dumerili*), and in particular a "*specific action aimed at activating specific and effective controls on the regular and adequate application of the provisions of Regulation 1967/2006, having particular regard to the adequateness of the fishing methods used in relation to the presence of habitats protected at community level, with respect to the dimensional parameters of the nets, as well as compliance with the distance from the coast and the minimum depth limit established by law*". At present this proposal is under discussion.

2.8. Spatial plans in the study area

The Italian National Maritime Spatial Plan and the Plan of the Sea

By Directive 2014/89/EU, the EU Commission established the framework for Maritime Spatial Planning: a public action for Coastal Member States aimed at spatially analysing and organizing anthropogenic activities at sea through the drafting of a spatial management plan by March 2021.The MSP Directive was transposed into Italian legislation by Legislative Decree No. 201/2016 and Decree of the President of the Council of Ministers (DPCM) of December 1, 2017, which designated the Ministry of Infrastructure as the Competent Authority for the process and defined the guidelines containing indications and criteria for the preparation of the three plans, for the three Italian maritime regions: 1) "Adriatic"; 2) "Ionian and Central Mediterranean"; 3) "Tyrrhenian and Western Mediterranean".

Italy is still in the process of adopting a binding maritime spatial plan. The country is preparing three plans for the three Italian maritime regions: 1) Maritime Area "Adriatic"; 2) Maritime Area "Ionian and Central Mediterranean"; 3) Maritime Area "Tyrrhenian and Western Mediterranean. Public consultation on the draft MSP plans was open on 15 September 2022 and closed on 31 October 2022. The consultation web page with links to all documents is available here. The consultation for the Strategic Environmental Assessment (SEA) was open on 30 September 2022 and closed on 15 November 2022. The SEA process is still on-going.

In each maritime area, the Plans cover all waters and/or seabed beyond the coastline over which Italy has jurisdiction, with the exception of areas with "urban and rural planning governed by existing legislation" (Art. 2 MSP Directive and Legislative Decree No. 201/2016).

The Plans provide strategic level indications and guidelines for each Maritime Area and their sub-areas, to be used as a reference for other planning actions and for the granting of concessions or authorizations. Depending on the characteristics of the sub-areas and planning needs, the Plan provides more or less detailed indications, both in terms of spatial resolution and in terms of defining measures and recommendations. The reference time horizon of the Plan is 2032.

A co-planning process has been undertaken between the central level (in particular the Ministries that sit on the Technical Committee uncharged of preparing the plans) and the regional level (15 coastal regions, including Puglia region).

It is worth noting that on 31 July 2023 the Italian inter-ministerial Committee for the policies of the sea approved the Plan of the Sea, a document providing political guidance and coordination in the form of an integrated national maritime strategy. While the MSP plans indicate the spatio-temporal distribution of uses, the Plan of the Sea provides an overall vision of how to structure the use of the sea, as well as the general actions to be taken to pursue strategic objectives.

Planning Units in the Italian Maritime Spatial Plans
Source: SID Il Portale del Mare – Italian Ministry of Infrastructure and Transport

Planning Units (PUs) represent the basic element for spatial planning in each maritime area. To each PU, specific vocations of use are attributed, based on:

- Current status of environmental uses and components
- Trends in place, both of the physical and environmental system and the system of uses
- Developments in the system of uses to be promoted, based on the vision and goals stated in the Plan
- Needs to preserve and improve environmental conditions, as also defined in the Plan objectives
- Competence framework and governance system
- Existing regulations and plans, with particular reference to regulations on the environment, landscape and cultural heritage.

Each PU is assigned a typological attribute, as follows:

- G = Generic Use. Areas in which all uses tend to be permitted, with specific and reciprocal regulatory mechanisms defined or to be defined within national and international standards or sector plans, so as to guarantee safety, reduce and control environmental impacts and encourage co-existence between uses
- P = Priority Use. Areas for which the Plan provides indications of priority use and development, including indicating other uses to be secured or permitted through adjustments to each other and with the identified priority use
- L = Limited Use. Areas for which a predominant use is indicated, with other uses which may be present, with or without specific limitations, if and to the extent compatible with the predominant use
- R = Reserved Use. Areas reserved for a specific use. Other uses are permitted only for the needs of the reserved use or unless waived and granted by the entity responsible for or managing the reserved use.

For the scope of the present study, it is relevant to consider the provisions of the draft MSP plans within the study area. These provisions apply to territorial waters (within 12 nm) and areas of continental shelf (till the midline).

With specific regard to Puglian waters, the draft plan for the Adriatic maritime areas indicates a list of specific objectives (identified by Puglia region and valid within the regional territorial waters), and the identification of PU and their vocations. The map with the PU is reported in Figure 55. The English translations of specific objectives and of the description of the PU are included in Annex 1.

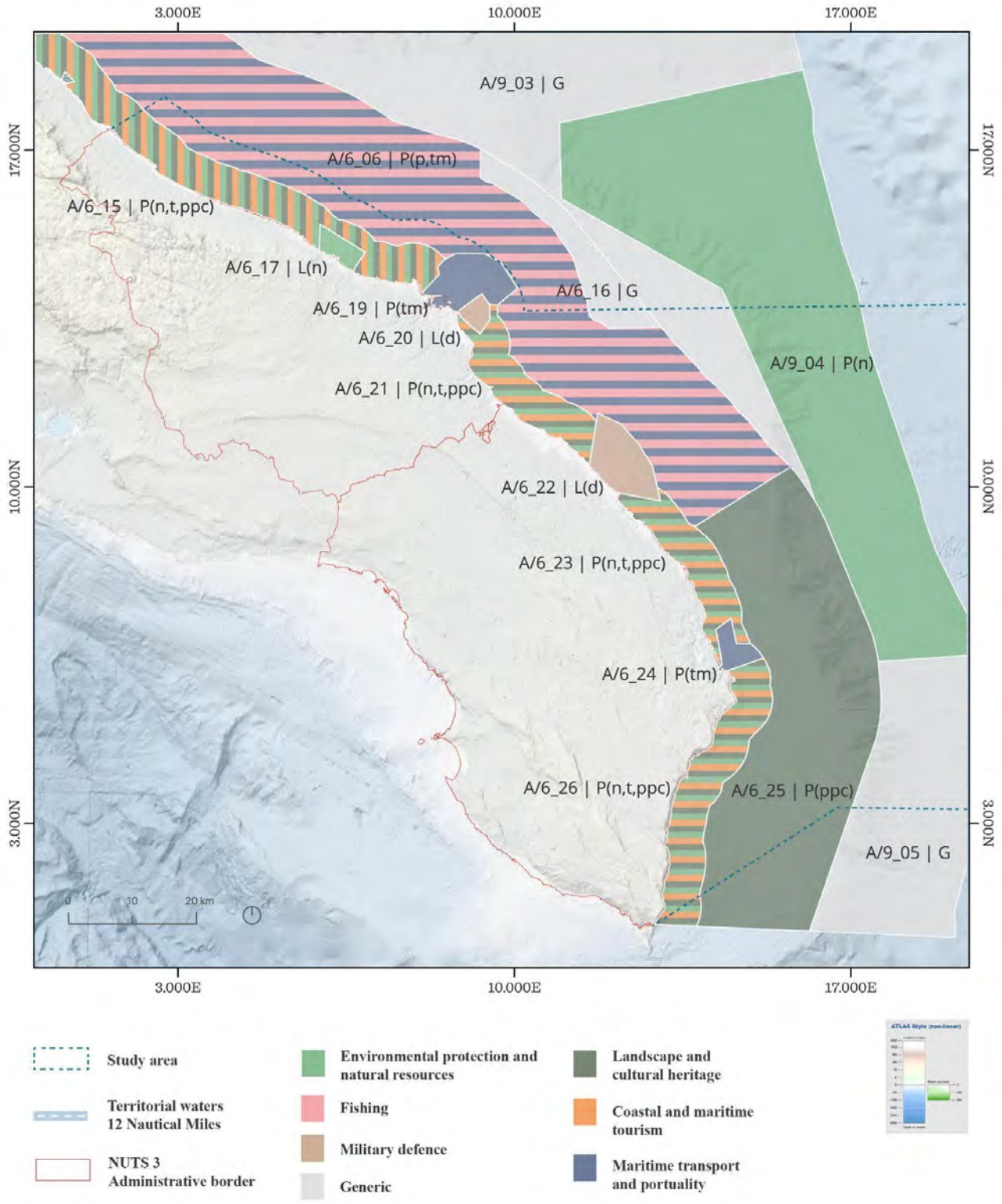

Figure 55. MSP and planning units in Puglia region. Source: SID Portale del Mare

Preliminary ideas for an MSP plan of Vlora bay

In the framework of the MSP Pilot Project for Vlora region (Genc Myftiu, 2020), first ideas for an MSP plan have been developed. The following uses have been identified as relevant:

- Marine protected areas
- Military areas – polygon
- Sewage outlets
- Lagoons, river mouths – 2 km buffers zones
- Aquaculture sites
- Cultural heritages include:
  - cultural sites
  - wrecks
  - under water trails
- Tourism activities include:
  - Business Tourism (hotels)
  - Beaches
  - Diving
- Existing anchoring & Proposed signal buoys
- Sustainable and Industrial Development Zone which include
- Marine Trails
- Boat Itinerary
- Sea traffic (leisure boats + commercial boat)
- Proposed sea traffic (leisure boats + commercial boat).

A zoning proposal for the bay has been identified (Figure 56).

Other developments on MSP in Albania

A concept note is being prepared under CAMP Otranto that will open the way for the necessary legislative and institutional setup for MSP process in Albania.

Figure 56. MSP Vlora bay. Source: Genc Myftiu (2020)

2.9. Identification of candidate areas for the application of Area-Based Management Tools

The description of human activities in the study area, of its ecological main characteristics and ecological values and the identification of existing and proposed areas for biodiversity and ecosystem protection, provide a knowledge base to identify candidate areas for Area-Based Management Tools.

The following maps (Figure 57, Figure 59, Figure 60) summarize some of the spatial information described above by overlapping distribution of maritime uses (namely fisheries, maritime traffic and tourism) with the location of protected areas. Finally, Figure 61 integrates all this information.

The map of Figure 58 helps showing the spatial interaction between fishing activities (effort intensity) and the seabed communities, including deep-water corals.

The maps, together with the stocktaking elements described in the paragraphs above, support the zoning of the study area, with the definition of *management areas,* characterized by peculiar environmental assets, human uses and environmental protection measures. This evidence-based process allows one to identify the management needs, based on the main features of the areas described in Table 11.

Table 11. Synthesis of the stocktaking evidence and identification of management needs for different spatial domains within the project area

Area	Main drivers	Main pressures	Environmental impacts	Spatial measures in place to protect ecosystems and biodiversity	Main provisions from MSP plans	ABMT: Management needs
Italian territorial waters[9] along the Puglian coast within 50 m depth/3 nm	Tourism (beach and nautical) Small-scale and recreational fishery (Potential aquaculture sites) Climate change	Pollution from agricultural, industrial and urban sources (including marine litter) Seabed disturbance (e.g. from anchoring) Increased frequency of extreme meteorological events	Threats to seabed habitats (including protected species: *Posidonia oceanica*, precoralligenous, coralligenous) Coastal erosion	Trawling fishery forbidden Natura 2000 sites and one MPA established along the coast GSA 18 measures	**Priority uses IT-MSP:** Landscape and cultural heritage protection Environmental and natural resource protection Tourism **Other uses IT-MSP:** Port entrance Military areas	Ensure implementation of existing measures (e.g. with regard to restriction related to professional and recreational fisheries: with regard to the control of accesses to protected areas), control and monitoring Increase the extension protected natural areas Ensure integration with terrestrial planning provisions
Italian territorial waters along the Puglian coast between 3 and 12 nm	Fishing (trawling) Maritime transport (cargos and tankers)	Disruption and abrasion of seabed habitats, resuspension Pollution from land base sources and from shipping (including marine litter) Underwater noise Bycatch Collisions	Overexploitation of fish stocks Threats to seabed habitats Threats to megafauna Threats to underwater cultural heritage sites	GSA 18 measures	**Priority uses IT-MSP:** Fishing Maritime transport	Ensure connection (continuum) and coherence between coastal and offshore areas, in relation with management measures for maritime traffic and fishing
Offshore area comprised of the Italian and Albanian territorial waters	Fishing, on western margin (trawling) Maritime transport (cargos, tankers, passenger) (Potential gas exploitation sites) Telecommunication cables	Pollution (including marine litter) Underwater noise Bycatch Collisions	Overexploitation of fish stocks Threats to seabed habitats (including protected species – deep-sea corals) Threats to megafauna (including protected species)	South Adriatic Ionian EBSA (no measures identified) GSA 18 measures Trawling forbidden in a limited portion (GFCM-FRA below 1000 m depth)	**Priority uses IT-MSP:** Environmental natural resource protection	Establish new measures to manage fishing activities (permanent closure in a core area, fishing under authorization in a buffer area, as in the proposal for the GFCM-FRA Otranto Strait) Measures to manage maritime traffic (to be identified considering speed reduction, use of dedicated corridors, code of conducts as to avoid collisions with marine megafauna, etc.)

[9] In this analysis internal waters are not considered

Area	Main drivers	Main pressures	Environmental impacts	Spatial measures in place to protect ecosystems and biodiversity	Main provisions from MSP plans	ABMT: Management needs
Albanian territorial waters along the coast of Vlora between 3 and 12 nm	Maritime transport (Fishing data missing)	Pollution (including marine litter) Underwater noise Bycatch Collisions	Overexploitation of fish stocks Threats to megafauna (including protected species)	South Adriatic Ionian EBSA (no measures identified) CCH Sazani Island – Karaburun Peninsula (no measures identified) Porto Palermo Marine National Park Ionian Archipelago IMMA (no measures identified) GSA 18 measures		Create new protected natural areas Increase knowledge on drivers/pressures/impacts
Albanian territorial waters along the coast of Vlora within 50 m depth/3 nm	Tourism (under development) Aquaculture Fishing (illegal practice reported)	Pollution (including marine litter) Seabed disturbance (e.g. from anchoring)	Threats to seabed habitats – rocky and sandy (including protected species: *Posidonia oceanica*)	South Adriatic Ionian EBSA (no measures identified) CCH Sazani Island – Karaburun Peninsula (no measures identified) Ionian Archipelago IMMA (no measures identified) Karaburun-Sazan National Park MPA Trawling fishery forbidden GSA 18 measures	MSP Study Vlora Bay: Ensure sustainable management of maritime traffic	Ensure sustainable management of touristic fluxes including nautical tourism Ensure implementation of existing measures, control and monitoring (e.g. ensure respect of provisions related to fishing, contrast to illegal fishing; ensure respect of access restrictions) Create new protected natural areas Ensure integration with terrestrial planning provisions
All areas						Introduction of an overarching management tool to achieve coordination and harmonization of all the measures for the entire complex project area

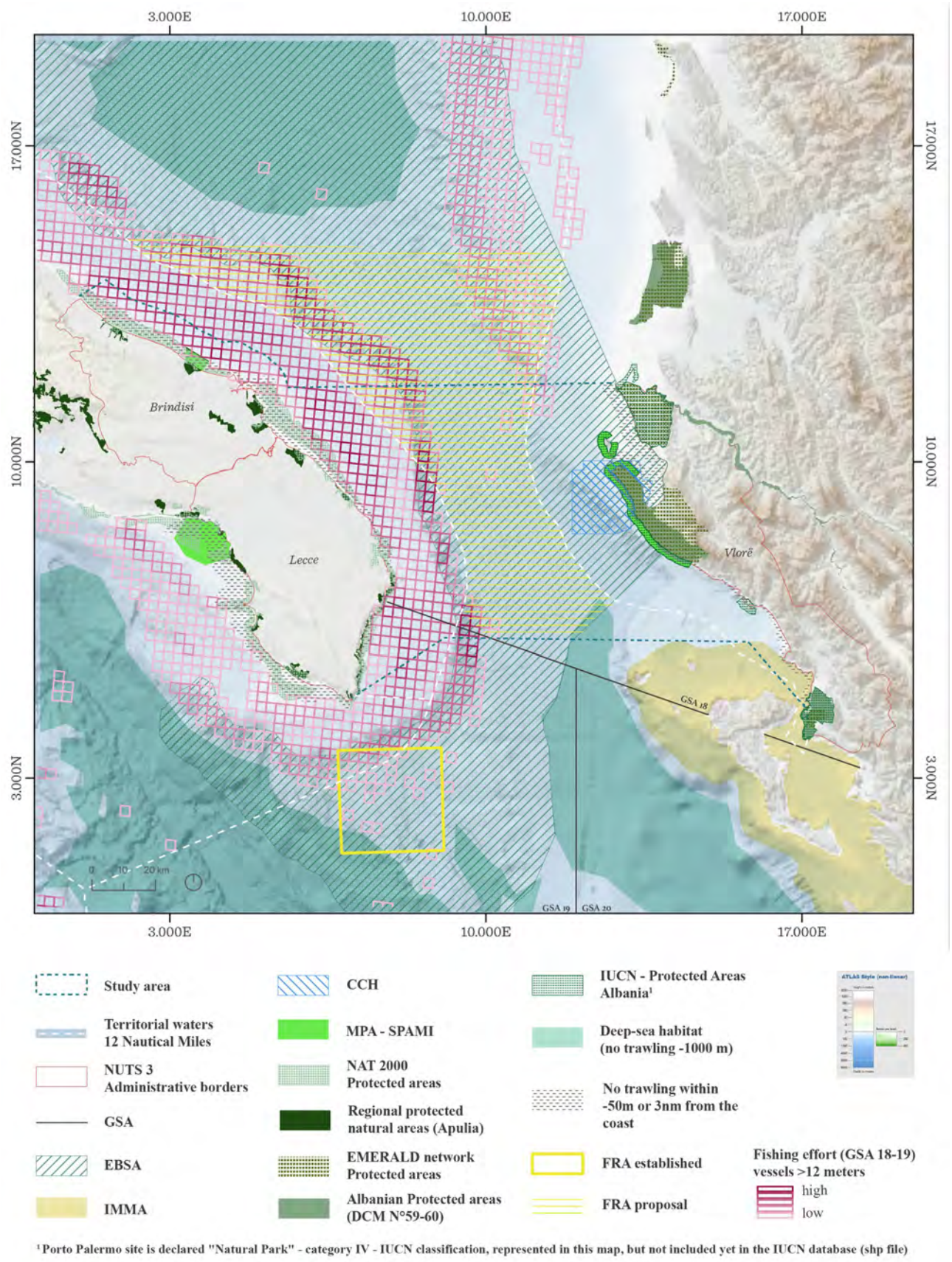

*Figure 57. Joint representation of **protected areas and fishery**. Sources: MAPAMED for MPA, EBSA, Deep-sea habitat, IMMA, CCH, Ramsar sites; Geoportal of the Albanian Government – ASIG for Albania Protected area DCM N°59-60; IUCN for Protected area Albania; SID Portale del Mare for NAT2000 sites, Fishing effort; EEA for EMERALD sites; GFCM for FRA established, proposed and no-trawling within -50 m or 3 nm*

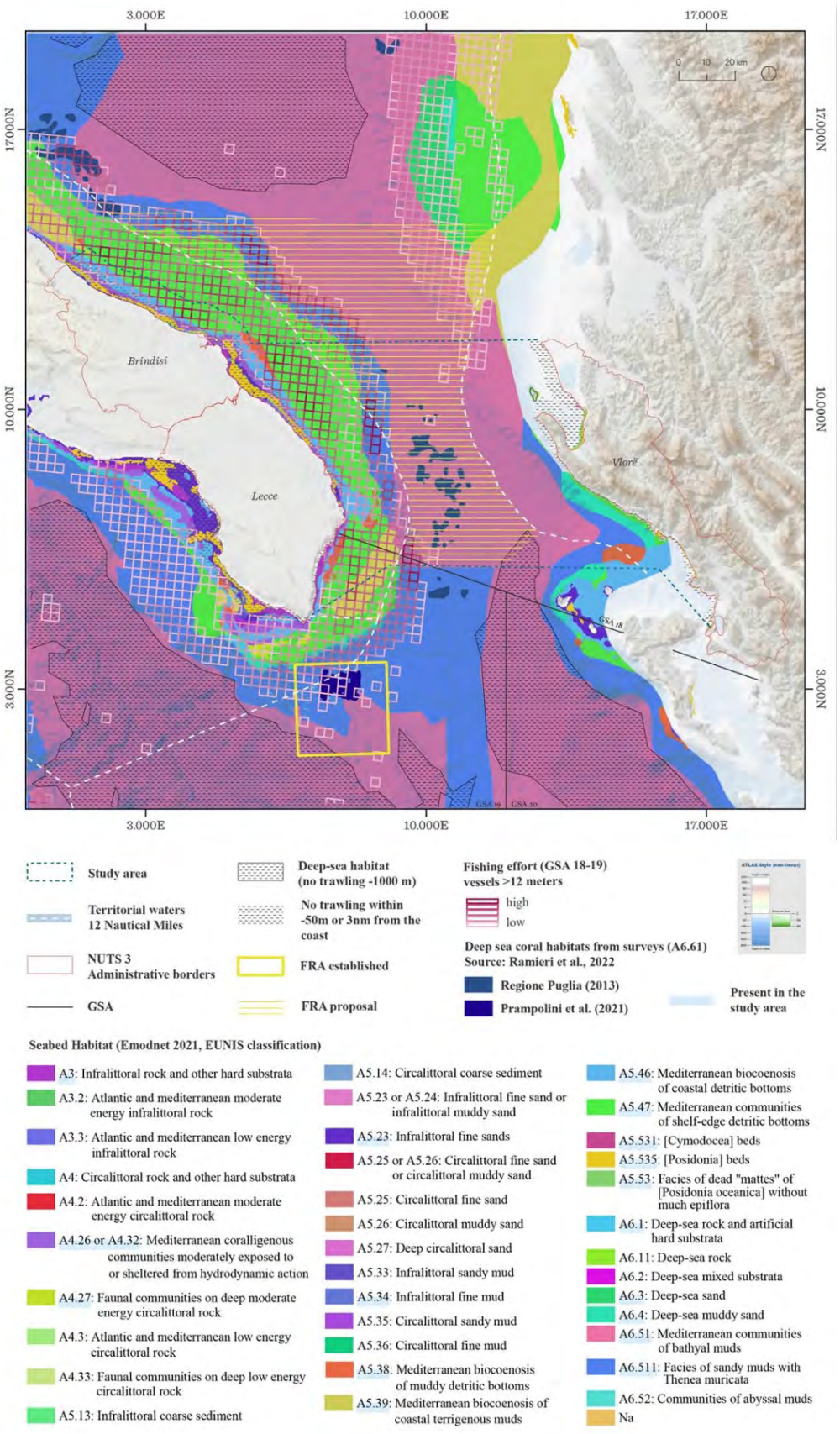

*Figure 58. Joint representation of **seabed habitats** (under EUNIS classification) **and fishery**. Sources: SID Portale del Mare for NAT2000 sites, Fishing effort; GFCM for FRA established, proposed and no-trawling within -50 m or 3NM; EMODnet seabed habitat; deep-sea coral communities' distribution, corresponding to EUNIS habitat A.6.61: Ramieri et al., 2022 and sources indicated therein (surveyst by Puglia region – Biomap project 2013 and CNR-ISMAR – Prampolini et al., 2021)*

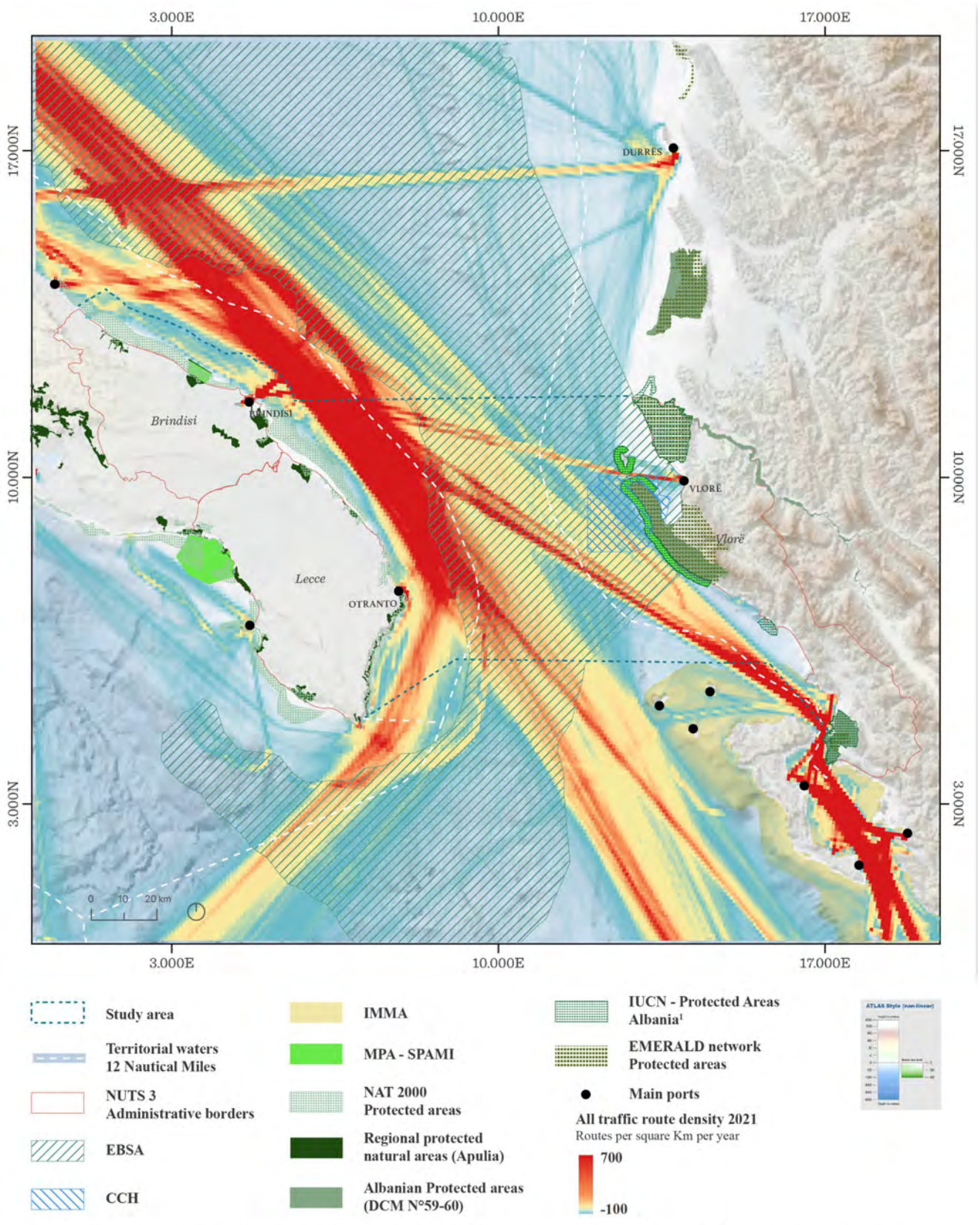

*Figure 59. Joint representation of **protected areas and maritime transport**. Sources: MAPAMED for MPA, EBSA, Deep-sea habitat, IMMA, CCH, Ramsar sites; Geoportal of the Albanian Government – ASIG for Albania Protected area DCM N°59-60; IUCN for Protected area Albania; SID Portale del Mare for NAT2000 sites; EEA for EMERALD sites; Emodnet for All traffic density; Eurostat for main ports*

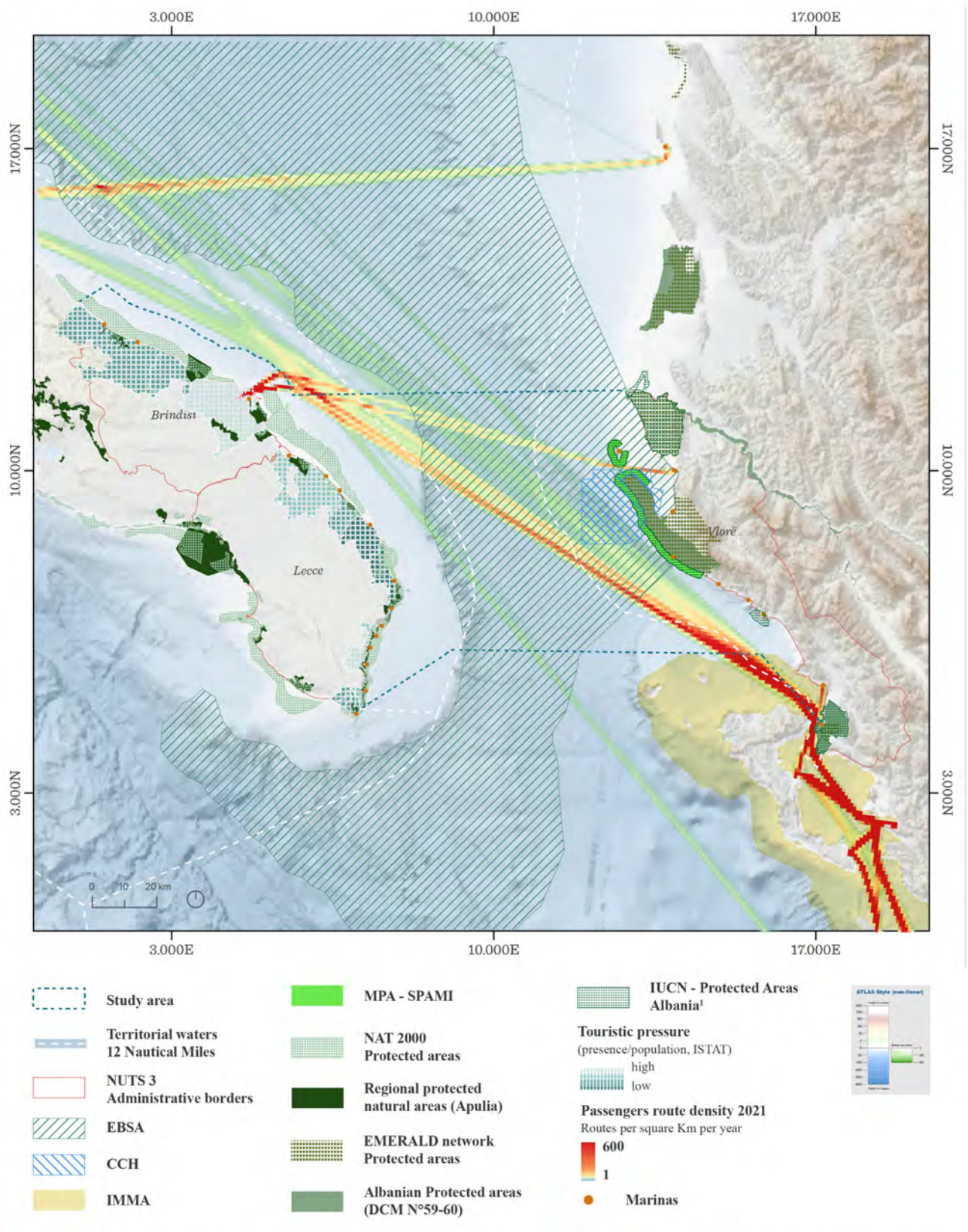

*Figure 60. Joint representation of **protected areas and tourism**. Sources: MAPAMED for MPA, EBSA, Deep-sea habitat, IMMA, CCH, Ramsar sites; Geoportal of the Albanian Government – ASIG for Albania Protected area DCM N°59-60; IUCN for Protected area Albania; SID Portale del Mare for NAT2000 sites, touristic pressure, Italian marinas; EEA for EMERALD sites; Emodnet for passenger route density; Eurostat for main ports; Albanian National Tourism for Albanian marinas*

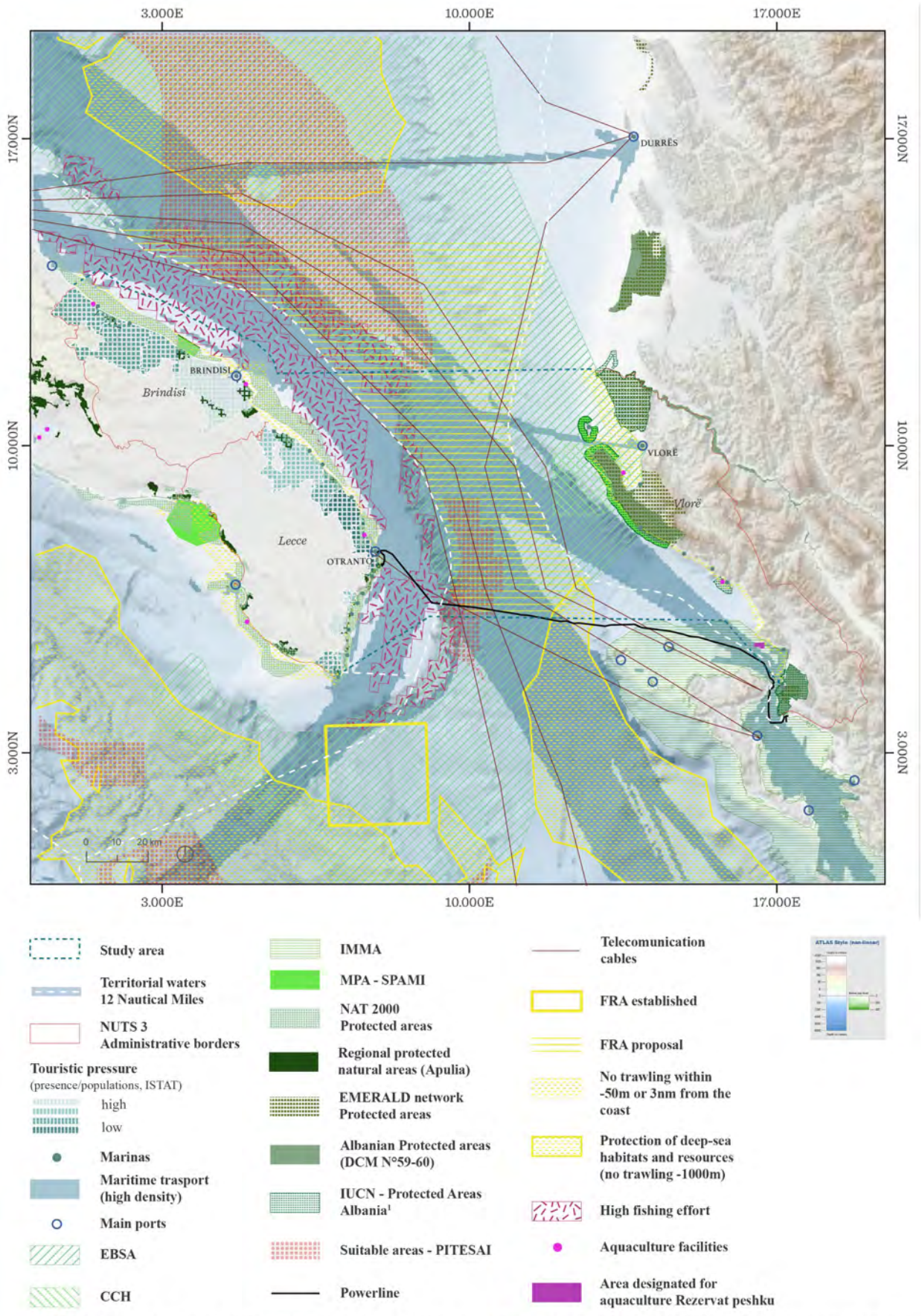

*Figure 61. Joint representation of **protected areas, aquaculture and fisheries, maritime transport and tourism** in the study area*

3. Analysis of the legal framework relevant to ABMTs in the project area

3.1. The Present Legal Condition of the Project Area

It seems useful, for the purposes of this study, to specify what is the present legal condition of the project area in the light of the relevant rules of international law resulting from the United Nations Convention on the Law of the Sea (Montego Bay, 1982; UNCLOS).

3.1.1. Internal Waters

The maritime internal waters are the waters located on the land-ward side of the baseline of the territorial sea, which normally is the low-water line along the coast (Art. 5 UNCLOS). Exceptionally, the coastal State may draw straight baselines for measuring the territorial sea where certain geographical situations occur, such as bays, deep indentations or fringes of islands in the immediate vicinity of the coast (Arts. 10 and 7 UNCLOS). Within the internal waters, the coastal State exercises full sovereignty and is entitled to enact laws and regulations relating to any activity, including navigation and the use of natural resources of any kind.

Both Albania (Decree 6 March 1970, No. 4650, as amended by Decree 9 March 1990, No. 7366.[10]) and Italy (Presidential Decree 26 April 1977, No. 816.[11]) have adopted straight baseline systems that relate also to the project area. (See Figure 62 and Figure 63.[12]). Greece has recently adopted too a straight baseline system relating to the Ionian Sea and, in particular, the island of Corfu (Presidential Decree 25 December 2020.[13]).

[10] Text (English translation) in United Nations, *Law of the Sea Bulletin*, No. 16, 1990.

[11] Text in *Gazzetta Ufficiale della Repubblica Italiana* No. 305 of 9 November 1977.

[12] From Tani, Ferrero & Pizzeghello (eds.), *Atlas of Maritime Limits and Boundaries in Central Mediterranean: Legal Texts and Illustrative Maps*, Genoa, 2020, p. 30 and 55.

[13] *Efimerida tis Kiverniseos tis Ellinikis Dimokratias* No. 258 of 27 December 2020.

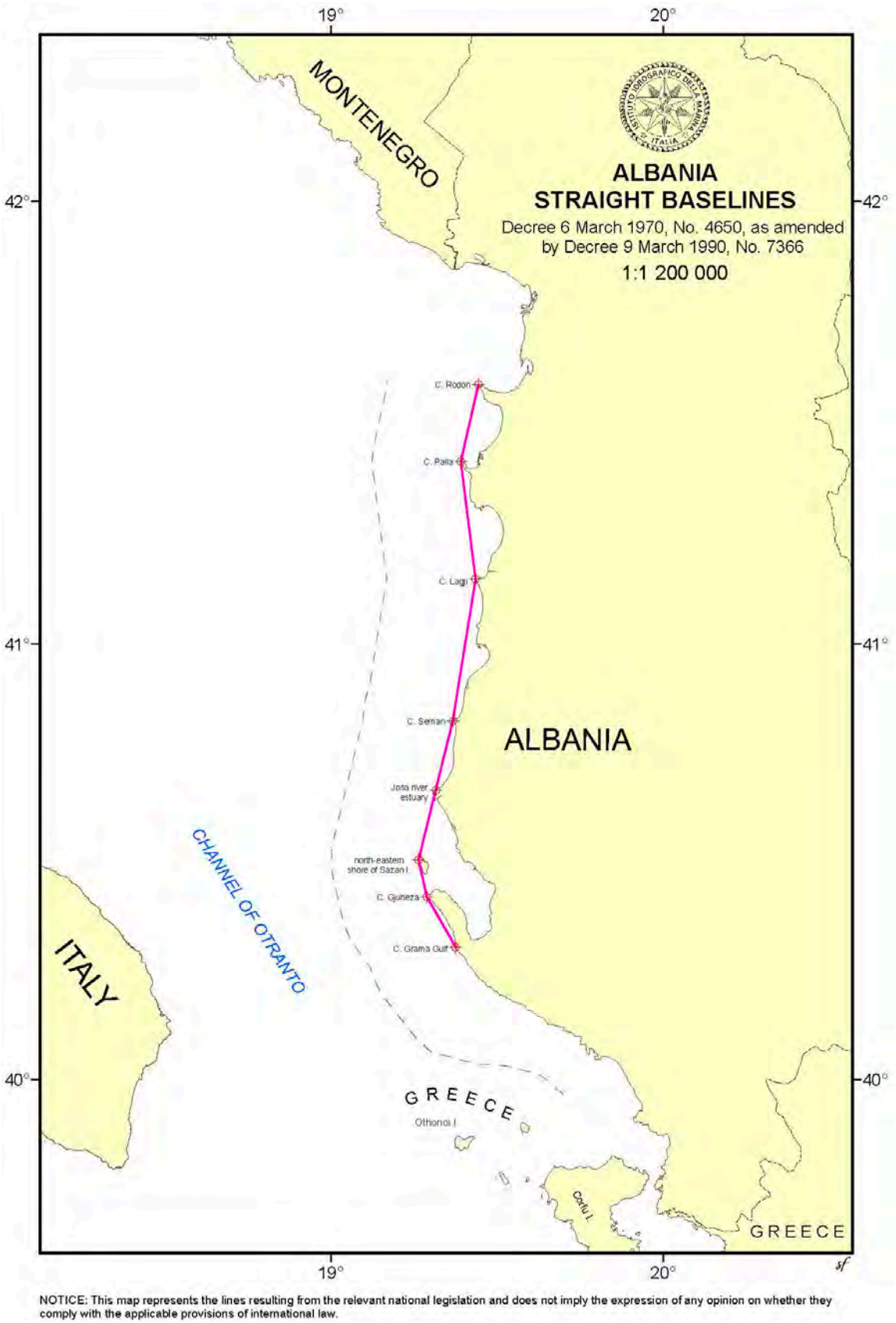

Figure 62. Albanian straight baseline

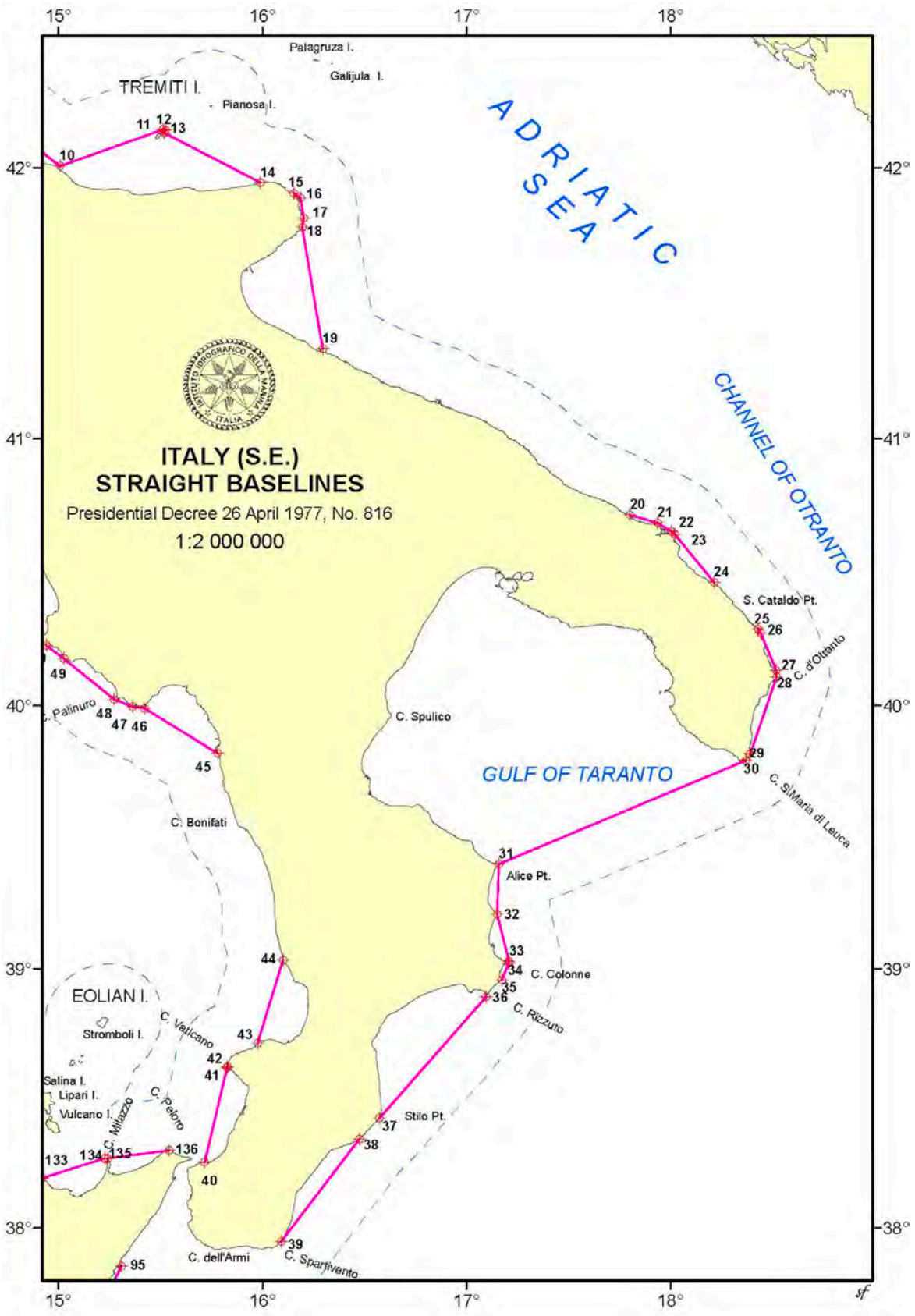

Figure 63. Italian straight baselines

3.1.2. Territorial Sea

Within the territorial sea, which legally includes also the air space above, the seabed and subsoil thereof, the coastal State exercises sovereignty (Art. 2 UNCLOS). However, foreign ships enjoy the right of innocent passage (Arts. from 17 to 26 UNCLOS).

The territorial sea does not depend on any occupation or express proclamation by the coastal State. The breadth of the territorial sea cannot exceed 12 nm from the baselines (Art. 3 UNCLOS).

Both Albania and Italy have a 12-mile territorial sea. Greece has recently (Law 21 January 2021, No. 4767.[14]) enlarged from 6 to 12 nm its territorial sea in the Ionian Sea, but not elsewhere.

An interesting remark is that the commonly called Strait of Otranto is not an international strait from the legal point of view. As the shortest distance across it is 45 nm, there is no overlapping of the territorial seas of the bordering States. Consequently, the UNCLOS rules on transit passage through international straits (Arts. from 37 to 44 UNCLOS) do not apply in the project area.

3.1.3. Continental Shelf

The continental shelf of a coastal State comprises the seabed and subsoil of the submarine areas that extend beyond its territorial sea to the outer edge of the continental margin.[15] or to a distance of 200 nm from the baselines of the territorial sea, where the outer edge of the continental margin does not extend up to that distance (Art. 76, para. 1, UNCLOS). The continental shelf does not depend on any occupation or express proclamation by the coastal State (Art. 77, para. 3, UNCLOS).

Over the continental shelf the coastal States exercises sovereign rights for the purpose of exploiting its natural resources (Art. 77, para. 1, UNCLOS). Such resources include the mineral resources (oil, gas and other mineral resources), as well as living organisms belonging to the so-called "sedentary species"..[16]

As in the Mediterranean Sea there is no point which is located at a distance of more than 200 nm from the nearest land or island, the whole seabed in this semi-enclosed sea, irrespective of its depth, falls under national sovereign rights and legally belongs to the continental shelf of one or another coastal State. This means that, in the Mediterranean, UNCLOS Part XI does not apply and, consequently, the exploitation of mineral resources is not subject to regime of common heritage of mankind and is not entrusted to the International Sea-bed Authority. Inside the project area, the continental shelf is divided among Albania, Greece and Italy, depending, as to the relevant boundaries, on the delimitation agreements, if any, that they have concluded..[17]

3.1.4. Exclusive Economic Zone

The exclusive economic zone extends up to 200 nm from the baseline of the territorial sea (Art. 57 UNCLOS), encompassing the water column as well as the seabed and its subsoil. Within the exclusive economic zone, the coastal State has sovereign rights for the purpose of exploiting the natural resources of the water column, the seabed and its subsoil, whether living or non-living, and producing energy from the water, currents and winds. In addition, it has jurisdiction with regard to the establishment of artificial islands, installations and structures, marine scientific research, as well as the protection and preservation of the marine environment. Within the exclusive economic zone, all the other States enjoy some specified high seas freedoms related to maritime communications, namely the freedoms of navigation, overflight, laying of submarine cables and pipelines, as well as other international lawful uses of the seas related to these freedoms.

Unlike the territorial sea or the continental shelf, the coastal State must explicitly proclaim an exclusive

[14] Efimerida tis Kiverniseos tis Ellinikis Dimokratias No. 9 of 21 January 2021.

[15] For the notion of continental margin see Art. 76, paras. 3 and 4, UNCLOS.

[16] According to the UNCLOS, these include "organisms which, at the harvestable stage, either are immobile or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil" (Art. 77, para. 4).

[17] See para. 1.5 of this *Addendum*.

economic zone. Otherwise, the maritime spaces corresponding to its potential exclusive economic zone remain governed by the regime of the high seas.

In the project area, neither Albania nor Greece have proclaimed an exclusive economic zone so far.

In 2021, Italy adopted Law 14 June 2021, No. 91,[18] on the "institution of an exclusive economic zone beyond the outer limit of the territorial sea". In fact, by Law 91/2021 the Parliament has authorized the Council of Ministers, on proposal by the Minister of foreign affairs, to establish such a zone, whenever the government deems it appropriate (which the government has not yet done).

Another element in the present Italian legislation is Law 8 February 2006, No. 61,[19] according to which the Council of Ministers, on proposal submitted by the Minister of environment, in concert with the Minister of foreign affairs and after having heard the Minister for cultural properties and activities, has the power to establish ecological protection zones (in plural).[20] Within such zones, Italy applies the relevant rules of Italian law, European Union law and international treaties in force as regards the prevention and suppression of all kinds of marine pollution, including pollution from ships and ballast water, pollution from dumping of waste, pollution from exploration and exploitation of the seabed and pollution of atmospheric origin, as well as the protection of marine mammals, biodiversity and archaeological and historical heritage. The first (and, for the time being, the only) Italian ecological protection zone was established under Presidential Decree 27 October 2011, No. 209.[21] It covers the waters of the Ligurian Sea, Tyrrhenian Sea and West Sardinian Sea and is not relevant for the project area.

It should be taken into consideration that, under the present condition of the waters in the project area, in any moment, any of the three bordering States can establish an exclusive economic zone (or an ecological protection zone, in the case of Italy), which will replace and eliminate the high seas areas presently located in the Strait of Otranto.

3.1.5. Maritime Delimitations

In the project area, maritime delimitation agreements are in force between Albania and Italy and between Greece and Italy.

On 18 December 1992, Albania and Italy concluded an agreement for the delimitation of the continental shelf[22] (Figure 64[23]). It entered into force on 26 February 1999. The method for the delimitation is equidistance.[24]

On 24 May 1977, Greece and Italy concluded an agreement for the delimitation of the continental shelf[25] (Figure 65[26]). It entered into force on 12 November 1980. The method for the delimitation between the two States is equidistance with some minor adjustments.[27] On 9 June 2020 Greece and Italy concluded another agreement on the delimitation of the respective maritime zones[28] that entered into force on 8 November 2021. The 2020 agreement provides that the boundary line of the maritime zones over which the two parties

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[18] *Gazzetta Ufficiale della Repubblica Italiana* No. 148 of 23 June 2021.

[19] *Gazzetta Ufficiale della Repubblica Italiana* No. 52 of 3 March 2006. The Law was amended by Art. 2-bis of Decree-Law 24 June 2014, No. 91, converted into Law 11 August 2014, No. 116 (*Gazzetta Ufficiale della Repubblica Italiana* No. 192 of 20 August 2014, supplement No. 72).

[20] *Sui generis* zones, such as the fishing zone or the ecological protection zone, are not mentioned in the UNCLOS. But they are not prohibited either. They encompass only some of the rights that can be exercised in the exclusive economic zone. It can be assumed that the right to do less is implied in the right to do more (*in maiore stat minus*).

[21] *Gazzetta Ufficiale della Repubblica Italiana* No. 293 of 17 December 2011.

[22] *Gazzetta Ufficiale della Repubblica Italiana* No. 99 of 29 April 1995, suppl.

[23] From Tani, Ferrero & Pizzeghello (eds.), *Atlas* cit., p. 180.

[24] See Scovazzi & Francalanci, *Albania – Italy*, in Charney & Alexander (eds.), *International Maritime Boundaries*, III, The Hague, 1998, p. 2447.

[25] *Gazzetta Ufficiale della Repubblica Italiana* No. 181 of 3 July 1980, suppl.

[26] From Tani, Ferrero & Pizzeghello (eds.), *Atlas* cit., p. 244.

[27] See Scovazzi & Francalanci, *Greece – Italy*, in Charney & Alexander (eds.), *International Maritime Boundaries*, II, Dordrecht, 1993, p. 1591.

[28] *Gazzetta Ufficiale della Repubblica Italiana* No. 149 of 24 June 2021.

can exercise sovereign rights or jurisdiction coincides with the boundary line already determined by the 1977 agreement. This means that the exclusive economic zones of Greece and Italy, if and when they will be established, will be delimited by the projection of the same line that already delimits their continental shelves.

On 27 April 2009, Albania and Greece concluded an Agreement on the delimitation of their respective continental shelf areas and other maritime zones to which they are entitled under international law[29] (Figure 66[30]). The method for the delimitation is equidistance,[31] giving a full effect to the Greek islands of Corfu, Erikoussa and Othonoi. However, the agreement is not in force and it is not likely that it will enter into force, as, on 15 April 2010, the Albanian Constitutional Court found that in the agreement there are procedural and substantive violations of the Albanian Constitution and the UNCLOS.

In fact, the project area may include some water or seabed areas that could be claimed by a State not involved in the Transboundary CAMP Otranto Project (Greece). Such a claim could be based on the 1977 and 2020 agreements between Greece and Italy and, as regards the relationship between Albania and Greece, on the effect given for the purposes of delimitation to the Greek small islands of Erikoussa and Othonoi (a question that has not yet been settled by the two States concerned).

[29] Text in COLSON & SMITH (eds.), *International Maritime Boundaries*, VI, Leiden, 2011, p. 4470.

[30] From COLSON & SMITH, *International* cit., p. 4469.

[31] See SCOVAZZI, PAPANICOLOPULU & FRANCALANCI, *Albania – Greece*, in COLSON & SMITH, *International* cit., p. 4462.

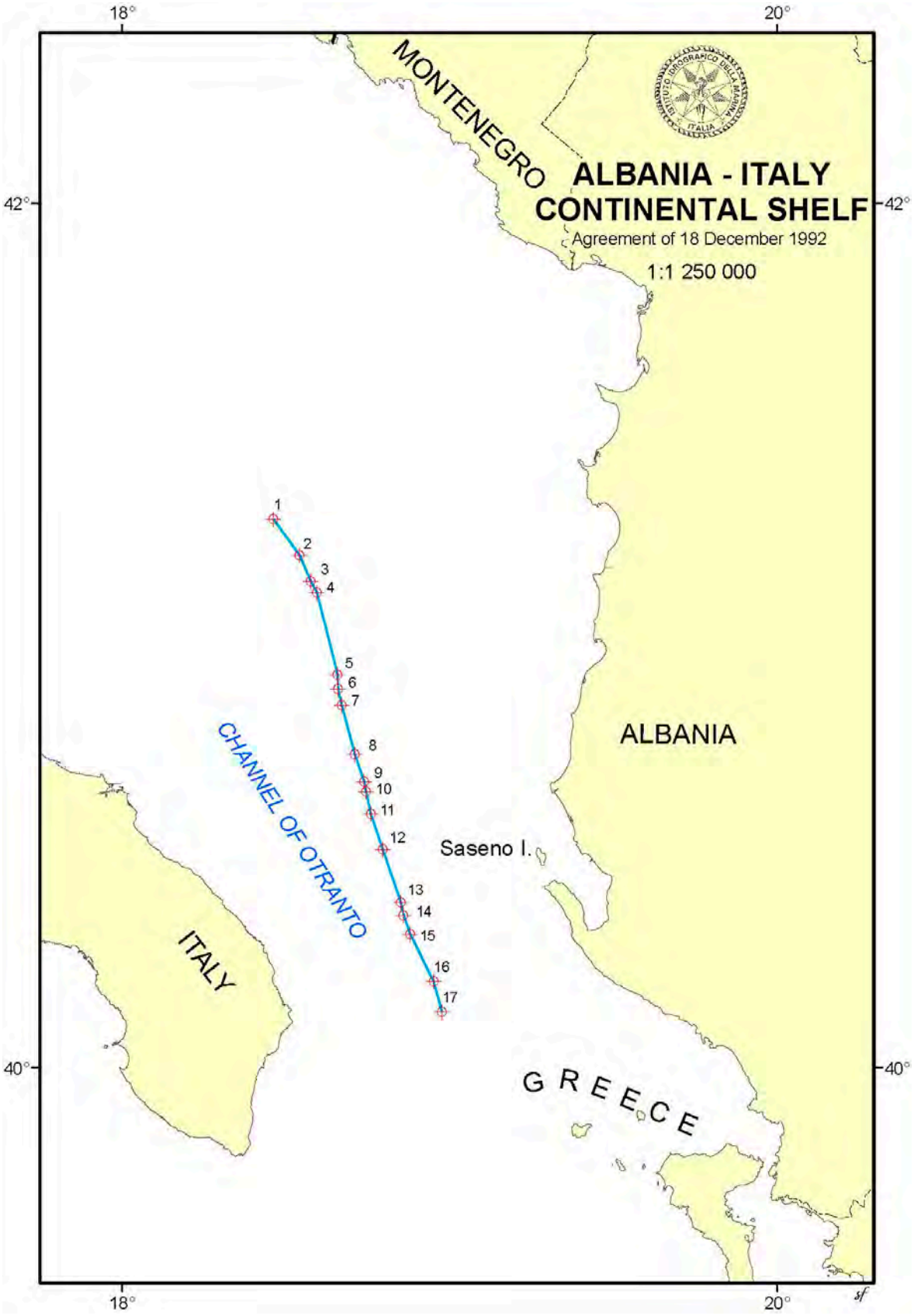

Figure 64. Albania – Italy continental shelf

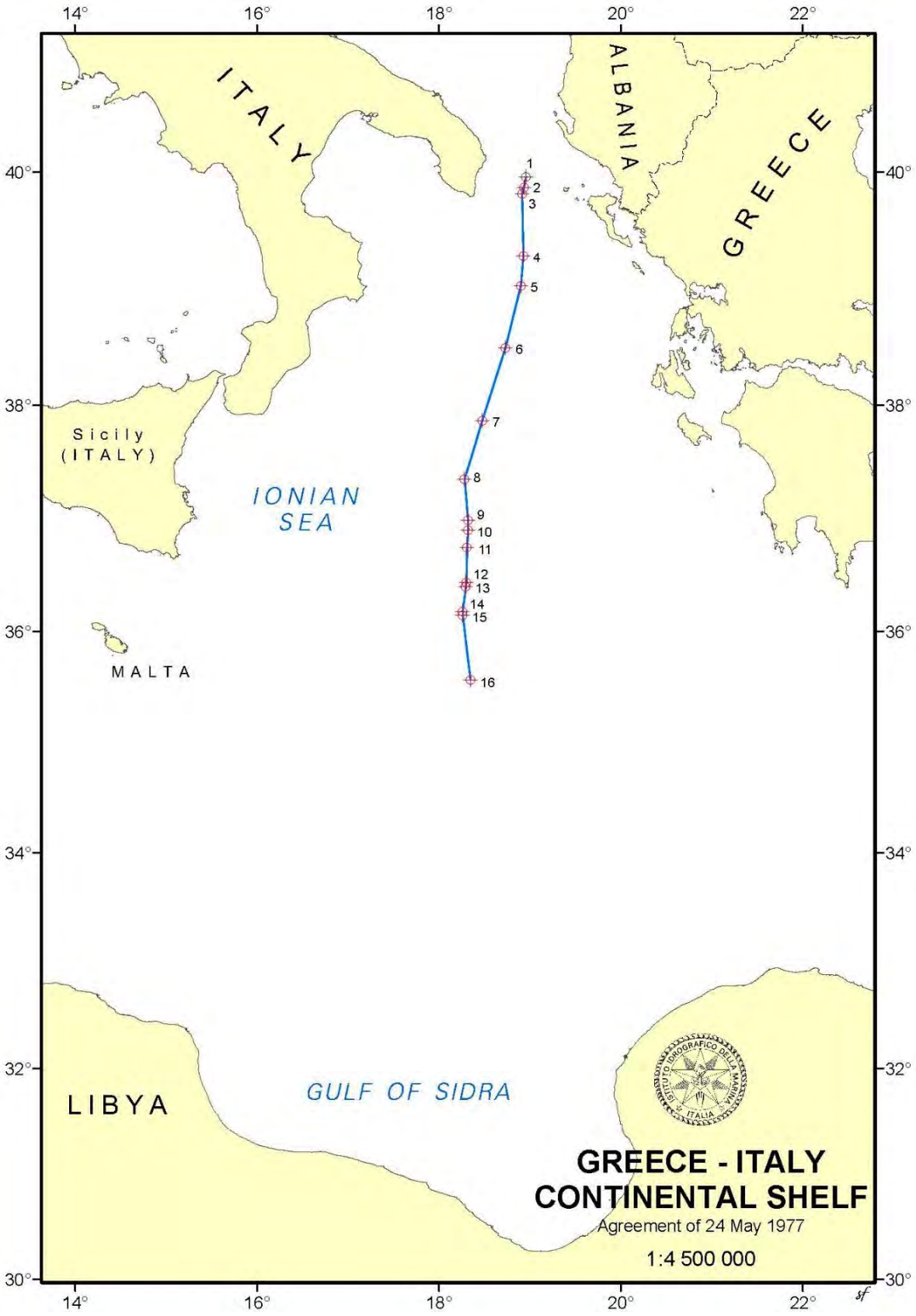

Figure 65. Greece – Italy continental shelf

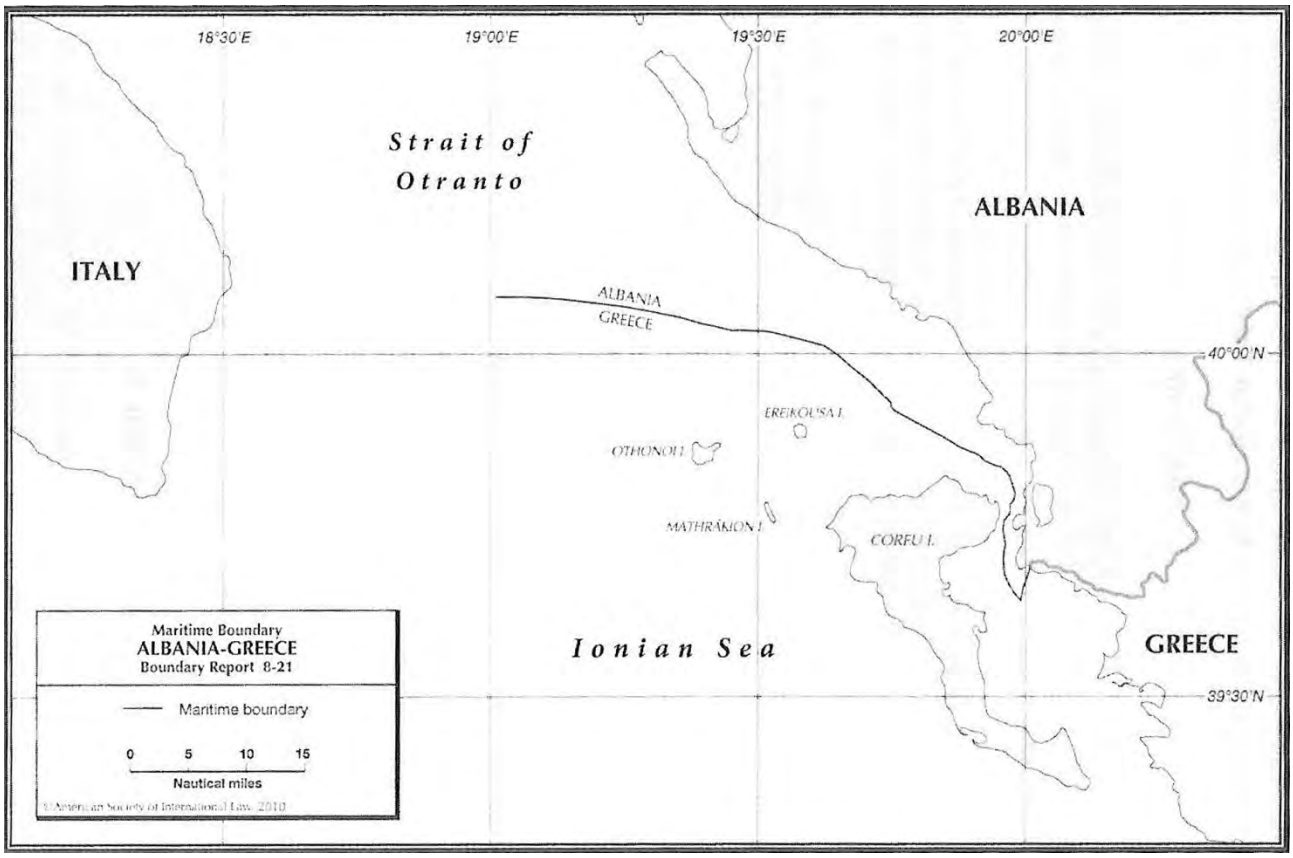

Figure 66. Albania – Greece maritime boundary (agreement not in force)

3.1.6. Potential Implications of the Recent Adoption of the BBNJ Agreement

An Agreement under the UNCLOS on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ Agreement) was recently (June 2023) adopted at the United Nations..[32]

The BBNJ Agreement addresses a number of subjects – such as "marine genetic resources, including the fair and equitable sharing of benefits", "area-based management tools, including marine protected areas", "environmental impact assessment", "capacity-building and transfer of marine technology" – relevant for the protection and the sustainable use of the marine environment.

The BBNJ Agreement, inter alia, establishes an international regime for access to marine genetic resources and the fair and equitable sharing of benefits arising therefrom, as well as an international procedure for the establishment of area-based management tools, including marine protected areas.

However, the BBNJ Agreement applies "to areas beyond national jurisdiction" (Art. 3). It follows that, if and when the BBNJ Agreement enters into force for Albania and Italy, such a regime will be applicable in the project area located beyond the 12-mile limit of the territorial seas of the two States. However, the BBNJ Agreement will not be applicable in any part of the project area if, in the meantime, Albania and Italy proclaim their exclusive economic zones..[33]

[32] See UN doc. A/CONF.232/2023/4 of 19 June 2023.

[33] On some substantive issues of the BBNJ Agreement see para. 2.B.a of this *Study*.

3.2. The legal framework

The following paragraphs will analyse international, national, and subnational legal framework, relevant for the establishment of ABMTs in the project area. Among the international instruments, the analysis will consider the main policy instruments (programmes, strategies, recommendations) applicable to the project area, as well as the relevant treaties of which both Albania and Italy are parties.

With regard to national legal frameworks, there are some institutional differences between the two States. In Albania legislative and administrative powers on maritime matters belong to the State, which exercises them also through councils and agencies, while the regional and local level has the task of promoting national policies. In Italy, Regions have legislative and administrative powers, and municipalities and other territorial entities also have administrative powers. For this reason, the analysis of the Italian legal framework will include the legal framework of the Puglia region, which borders the project area.

Since Italy is a member of the European Union and European Union law is part of the Italian legal system, the analysis of the Italian legal framework will include European Union regulations and directives.

It seems useful for the purposes of this study to specify administrative competences and plans and programmes relevant to ABMTs in the project area: the scheme no. 1 will represent the administrative authorities which have competences relevant to ABMTs, and the scheme no. 2 will represent the plans and programmes relevant to ABMTs in the project area.

This analysis will draw the legal framework of ABMTs that Albania and Italy may use to implement the CAMP Otranto project: paragraph 3 will summarize it.

The analysis will be based also on already existing studies. In particular, the following studies will be considered: the "Legal Study for including the area beyond national jurisdiction in the Transboundary CAMP Otranto Project between Albania and Italy" (draft, 2020); "The Legal Basis for the Establishment and Further Development of Marine Protected Areas in the 'European Union Strategy for the Adriatic and Ionian Region' (EUSAIR) with Particular Emphasis on Transboundary Marine Protected Areas", November 2021; UNEP/MAP, "Draft Feasibility Study for a transboundary CAMP project between Italy and Albania (Otranto Strait area)", 2019; "*Vlerësimi i kuadrit ligjor dhe institucional për ruajtjen e biodiversitetit bregdetar dhe detar dhe krijimin e zmd-ve*" (i.e. assessment of the legal and institutional framework for the conservation of coastal and marine biodiversity and the creation of marine and coastal protected areas), 2014.

It should also be remembered that Italy and Albania, as clarified in paragraph 1.D, have not established their Exclusive Economic Zone yet. Therefore, the project area also covers a high seas area, where States can adopt and implement legally binding instruments and measures only for the ships flying their flag (flag States, responsible for the certifying of ships), their nationals, and activities under their jurisdiction..[34] However, exclusive economic zones may be established in any moment by Albania and Italy, extending the national jurisdiction of the two States to the entire project area. In this case the legal consequences of such an extension on the ABMTs already in place should be examined on a case-by-case basis.

3.3. International and European frameworks

3.3.1. International policy instruments for ABMTs in the project area

Within the framework of the Convention on Biological Diversity

Among the targets established by Kunming-Montreal Global Biodiversity Framework, agreed at the 15th meeting of the Conference of Parties to the UN Convention on Biological Diversity (2022), as a strategic plan for the implementation of the Convention, the following should be mentioned: TARGET 2 "Ensure that by 2030 at least 30 per cent of areas of degraded

[34] See the "Legal Study for including the area beyond national jurisdiction in the Transboundary CAMP Otranto Project between Albania and Italy" (draft, 2020).

terrestrial, inland water, and coastal and marine ecosystems are under effective restoration, in order to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity"; TARGET 3 "Ensure and enable that by 2030 at least 30 per cent of terrestrial, inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities, including over their traditional territories"..[35]

Within the framework of the Barcelona Convention

In 2021, the Meeting of the Contracting Parties to the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean adopted decision IG.25/11 on the Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO). It establishes goals and targets, among which should be mentioned the following:

- Goal 1: Reduce the threats to biodiversity
- Goal 2: Ensure that biodiversity is preserved and maintained or enhanced in order to meet people's needs
- Goal 3: Enable the necessary transformative change, putting in place tools and nature-based solutions for implementation and mainstreaming.

The Vision is: "By 2050, marine and coastal biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy Mediterranean Sea and coast, and delivering benefits essential for nature and people". To reach it, the Mission is "By 2030 start to reverse the loss of biodiversity and put the Mediterranean marine and coastal biodiversity on the path to recovery for the benefit of nature and people" (para. 5.1.).

It should be noted that among needs, gaps and challenges for Adriatic and Ionian subregion identified by the subregional assessments listed in annex I, there are the creation of new MPAs and the improvement of MPA management.

The Meeting of the Contracting Parties also adopted decision IG.25/12, on Protecting and conserving the Mediterranean through well-connected and effective systems of marine and coastal protected areas and other effective area-based conservation measures, including Specially Protected Areas and Specially Protected Areas of Mediterranean Importance. The decision identifies the following post-2020 targets:

1. By 2030, at least 30 per cent of the Mediterranean Sea is protected and conserved through well connected, ecologically representative and effective systems of marine and coastal protected areas and other effective area-based conservation measures, ensuring adequate geographical balance, with the focus on areas particularly important for biodiversity.
2. By 2030, the number and coverage of marine and coastal protected areas with enhanced protection levels is increased, contributing to the recovery of marine ecosystems.

3.3.2. International legal framework relevant to AMBTs in the project area: international treaties

United Nations Convention on the Law of the Sea and the new BBNJ Agreement

While not specifically mentioning the notion of ABMTs, the UNCLOS provides a legal basis for ABMTs in waters within and beyond national jurisdiction..[36]

With regard to ABMTs for conservation and management of living resources in the exclusive economic zone, Art. 61 provides that the coastal State shall determine the allowable catch of the living resources and proper conservation and management measures to avoid

[35] So-called "30-30 objective".

[36] This element is referenced in the BBNJ agreement, art 1, para 1.

over-exploitation and to maintain or restore populations of harvested species. Art. 62 establishes that the coastal State shall determine its capacity to harvest the living resources, and where it does not have the capacity to harvest the entire allowable catch, it shall, through agreements or other arrangements give other States access to the surplus of the allowable catch. Regarding ABMTs adopted in agreement with other States, Art. 63 establishes that where the same stock or stocks of associated species occur within the exclusive economic zones of two or more coastal States, these States shall seek to agree upon the measures necessary to coordinate and ensure the conservation and development of such stocks, and where the same stock or stocks of associated species occur both within the exclusive economic zone and in an area beyond and adjacent to the zone, the coastal State and the States fishing for such stocks in the adjacent area shall seek to agree upon the measures necessary for the conservation of these stocks in the adjacent area. Art. 64 requires the same cooperation between States to manage highly migratory species listed in Annex I, within and beyond the exclusive economic zone.

With regard to ABMTs for conservation and management of living resources in the high seas, Art. 117 establishes that all States have the duty to take, or to cooperate with other States in taking, measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas. According to Art. 118 States whose nationals exploit identical living resources, or different living resources in the same area, shall enter into negotiations with a view to taking the measures necessary for the conservation of the living resources concerned. Art. 119 regulates the content of these measures.

In addition, the fact that the area of CAMP Otranto, while not being a semi-enclosed sea in itself, is composed of waters that connect two semi-enclosed seas (the Adriatic and the Ionian Seas), as defined in Art. 122,[37] makes this area a particularly suitable case to meet Art. 123 on cooperation of coastal States to coordinate the management, conservation, exploration and exploitation of the living resources of the sea, and to coordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment.[38] (Draft Feasibility Study for a Trans-boundary CAMP Project between Albania and Italy – Otranto Strait area – par. IV, CAMP Otranto CAMP Otranto Agreement, para. 2.3). This element can constitute the main legal basis and content for an Albanian/Italy agreement for joint management on the area. Within semi-enclosed seas there may be sub-regional co-operation, as confirmed by other agreements related to the marine environment (RAMOGE Agreement between France, Italy and Monaco, bilateral agreements between Italy and the former Yugoslavia and between Italy and Greece).

Moreover, in implementation of the obligation to protect and preserve the marine environment set out in Art. 192, Art. 194 provides that States shall take, individually or jointly, all measures that are necessary to prevent, reduce and control pollution of the marine environment from any source. Among these measures there are the ABMTs aimed at protecting and preserving the marine environment. Art. 194, para. 5, includes among the measures for the protection and preservation of the marine environment, "those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life".

A recent development in international law of the sea is that a conference convened by the General Assembly of United Nations has recently (June 2023) adopted an Agreement under the UNCLOS on the Conservation and

[37] Art. 122 of UNCLOS provides as follows: "*for the purposes of this Convention, "enclosed or semi-enclosed sea" means a gulf, basin or sea surrounded by two or more States and connected to another sea or the ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal States*".

[38] Art. 123 of UNCLOS, entitled "Cooperation of States bordering enclosed or semi-enclosed seas" provides as follows: "*States bordering an enclosed or semi-enclosed sea should cooperate with each other in the exercise of their rights and in the performance of their duties under this Convention. To this end they shall endeavour, directly or through an appropriate regional organization: (a) to coordinate the management, conservation, exploration and exploitation of the living resources of the sea; (b) to coordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment; (c) to coordinate their scientific research policies and undertake where appropriate joint programmes of scientific research in the area; (d) to invite, as appropriate, other interested States or international organizations to cooperate with them in furtherance of the provisions of this article*".

Sustainable Use of Marine Biological Diversity in Areas beyond National Jurisdiction (BBNJ Agreement).[39]

The BBNJ Agreement provides definitions that may be used in any analysis relating to marine areas, including this study. In particular:

- "Area-based management tool" means a tool, including a marine protected area, for a geographically defined area through which one or several sectors or activities are managed with the aim of achieving particular conservation and sustainable use objectives in accordance with this Agreement.[40]
- "Marine protected area" means a geographically defined marine area that is designated and managed to achieve specific long-term biological diversity conservation objectives and may allow, where appropriate, sustainable use provided it is consistent with the conservation objectives.[41]

It thus appears that marine protected areas are a particular component of the broader category of ABMTs. Both are geographically defined areas. The specificity of marine protected areas is that they are established for the particular purpose of achieving long-term conservation objectives, while ABMTs are established for managing one or several sectors or activities (for example, fishing or navigation) in order to achieve both conservation and sustainable use objectives. Annex I specifies indicative criteria for the identification of such areas.[42]

Other definitions useful also for the CAMP Otranto Project are the following:

- "Sustainable use" means the use of components of biological diversity in a way and at a rate that does not lead to a long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.[43]
- "Marine genetic resources" means any material of marine plant, animal, microbial or other origin containing functional units of heredity of actual or potential value.[44]

Most definitions given by the BBNJ Agreement may be understood as a commonly agreed conceptual basis at the international level.

The procedure for establishing ABMTs, including marine protected areas, under the BBNJ Agreement is developed in a participatory manner. Proposals are submitted by a single State or by several States with a management plan encompassing the proposed measures, and outlining proposed monitoring, research and review activities.[45] They are adopted by the Conference of the

[39] Doc. A/CONF.232/2023/4 of 19 June 2023.

[40] Art. 1, para. 1.

[41] Art. 1, para. 9.

[42] *"(a) Uniqueness; (b) Rarity; (c) Special importance for the life history stages of species; (d) Special importance of the species found therein; (e) The importance for threatened, endangered or declining species or habitats; (f) Vulnerability, including to climate change and ocean acidification; (g) Fragility; (h) Sensitivity; (i) Biological diversity and productivity; (j) Representativeness; (k) Dependency; (l) Naturalness; (m) Ecological connectivity; (n) Important ecological processes occurring therein; (o) Economic and social factors; (p) Cultural factors; (q) Cumulative and transboundary impacts; (r) Slow recovery and resilience; (s) Adequacy and viability; (t) Replication; (u) Sustainability of reproduction; (v) Existence of conservation and management measures*".

[43] Art. 1, para. 13.

[44] Art. 1, para. 8.

[45] Art. 19 provides that: "*Proposals regarding the establishment of area-based management tools, including marine protected areas, under this Part shall be submitted by Parties, individually or collectively, to the secretariat.*

2. *Parties shall collaborate and consult, as appropriate, with relevant stakeholders, including States and global, regional, subregional and sectoral bodies, as well as civil society, the scientific community, the private sector, Indigenous Peoples and local communities, for the development of proposals, as set out in this Part.*
3. *Proposals shall be formulated on the basis of the best available science and scientific information and, where available, relevant traditional knowledge of Indigenous Peoples and local communities, taking into account the precautionary approach and an ecosystem approach.*
4. *Proposals with regard to identified areas shall include the following key elements:*
   (a) *A geographic or spatial description of the area that is the subject of the proposal by reference to the indicative criteria specified in annex I;*
   (b) *Information on any of the criteria specified in annex I, as well as any criteria that may be further developed and revised in accordance with paragraph 5 of this article, applied in identifying the area;*

Parties by consensus or, if no consensus is reached, by a three-fourths majority of the Parties present and voting.[46]

However, the future application of the BBNJ Agreement to the Mediterranean Sea is uncertain, depending on the extent of areas of high seas that will be left inside this semi-enclosed sea. The ABMTs established under the BBNJ Agreement shall not include any areas within national jurisdiction.[47] However, this provision is referred to the special procedure for the establishment of ABMTs set forth by the BBNJ Agreement itself and does not mean that ABMTs in such areas cannot be established through other procedures.[48] Moreover, the BBNJ Agreement provides that "*in cases where an area-based management tool, including a marine protected area, established under this Part subsequently falls, either wholly or in part, within the national jurisdiction of a coastal State, the part within national jurisdiction shall immediately cease to be in force.*".[49]

It follows that the BBNJ Agreement, whenever it enters into force for Albania and Italy, will not be applicable in the Otranto Channel if, in the meantime, the bordering States have established their exclusive economic zones.

IMO Conventions

Set of Guidelines for the Identification of PSSAs were adopted on 6 November 1991 by the Assembly of the IMO under Resolution A.720(17) and revised under Resolutions A.927(22) of 29 November 2001 and A.982(24) of 1 December 2005. A PSSA is defined as "an area that needs special protection through action by IMO because of its significance for recognized ecological or socio-economic or scientific reasons and which may be vulnerable to damage by international maritime activities".

It is intended to function as *"(…) a comprehensive management tool at the international level that provides a mechanism for reviewing an area that is vulnerable to damage by international shipping and determining the most appropriate way to address that vulnerability*".

To be identified as a PSSA, an area should meet at least one among a number of ecological criteria (namely: uniqueness or rarity; critical habitat; dependency; representativity; diversity; productivity; spawning or breeding grounds; naturalness; integrity; vulnerability; bio-geographic importance), social, cultural and economic criteria (namely: economic benefit; recreation;

(c) *Human activities in the area, including uses by Indigenous Peoples and local communities, and their possible impact, if any;*
(d) *A description of the state of the marine environment and biodiversity in the identified area;*
(e) *A description of the conservation and, where appropriate, sustainable use objectives that are to be applied to the area;*
(f) *A draft management plan encompassing the proposed measures, and outlining proposed monitoring, research and review activities to achieve the specified objectives;*
(g) *The duration of the proposed area and measures, if any;*
(h) *Information on any consultations undertaken with States, including adjacent coastal States and/or relevant global, regional, subregional and sectoral bodies, if any;*
(i) *Information on area-based management tools, including marine protected areas implemented under relevant legal instruments and frameworks and relevant global, regional, subregional and sectoral bodies;*
(j) *Relevant scientific input and, where available, traditional knowledge of Indigenous Peoples and local communities (…)*".

[46] Art. 23, paras. 1 and 2.

[47] Art. 18 provides that: "*The establishment of area-based management tools, including marine protected areas, shall not include any areas within national jurisdiction and shall not be relied upon as a basis for asserting or denying any claims to sovereignty, sovereign rights or jurisdiction, including in respect of any disputes relating thereto. The Conference of the Parties shall not consider for decision proposals for the establishment of such area-based management tools, including marine protected areas, and in no case shall such proposals be interpreted as recognition or non-recognition of any claims to sovereignty, sovereign rights or jurisdiction*".

[48] In this sense, Art. 22, para. 5, provides that: "*Decisions and recommendations adopted by the Conference of the Parties in accordance with this Part shall not undermine the effectiveness of measures adopted in respect of areas within national jurisdiction and shall be made with due regard for the rights and duties of all States, in accordance with the Convention. In cases where measures proposed under this Part would affect or could reasonably be expected to affect the superjacent water above the seabed and subsoil of submarine areas over which a coastal State exercises sovereign rights in accordance with the Convention, such measures shall have due regard to the sovereign rights of such coastal States. Consultations shall be undertaken to that end, in accordance with the provisions of this Part*".

[49] Art. 22, para. 6.

human dependency) or scientific and educational criteria (namely: research; baseline and monitoring studies; education). In addition, the area should be at risk from international shipping activities, taking into consideration vessel traffic (operational factors; vessel types; traffic characteristics; harmful substances carried) and natural factors of hydrographical, meteorological and oceanographic character. The 2005 revised PSSAs guidelines specify that at least one of the relevant criteria should be present in the entire proposed PSSA, though this does not have to be the same criterion throughout the area. Cultural heritage has been reinstated as a criterion under the label of "social, cultural and economic criteria".

PSSAs may be located within or beyond the limits of the territorial sea.

They are identified by the Marine Environment Protection Committee of the IMO on proposals by one or more Member States and under a procedure which takes place at the multilateral level. PSSA proposals should be accompanied by proposals for 'associated protective measures', identifying the legal basis for each measure. Associated protective measures that may be taken in PSSAs include those available under IMO instruments and cannot be extended to fields different from shipping. They encompass the following options: designation of an area as a Special Area under MARPOL Annexes I, II, V and VI; adoption of ships' routeing systems under the 1974 International Convention for the Safety of Life at Sea, including areas to be avoided, that is areas within defined limits in which either navigation is particularly hazardous or it is exceptionally important to avoid casualties and which should be avoided by all ships, or by certain classes of ships; reporting systems near or in the area; other measures, such as compulsory pilotage schemes or vessel traffic management systems.

It thus appears that PSSAs may well fall into the category of ABMTs.

Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) and Protocols

After the 1995 amendments, the geographical scope of application of the Barcelona Convention, adopted in 1976, has been extended to "all maritime waters of the Mediterranean Sea", including internal waters and the high seas..[50] For this reason, the legal provisions established by this Convention (and the seven related protocols) are useful to establish ABMTs in the project area. In particular, Art. 10.[51] establishes the obligation of protection and preservation of biological diversity; Art 4, para. 3, lett. e), establishes that, in order to protect the environment and contribute to the sustainable development of the Mediterranean Sea Area, the Contracting Parties shall promote the integrated management of the coastal zones, taking into account the protection of areas of ecological and landscape interest and the rational use of natural resources.

The geographical scope of application of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol)..[52] includes the maritime waters of the Mediterranean Sea and the seabed and its subsoil and the terrestrial coastal areas designated by each of the Parties, including wetlands (Art. 2).

Under the protocol (Art. 3) each Party shall take the necessary measures to: (a) protect, preserve and manage in a sustainable and environmentally sound way areas of particular natural or cultural value, notably by the establishment of specially protected areas; (b) protect, preserve and manage threatened or endangered species of flora and fauna. The protocol establishes that the Parties shall cooperate, directly or through the competent international organizations, in the conservation and sustainable use of biological diversity.

The SPA/BD Protocol provides for the establishment of Specially Protected Areas of Mediterranean Importance (SPAMIs), included in the SPAMI list, that are of importance for conserving the components of biological

[50] Art. 1 of the Barcelona Convention. Both Albania and Italy are parties to the amended Barcelona Convention.

[51] According to Art. 10 "*the Contracting Parties shall, individually or jointly, take all appropriate measures to protect and preserve biological diversity, rare or fragile ecosystems, as well as species of wild fauna and flora which are rare, depleted, threatened or endangered and their habitats*".

[52] Both Albania and Italy are parties to the protocol.

diversity in the Mediterranean, or contain ecosystems specific to the Mediterranean area or the habitats of endangered species, or are of special interest at the scientific, aesthetic, cultural or educational levels (Art. 8).

A SPAMI can be established in zones within national jurisdiction or partly or wholly on the high seas, to promote cooperation in the management and conservation of natural areas, the protection of threatened species and their habitats.

To be included in the SPAMI List, an area situated in a zone already delimited over which a Party exercises sovereignty or jurisdiction must have a protected status recognized by the Party concerned (Annex I, lett. C, No. 2).

For areas located partly or wholly on the high seas, the proposal may be submitted by two or more neighbouring Parties.

The proposal has to be based on specific set criteria (Annex I to the Protocol.[53]) and the National Focal Points shall examine its conformity with these common guidelines and criteria.

According to Art. 9, para. 3: "Parties making proposal for inclusion in the SPAMI List shall provide the Centre with an introductory Report containing information on the area's geographical location, its physical and ecological characteristics, its legal status, its management plans and the means for their implementation, as well as a statement justifying its Mediterranean importance; (…) the neighbouring Parties concerned shall consult each other with a view to ensuring the consistency of the proposed protection and management measures, as well as the means for their implementation; (b) proposals shall indicate the protection and management measures applicable to the area as well as the means of their implementation". In particular, lett. D of annex I establishes the criteria for protection, planning and management measures..[54]

[53] In particular, "*The following criteria should be used in evaluating the Mediterranean interest of an area:*
- *(a) Uniqueness: The area contains unique or rare ecosystems, or rare or endemic species.*
- *(b) Natural representativeness: The area has highly representative ecological processes, or community or habitat types or other natural characteristics. Representativeness is the degree to which an area represents a habitat type, ecological process, biological community, physiographic feature or other natural characteristic.*
- *(c) Diversity: The area has a high diversity of species, communities, habitats or ecosystems.*
- *(d) Naturalness: The area has a high degree of naturalness as a result of the lack or low level of human-induced disturbance and degradation.*
- *(e) Presence of habitats that are critical to endangered, threatened or endemic species.*
- *(f) Cultural representativeness: The area has a high representative value with respect to the cultural heritage, due to the existence of environmentally sound traditional activities integrated with nature which support the well-being of local populations*".

[54] Establishing that:

"*1. Conservation and management objectives must be clearly defined in the texts relating to each site, and will constitute the basis for assessment of the adequacy of the adopted measures and the effectiveness of their implementation at the revisions of the SPAMI List.*

2. Protection, planning and management measures applicable to each area must be adequate for the achievement of the conservation and management objectives set for the site in the short and long term, and take in particular into account the threats upon it.

3. Protection, planning and management measures must be based on an adequate knowledge of the elements of the natural environment and of socioeconomic and cultural factors that characterize each area. In case of shortcomings in basic knowledge, an area proposed for inclusion in the SPAMI List must have a programme for the collection of the unavailable data and information.

4. The competence and responsibility with regard to administration and implementation of conservation measures for areas proposed for inclusion in the SPAMI List must be clearly defined in the texts governing each area.

5. In the respect of the specificity characterizing each protected site, the protection measures for a SPAMI must take account of the following basic aspects:
- *(a) the strengthening of the regulation of the release or dumping of wastes and other substances likely directly or indirectly to impair the integrity of the area;*
- *(b) the strengthening of the regulation of the introduction or reintroduction of any species into the area;*
- *(c) the regulation of any activity or act likely to harm or disturb the species, or that might endanger the conservation status of the ecosystems or species or might impair the natural, cultural or aesthetic characteristics of the area.*
- *(d) the regulation applicable to the zones surrounding the area in question.*

The decision to include the area in the SPAMI list is taken by consensus among the Contracting Parties, so that they all shall comply with the adopted measures and neither authorize nor undertake any activities that might be contrary to the objectives for which the SPAMI was established (so-called *erga omnes partes* effect). If a SPAMI is established on the high seas, the protection measures are those prescribed by the States proposing the SPAMI: other Parties must comply with measures, but enforcement must be in accordance with international law.

So far, 39 SPAMIs have been listed, as proposed by eleven State parties to the Areas Protocol (Albania, Algeria, Cyprus, France, Italy, Lebanon, Monaco, Morocco, Slovenia, Spain, and Tunisia). Among them, only two include waters beyond the limit of the territorial sea (the *Pelagos Sanctuary for the conservation of marine mammals*, jointly proposed by France, Italy, and Monaco, and the *Cetacean Migration Corridor*, proposed by Spain). Two SPAMIs are located inside the CAMP Otranto area, namely *Karaburun Sazan National Marine Park* (in the territorial sea of Albania) and *Torre Guaceto Marine Protected Area and Natural Reserve* (in the territorial sea of Italy).

Changes in the delimitation or legal status of a SPAMI are possible if there are important reasons for doing so, considering the need to safeguard the environment and following the same procedure for the creation of the SPAMI and its inclusion in the List (Art. 10). This provision may be used to enlarge the area of the two above mentioned SPAMIs or integrate in the SPAMI other typologies of managed areas such as PSSAs or FRAs with the objective of establishing a broader ABMT.

According to SPA/BD Protocol (Art. 11), the Parties shall, in the zones subject to their sovereignty or national jurisdiction regulate and, where appropriate, prohibit activities having adverse effects on species listed by the State as endangered or threatened species or their habitats, and carry out management, planning and other measures to ensure a favourable state of conservation of such species. In addition, the Parties shall coordinate through bilateral or multilateral action, including, if necessary, agreements for the protection and recovery of migratory species whose range extends into the area to which the Protocol applies. In addition, the Parties shall adopt cooperative measures to ensure the protection and conservation of endangered or threatened species and species whose exploitation is regulated listed in the Annex II.

The geographical scope of application of the Protocol on Integrated Coastal Zone Management in the Mediterranean[55] (Art. 3) includes the coastal zones of the Mediterranean Sea, as they are delimited by (a) seaward, the external limit of the territorial sea of Parties, and (b) landward, the limit of the competent coastal units as defined by the Parties. The Protocol is thus not applicable either to the exclusive economic zone or to the high seas.

According to the protocol, the Parties are bound to establish a common framework for the integrated management of the Mediterranean coastal zone (Art. 1). The objectives of integrated coastal zone management (Art. 5) are "to (a) facilitate, through the rational planning of activities, the sustainable development of coastal zones by ensuring that the environment and landscapes are taken into account in harmony with economic, social and cultural development; (b) preserve coastal zones for the benefit of current and future generations; (c) ensure the sustainable use of natural resources, particularly with regard to water use; (d) ensure preservation of the integrity of coastal ecosystems, landscapes and

6. To be included in the SPAMI List, a protected area must have a management body, endowed with sufficient powers as well as means and human resources to prevent and/or control activities likely to be contrary to the aims of the protected area.

7 To be included in the SPAMI List an area will have to be endowed with a management plan. The main rules of this management plan are to be laid down as from the time of inclusion and implemented immediately. A detailed management plan must be presented within three years of the time of inclusion. Failure to respect this obligation entails the removal of the site from the List.

8. To be included in the SPAMI List, an area will have to be endowed with a monitoring programme. This programme should include the identification and monitoring of a certain number of significant parameters for the area in question, in order to allow the assessment of the state and evolution of the area, as well as the effectiveness of protection and management measures implemented, so that they may be adapted if need be. To this end further necessary studies are to be commissioned."

[55] Albania is a party to the protocol. Italy is not a party to it. But the protocol applies also to Italy, insofar as the European Union is a party to it.

geomorphology; (e) prevent and/or reduce the effects of natural hazards and in particular of climate change, which can be induced by natural or human activities; (f) achieve coherence between public and private initiatives and between all decisions by the public authorities, at the national, regional and local levels, which affect the use of the coastal zone". In addition, the principles of integrated coastal zone management, that Parties are bound to follow, include "(a) The biological wealth and the natural dynamics and functioning of the intertidal area and the complementary and inter-dependent nature of the marine part and the land part forming a single entity shall be taken particularly into account. (b) All elements relating to hydrological, geo-morphological, climatic, ecological, socio-economic and cultural systems shall be taken into account in an integrated manner, so as not to exceed the carrying capacity of the coastal zone and to prevent the negative effects of natural disasters and of development. (c) The ecosystems approach to coastal planning and management shall be applied so as to ensure the sustainable development of coastal zones. (…) (j) Damage to the coastal environment shall be prevented and, where it occurs, appropriate restoration shall be effected".

According to Art. 8, the national legal instruments must include criteria for the sustainable use of the coastal zone, such as the following: "(a) identifying and delimiting, outside protected areas, open areas in which urban development and other activities are restricted or, where necessary, prohibited; (b) limiting the linear extension of urban development and the creation of new transport infrastructure along the coast; (c) ensuring that environmental concerns are integrated into the rules for the management and use of the public maritime domain; (d) providing for freedom of access by the public to the sea and along the shore; (e) restricting or, where necessary, prohibiting the movement and parking of land vehicles, as well as the movement and anchoring of marine vessels, in fragile natural areas on land or at sea, including beaches and dunes".

According to Art. 9, the Parties shall, inter alia: "(a) accord specific attention to economic activities that require immediate proximity to the sea; (b) ensure that the various economic activities minimize the use of natural resources and take into account the needs of future generations; (c ensure respect for integrated water resources management and environmentally sound waste management; (d) ensure that the coastal and maritime economy is adapted to the fragile nature of coastal zones and that resources of the sea are protected from pollution; (e) define indicators of the development of economic activities to ensure sustainable use of coastal zones and reduce pressures that exceed their carrying capacity; (f) promote codes of good practice among public authorities, economic actors and non-governmental organizations"..[56]

[56] In particular, according to Art. 9, the Parties have specific obligations for each economic activity:

"(a)Agriculture and industry: to guarantee a high level of protection of the environment in the location and operation of agricultural and industrial activities so as to preserve coastal ecosystems and landscapes and prevent pollution of the sea, water, air and soil;

(b) Fishing:

- *(i) to take into account the need to protect fishing areas in development projects;*
- *(ii) to ensure that fishing practices are compatible with sustainable use of natural marine resources;*

(c) Aquaculture:

- *(i) to take into account the need to protect aquaculture and shellfish areas in development projects;*
- *(ii) to regulate aquaculture by controlling the use of inputs and waste treatment;*

(d) Tourism: sporting and recreational activities,

- *(i) to encourage sustainable coastal tourism that preserves coastal ecosystems, natural resources, cultural heritage and landscapes;*
- *(ii) to promote specific forms of coastal tourism, including cultural, rural and ecotourism, while respecting the traditions of local populations;*
- *(iii) to regulate or, where necessary, prohibit the practice of various sporting and recreational activities, including recreational fishing and shellfish extraction;*

(e) Utilization of specific natural resources:

- *(i) to subject to prior authorization the excavation and extraction of minerals, including the use of seawater in desalination plants and stone exploitation;*
- *(ii) to regulate the extraction of sand, including on the seabed and river sediments or prohibit it where it is likely to adversely affect the equilibrium of coastal ecosystems;*

According to Art. 10, the Parties shall take measures to protect the characteristics of certain specific coastal ecosystems, as wetlands, estuaries and marine habitats, through legislation, planning and management. While the protocol applies to the whole coastal zone, as described in Art. 2, lett. E,.[57] State parties can therein establish ABMTs and marine protected areas, in particular in the case of certain specific coastal ecosystems.

It is relevant to note that Art. 27, para. 1, establishes that "the Parties undertake, directly or with the assistance of the Organization (that is UNEP-MAP) or the competent international organizations, to cooperate in the exchange of information on the use of the best environmental practices". Art. 27, para. 2, binds Parties to define coastal management indicators and to cooperate in the use of such indicators, to establish and maintain up-to-date assessments of the use and management of coastal zones, as well as carrying out activities of common interest, such as demonstration projects of integrated coastal zone management.

Art. 28 expressly promotes transboundary cooperation, inviting the Contracting Parties to endeavour, directly or with the assistance of the Organization or the competent international organizations, bilaterally or multilaterally, to coordinate their national coastal strategies, plans and programmes related to contiguous coastal zones.

Given the geographical characteristics of the CAMP Otranto project area, where the territorial seas of Albania and Italy do not overlap and there is an extent of high seas waters between the respective coastal zones of the two States, Art. 27 seems more appropriate than Art. 28. Albania and Italy could consider the establishment of a mechanism to ensure the exchange of information, the definition of common indicators, the assessment of the use and management of their respective coastal zones, as well as the carrying out of activities of common interest.

It should be noted that in the Albanian and Italian legal framework there is no specific national legislation dedicated to ICZM. Albania became party to the ICZM protocol since 2010 but did not adopt any specific legislation dedicated to ICZM. Nonetheless the Coastal Zone Management Plan has been approved by DCM No. 364, dated 18 July 2002. Italy is not yet a party to the ICZM Protocol, even if, the European Union being a party to it, its provisions are considered as belonging to the so-called *acquis communautaire*. Italy has still not fully implemented the Recommendation concerning the implementation of Integrated Coastal Zone Management in Europe. In Italy there is no specific National Policy regarding Integrated Coastal Zone Management. According to the national report 2006–2010 on ICZM,.[58] the Ministry of the Environment was preparing the documentation to define a work programme with the Regions, the local authorities and the central administrations for a "National Strategy for the Integrated Management of Coastal Zones". However, Puglia region has adopted a law and a plan implementing ICZM (regional law 10 April 2015, No. 17, on the protection and use of the coast, and regional coastal plan).

Another protocol to the Barcelona Convention that can be mentioned is the 1994 Protocol for the protection of Mediterranean Sea against pollution resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil: according to Art. 3 Parties shall take measures, also through bilateral and multilateral cooperation, to prevent, abate and control pollution. Under Art. 21, Parties shall take special

(iii) to monitor coastal aquifers and dynamic areas of contact or interface between fresh and salt water, which may be adversely affected by the extraction of underground water or by discharges into the natural environment;

(f) Infrastructure, energy facilities, ports and maritime works and structures: to subject such infrastructure, facilities, works and structures to authorization so that their negative impact on coastal ecosystems, landscapes and geomorphology is minimized or, where appropriate, compensated by non-financial measures;

(g) Maritime activities: to conduct maritime activities in such a manner as to ensure the preservation of coastal ecosystems in conformity with the rules, standards and procedures of the relevant international conventions".

[57] *"'Coastal zone' means the geomorphologic area either side of the seashore in which the interaction between the marine and land parts occurs in the form of complex ecological and resource systems made up of biotic and abiotic components coexisting and interacting with human communities and relevant socio-economic activities*".

[58] Ministero dell'ambiente e della tutela del territorio e del mare, *Report Nazionale sui progressi realizzati in materia di gestione integrata delle zone costiere (2006–2010).*

measures to prevent, abate and control pollution arising from activities in specially protected areas. According to Art. 22 States shall cooperate in promoting studies and undertaking programmes of scientific and technological research to minimize and control pollution, especially in case of emergency. However, only Albania, and not Italy, is a party to the Protocol.

Finally, under Art. 15 of the 2002 Protocol concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea, the Parties are bound to take the necessary steps to assess the environmental risks of the recognized routes used in maritime traffic and to take the appropriate measures aimed at reducing the risks of accidents or the environmental consequences thereof. However, only Italy, and not Albania, is a party to the Protocol.

Convention on Biological Diversity

Parties to the 1992 Convention on Biological Diversity are required, as far as possible and as appropriate, to "establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity" (Art. 8, a), to "develop, where necessary, guidelines for the selection, establishment and management of protected areas where special measures need to be taken to conserve biological diversity" (Art. 8, b), and to "regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use" (Art. 8, c).

In 2008, the Conference of the parties adopted a set of 'Scientific criteria for identifying ecologically or biologically significant marine areas in need of protection in open waters and deep-sea habitats' (Annex I to Decision IX/20; so-called CBD EBSA criteria). The EBSAs criteria can provide to the interested States useful information on where marine protected areas could be established according to scientific evidence. They do not enter into the political and legal questions that are linked to creation of marine protected areas.

The Annex to Decision XII/22, adopted by the Conference of the parties held in 2014, provides the results of seven regional workshops on the description of areas meeting the scientific criteria for EBSAs. The workshop for the Mediterranean, held in Malaga in 2014, described several EBSAs, including the South Adriatic Ionian Strait, covering the Strait of Otranto area and nearby Ionian Sea. This area is identified and assessed meeting all the criteria established by the Convention on Biological Diversity. This area has a high ranking on uniqueness or rarity criterion, because it hosts biodiversity hotspots of the bathyal bottoms of the Mediterranean Sea, and the only Adriatic population of Cuvier's beaked whales (*Ziphius cavirostris*). It has a high ranking on special importance for life-history stages of species criterion, because there have been sightings of the Cuvier's beaked whales therein, and the Southern Adriatic has been indicated as a nursery area for females with juvenile animals. It has an high ranking on importance for threatened, endangered or declining species and/or habitats criterion, because the area contains important habitats for Cuvier's beaked whales, an Annex II species of the SPA/BD Protocol and significant densities of other megafauna, such as giant devil ray (*Mobula mobular*), striped dolphin (*Stenella coeruleoalba*), Mediterranean monk seal (*Monachus monachus*) and loggerhead turtle (*Caretta caretta*), all listed in Annex II of SPA/BD Protocol. This area encompasses an almost continuous belt of patchy cold-water coral sites along the entire south-western (Puglian) margin, connecting the Adriatic populations with those inhabiting the Ionian margin in Santa Maria di Leuca, and around Sazani Island. Moreover, loggerhead sea turtles are frequent, and monk seals have been regularly visiting the area. It has a high ranking on the vulnerability, fragility, sensitivity, or slow recovery criterion, because deep-sea cold-water coral communities and deep-sea sponge aggregations are sensitive to bottom trawling due to their slow growth rates, fragility and slow or unlikely recovery after direct destruction. Genetic and reproductive studies strongly suggest that in areas where deep-water corals are impacted by trawling, the colonies can be reduced to a small size and sexual reproduction is no longer viable. This area has a high ranking on the biological diversity criterion, because it contains important habitats for cetaceans, monk seal, marine turtles and other species belonging to megafauna. It has important banks for deep sea cold-water coral communities, often in association with sponges and serpulids, and this biogenic habitat acts as a refuge as well as a spawning and a nursery area for many species. It has a medium ranking on biological productivity criterion, because

compared to the other parts of the Adriatic basin, it is the most oligotrophic area with lower biological productivity. The presence of corals in the Santa Maria di Leuca area seems to be linked to an energetic trophic system characterized by an important vertical flux particulate matter occurring from the southern Adriatic to the Northern Ionian, and this transfer is a crucial factor for corals. It has a medium ranking on the naturalness criterion, because the negative impact of bottom trawling is reduced by the geomorphological features of the area, and it continues to play an important role in the water mass circulation and functioning of the Adriatic ecosystem.

Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)

The 1979 Bern Convention, adopted by member States of the Council of Europe, requires Parties to take the appropriate and necessary legislative and administrative measures to ensure the conservation of the habitats of the wild flora and fauna species, especially those specified in Appendices I (Strictly Protected Flora Species) and II (Strictly Protected Fauna Species), and of endangered natural habitats (Art. 4.1). The Parties also undertake to give special attention to the protection of areas that are of importance for the migratory species specified in Appendices II and III (Protected Fauna Species) and which are appropriately situated in relation to migration routes, as wintering, staging, feeding, breeding or moulting areas (Art. 4.3).

Several marine animals are listed in Appendices II and III.

Under the Bern Convention, the Emerald Network was developed. It is made up of "areas of special conservation interest" and is based on the same principles as the European Union NATURA 2000 Network, being a de facto extension of the network to non-European Union States. It is relevant to the whole Mediterranean basin.

According to Recommendation 16 (1989) of the Standing Committee on Areas of Special Conservation Interest, areas of special conservation interest should meet one or more of the following conditions:

- contribute substantially to the survival of threatened species, endemic species, or any species listed in Appendices I and II
- support significant numbers of species in an area of high species diversity or important populations of one or more species
- contain an important and/or representative sample of endangered habitat types
- contain an outstanding example of a particular habitat type or a mosaic of different habitat types; represent an important area for one or more migratory species, or
- otherwise contribute substantially to the achievement of the objectives of the Convention.

The same Committee, by Resolution No. 4 (1996), listed endangered natural habitats requiring specific conservation measures, by Resolution No. 5 (1998) adopted the rules for the Network of Areas of Special Conservation Interest (Emerald Network) and by Resolution No. 8 (2012) provided for the national designation of adopted Emerald sites and the implementation of management, monitoring and reporting measures.

A "revised calendar for the implementation of the Emerald network of areas of special conservation interest 2011–2020" was adopted in 2015. It includes the assessment of proposed Emerald sites in Albania.

ACCOBAMS

The 1996 Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS).[59] is one of the agreements concluded within the framework of the Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979). ACCOBAMS binds the parties to achieve and maintain a favourable conservation status for cetaceans. The main obligations of the ACCOBAMS Parties are to prohibit any deliberate taking of cetaceans, to create and maintain a network of specially

[59] Both Albania and Italy are parties to the ACCOBAMS. On it see Scovazzi, *The Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic Area*, in Mekouar & Prieur (coord.), *Droit, humanité et environnement – Mélanges en l'honneur de Stéphane Doumbé-Billé*, Bruxelles, 2020, p. 589.

protected areas to conserve cetaceans (Art. II, para. 1) and to take the measures specified in the conservation plan (Annex 2).

The Meetings of ACCOBAMS Parties addressed the issue of areas of conservation of Cetaceans Critical Habitats (CCH), in particular by Resolutions 3.22 of 2007, 4.15 of 2010 and 6.24 of 2016. A number of CCHs were identified, including one located in the CAMP Otranto Project area, that is the "Sazani Island – Karaburun Peninsula (Adriatic and Ionian Sea, Albania)", which is of special importance for the common dolphin and other cetaceans. However, the ACCOBAMS parties are still working on the revised identification of CCHs in the ACCOBAMS area, with the view of proposing the relevant management measures.

UNESCO Convention on the Protection of the Underwater Cultural Heritage

The 2001 Convention on the Protection of the Underwater Cultural Heritage, concluded within the framework of the United Nations Educational, Scientific and Cultural Organization (UNESCO), targets at the protection of such heritage, wherever it is located, and at establishing international cooperation for this purpose. Art. 6 of the Convention encourages State parties to enter into bilateral, regional or other multilateral agreements which would ensure better protection of underwater cultural heritage than that granted by the convention (criterion of the added value).

Art. 2, para. 5 of the Convention provides for the preservation of cultural heritage preferably in situ (i.e. in its original location on the seafloor). Under Rule 25 of the Annex, in the course of and upon termination of fieldwork, a site management programme shall provide for the protection and management in situ of underwater cultural heritage, including reasonable provision for protection against interference. This implies the right to establish around the heritage marine protected areas, that could qualify as special instances of ABMTs. Notably, in 2018 a wreck dating back from the 7th century BC was found in the Strait of Otranto, at a depth of 780 m and 22 nm off the Italian coast.

3.3.3. General Fisheries Commission for the Mediterranean

The General Fisheries Commission for the Mediterranean (GFCM) was established by an Agreement concluded in 1949, as an institution within the framework of the Food and Agriculture Organization of the United Nations (FAO). Under the 2014 amendments, the objective of the GFCM Agreement is to ensure the conservation and sustainable use, at biological, social, economic and environmental level, of living marine resources, as well as the sustainable development of aquaculture. The area of application of the GFCM Agreement includes "all marine waters of the Mediterranean Sea and the Black Sea" (Art. 3, para. 1).

The GFCM is entitled to adopt "recommendations" on conservation and management measures aimed at ensuring long term sustainability of fishing activities, in order to preserve the marine living resources, as well as the economic and social viability of fisheries and aquaculture. Among such recommendations are those establishing fisheries restricted areas (FRAs) for the protection of vulnerable marine ecosystems, including, but not limited to, nursery and spawning areas (Art. 8, b). They are a typical instance of ABMTs.

The recommendations referred to in Art. 8, b, are adopted by a two-thirds majority of Parties present and voting (Art. 13, para. 1) and, despite their name, have a binding nature. Parties are under an obligation to give effect to such recommendations (Art. 14, para. 1), unless they cast an objection to them within 120 days from the date of notification (Art. 13, para. 3). Particularly notable are the measures taken by GFCM in order to establish fisheries restricted areas in order to protect the deep-sea sensitive habitats.

Among the acts of GFCM or submitted to it, the following must be mentioned as particularly relevant for the CAMP Otranto Project:

- Resolution GFCM/40/2016/2 for a midterm strategy (2017–2020) towards the sustainability of Mediterranean and Black Sea fisheries, Target 4, Output.2 a) on "the promotion of the identification and establishment of new FRAs to protect priority areas within ecologically or biologically significant marine areas (EBSAs), VMEs (Vulnerable Marine Ecosystems), etc. from harmful fishing activities, and

the implementation of monitoring and control systems to ensure the efficiency of these spatial measures, also in relation to Target 3"

- The proposal submitted to the GFCM by MedReAct on behalf of the Adriatic Recovery Project on 31 March 2018, with a view to protecting from the impacts of fishing the Deep Water Essential Fish Habitats and Sensitive Habitats in the South Adriatic.

The proposal envisages a distinction between the core area, which covers important nursery and spawning grounds of valuable deep-water stocks and VMEs species, and a buffer zone, where other important nurseries and spawning grounds and complex and heterogeneous habitats are found. Both the core and buffer areas of the proposed FRA are inside the EBSA boundaries.

The FRA proposal suggests specific management measures, in accordance with the relevant zoning system. In the core area, the proposal includes the permanent closure to any professional fishing activity with towed nets, bottom set nets, and set longlines. Measures suggested in the buffer area include the subjection of any demersal fishing activity to a special fishing authorization, if the fishing unit can demonstrate to have carried out fishing activities in the area in the last five years. Members and cooperating non-members of the GFCM should be required to compile and transmit to the Executive Secretary of the GFCM the list of their authorized vessels. Vessels not complying with the GFCM conservation and management measures should not be authorized to fish in the FRA buffer area. In any case, the authorized vessels would be allowed to fish for a maximum of two days per week.

The proposal also suggests that members and cooperating non-members of the GFCM should ensure that the area is protected from the impact of any other human activity jeopardizing the conservation of the Essential Fish Habitats (EFHs), sensitive habitats and VMEs. The GFCM would conduct fishery independent assessments on the presence and status of EFHs, sensitive habitats and VMEs in the area and on the effects of the conservation measures introduced with the FRA.

The proposal highlights that the boundaries of the area and the conditions to fish therein as referred to in the suggested management measures above should be subject to change on the basis of the relevant advice of the GFCM Scientific Advisory Committee. Moreover, in consideration of the fact that the buffer area of the proposed FRA covers only marginally the European hake nurseries areas (a GFCM priority species for the Adriatic) and that the largest part of these nursery areas falls within the territorial waters of Italy and Albania, it would be desirable that these two States extend the proposed fishing restrictions in order to protect these important EFHs in their territorial waters.

As regards the measures to effectively enforce environmental and species protection within the FRA, the proposal suggests that authorized fishing vessels should be allowed to land catches of demersal stocks only in designated ports. Fishing vessels without a special fishing authorization and equipped with towed nets, bottom set nets, and set longlines should transit inside and through the FRA exclusively by keeping a direct course, at a constant speed exceeding 7 knots and with Vessels Monitoring System (VMS) and Automatic Identification System (AIS) active onboard. Transit in the core area should be prohibited to any vessel carrying on board set longlines. The GFCM should define mechanisms to ensure control and enforcement of the FRA, through VMS, AIS or remote-control systems, as well as identifying criteria for the regular evaluation of the status of the FRA.

Monitoring, control and surveillance measures in the FRA could include the provision of VMS onboard and transmission of position data at regular intervals in line with Recommendation MCS-GFCM/33/2009/7 and European Union Regulation 1224/2009 for fishing vessels operating or transiting in a FRA; AIS onboard and transmission for fishing vessels operating or transiting in the FRA. The proposal further suggests at sea inspections and, possibly, aerial controls by the flag States of vessels operating in the area. The GFCM Compliance Committee would regularly review and assess the level of enforcement and compliance in the FRA and provide relevant recommendations.

The proposal remarks that the socio-economic impact of the proposed FRA should be sustainable for both Italian and Albanian fleets, considering the relatively low number of vessels currently fishing in deeper areas and the relative low fishing effort in the selected FRA area. As a matter of fact, in the proposed FRA, the presence of

explosive sites, military areas and extraction concession already imposes several fishing and navigational restrictions.

Resolution GFCM/44/2021/3 on a roadmap for the establishment of a fisheries restricted area in the southern Adriatic Sea (geographical sub-area 18)

For the time being, the GFCM has agreed on a roadmap for the establishment of FRA in the Southern Adriatic Sea (Resolution GFCM/44/2021/3). According to para. 2, "the GFCM Secretariat, with the support of relevant CPCs (Contracting Parties and Cooperating Non-contracting Parties), should support, in 2023, the implementation of the roadmap towards the establishment of an FRA in the southern Adriatic (geographical sub-area 18)". According to para. 1, "the GFCM Secretariat, with the support of relevant CPCs, should launch, in 2022, a pilot project to underpin the biology and ecology of bamboo coral in the Adriatic Sea, including a quantification of the interactions between *Isidella* and bottom contact fisheries and the determination of their footprint, within the framework of the Working Group on Vulnerable Marine Ecosystems, including a session on essential fish habitats".

According to par. 6, "in 2023, the SAC (Scientific Advisory Committee on Fisheries) should evaluate the possible FRA proposal in the southern Adriatic Sea and the GFCM should examine such proposal at its annual session in 2023".

3.3.4. European Union regulation No. 1082/2006 on a European grouping of territorial cooperation

This regulation allows the establishment of a European grouping of territorial cooperation (EGTC) in the project area, according to Art. 3 A, para. 2 [60].

Not only States or national authorities, but also regional authorities and local authorities may be members of an EGTC.

A convention between the two States could govern the European grouping of territorial cooperation, establishing: the objective and the tasks, the duration, organs and their respective competences, the applicable Union law and national law of the Member State where the EGTC has its registered office for the purposes of the interpretation and enforcement of the convention (Art. 8), with the following limits:

The tasks given to an EGTC by its members shall not concern the exercise of powers conferred by public law or of duties whose object is to safeguard the general interests of the State or of other public authorities, such as police and regulatory powers, justice and foreign policy (Art. 7).

An EGTC shall have at least an assembly, which is made up of representatives of its members, and a director, who represents the EGTC and acts on its behalf.

In addition, an EGTC has a statute, that specifies decision-making procedures (Art. 9).

An EGTC has legal personality (Art. 1) and it could be responsible for the management of a protected transboundary area, or network of areas, also adopting the management plan for the area and representing the States and public authorities in front of international organizations, and the identification of the relevant protection measures and their revision.

The EGTC acquires legal personality with its registration or the publication of the founding documents (the EGTC convention and statutes) on the official gazette of the State that hosts the EGTC registered office. A final step implies that the members inform the EU Member States concerned and the Committee of the Regions of the registration. Within 10 working days of the registration or publication, the EGTC ensures that a request is sent to the Committee of the Regions for the publication of a notice on the Official Journal of the European Union, which announces the establishment of the EGTC.

[60] This provision establishes that "*An EGTC may be made up of members located on the territory of only one Member State and of one or more third countries neighbouring that Member State, including its outermost regions, where the Member State concerned considers that EGTC to be consistent with the scope of its territorial cooperation in the context of cross-border or transnational cooperation or bilateral relations with the third countries concerned*".

3.4. Italian framework

3.4.1. Italian national legal framework relevant to ABMTs, including European Union regulations and national legislation implementing European Union directives

Legislative Decree No. 152/2016, Environment Code

Part III of this legislative decree implements the Water Framework Directive (2000/60/CE), focusing on water resource preservation (considering all kinds of waters, including marine waters). This Part addresses the protection of waters within the "catchment area". The territorial unit of reference for the management is the "river basin", consisting of areas of both land and sea, with one or more neighbouring river basins and their coastal waters and groundwater. In this sense Italy has proceeded with the identification of catchment areas and has prepared the related Management Plans.

The adoption of management plans is entrusted to the Institutional Committees of the Basin Authority of national relevance, represented by the members of the regions whose territory lies in the district to which the plan refers.

For what concerns the maritime areas: all waters are covered (up to one nautical mile from the coast) and the primary objective are ecological objectives, supported by chemical and hydromorphological objectives; there is a strong emphasis on developing controls on activities which impact water objectives, including detailed requirements on reporting, public participation, etc.

Law No. 394/1991 on protected areas

According to Art. 1 of this law, protected natural areas are established in territories where there are physical, geological, geomorphological and biological formations, or groups of them, which have significant naturalistic and environmental value, especially if vulnerable, to be subjected to a special protection and management regime, in order to pursue the following purposes:

a) conservation of animal or plant species, geological singularities, paleontological formations, biological communities, biotopes, scenic and panoramic values, natural processes, hydraulic and hydrogeological balances, ecological balances;

b) application of environmental management or restoration methods suitable for achieving integration between man and the natural environment, also through the safeguarding of anthropological, archaeological, historical and architectural values and of agro-forestry-pastoral and traditional activities;

c) promotion of educational, training and scientific research activities, including interdisciplinary ones, as well as compatible recreational activities;

d) defence and reconstruction of hydraulic and hydrogeological balances.

In these areas, the enhancement and experimentation of compatible productive activities can be promoted.

Protected natural areas can be classified into:

1. National parks and regional parks.[61] National parks are established and delimited by decree of the President of the Republic, on the proposal of the Minister of the Environment, having consulted the region. Regional parks are established by regional law
2. State and regional natural reserves.[62]

[61] Art. 2 establishes that *"(…) National parks contain one or more ecosystems intact or even partially altered by anthropic interventions, one or more physical, geological, geomorphological, biological formations of international or national importance for naturalistic, scientific, aesthetic, cultural, educational and recreational values such as to require the intervention of the State for the purposes of their conservation for present and future generations. Regional natural parks contain land, river and lake areas, and part of sea facing the coast, of naturalistic and environmental value, which constitute, within one or more neighboring regions, a homogeneous system identified by the natural assets of the places, with landscape and artistic values and the cultural traditions of the local populations (…)"*.

[62] Art. 2 establishes that *"(…) Natural reserves are terrestrial, river, lake or marine areas which contain one or more naturalistically relevant species of flora and fauna, or present one or more ecosystems which are important for biological diversity or for the conservation of genetic resources. Nature reserves can be state or regional according to the importance of the interests represented in them (…)"*.

3. Particularly protected marine areas pursuant to the Geneva protocol relating to particularly protected areas of the Mediterranean.[63]
4. Marine natural reserves according to law n. 979/1982.[64]. They are established by decree of the Minister of environment, after consultation with the regions and municipalities concerned.

In marine natural reserves, each activity can be prohibited or limited or subjected to authorizations according to the purposes for which the reserve was established.

In particular, it may be prohibited or limited:

a) removal and damage to mineral formations
b) navigation, access and stop, with ships and boats of any kind and type, as well as bathing
c) both professional and sport fishing by any means exercised
d) hunting, catching, gathering, damaging and in general any activity that could endanger or disturb animal or plant species, including the introduction of alien species
e) the alteration by any means, direct or indirect, of the geophysical environment and of the biochemical characteristics of the water, as well as the dumping of solid or liquid waste and in general the introduction of any substance which could modify, even temporarily, the characteristics of the marine environment
f) the introduction of weapons, explosives and any destructive or catching means as well as toxic or polluting substances
g) activities that may in any case cause damage or disturbance to the carrying out of study and scientific research programmes to be implemented in the area.

The decree establishing the marine reserve provides for:

a) the determination of the maritime areas and maritime state property constituting the surface of the reserve
b) the purposes of scientific, cultural, economic and educational nature for which the protected area is established
c) study and scientific research programmes and valorization programmes to be implemented within the reserve
d) the regulation of the reserve with the specification of the activities subject to prohibition or limitation or authorization.

Within the marine reserve, intervention programmes for fish restocking or for ecological protection may be established by the Minister of the environment.

1. Wetlands of international importance, according to Ramsar convention
2. The Committee for protected natural areas can make further classifications to make the protection provided for by international conventions effective.

The three-year programme for protected natural areas,[65] updated annually, indicates the deadline for the establishment of new protected natural areas or for the expansion and modification of existing ones, identifying the general delimitation of the areas themselves. Proposals relating to the programme can be presented to the Committee for Protected Natural Areas by each member of the Committee itself, by the other Ministers, by regions not belonging to the Committee and by local authorities, including mountain communities. Proposals for the establishment of new protected natural areas or for the expansion of existing protected natural areas can also be presented to the Committee, through the Minister of the Environment, by the environmental protection associations identified pursuant to Art. 13 of law 8 July 1986, No. 349, or by five thousand citizens registered on the electoral lists.

According to the programme, the Minister of the Environment, in agreement with the Minister of the Economy, establishes the national marine protected

[63] Today the reference should be understood to the SPA/BD that has replaced the 1982 Geneva Protocol.

[64] Art. 25 of law No. 979/1982 establishes that "*they are marine environments: the waters, the seabed and the coast which present a significant interest for the natural, geomorphological, physical, biochemical characteristics with particular regard to the marine and coastal flora and fauna and for the importance scientific, ecological, cultural, educational and economic they cover*".

[65] Art. 4 of law No. 394/1991.

areas,[66] also authorizing the funding defined by the programme. The establishment of marine protected areas can be subject to general agreements between the regions and the Ministry of the Environment. Among other things, the establishing decree contains the denomination and delimitation of the area and the objectives which the protection of the area is aimed at and provides for the concession of use of the assets of the maritime state property and of the sea areas.

For the regional marine protected areas, the law provides for the participation of the provinces, mountain communities and municipalities in the process of establishing the protected area.[67]

For protected natural areas whose territories are bordering or adjacent to areas of naturalistic interest belonging to foreign States,[68] the Minister of Foreign Affairs, on a proposal from the Minister of the Environment, having consulted the region concerned, promotes the adoption of the appropriate agreements, to create integrated forms of protection, common management criteria and access facilitations, where permitted. The agreements may also concern the establishment of protected natural areas of particular naturalistic value and international importance on the national territory. The provisions of the agreements are binding for the regions and local bodies concerned.

Law No. 979/1982 for the defence of the sea

This law, in addition to marine reserves, regulates surveillance at sea, prohibits pollution of the sea by indicating a list of substances that cannot be discharged into the sea (Annex 1) and sets forth criminal sanctions.

Some provisions of the law have not been implemented, in particular, those which provide for a general plan for the defence of the sea and coasts against pollution and for the protection of the marine environment.

Legislative decree No. 201/2016 implementing Directive 2014/89/EU establishing a framework for maritime spatial planning

It is the Italian transposition of the MSP EU Directive. This Directive requires Member States to establish and implement maritime spatial planning, to identify the spatial and temporal distribution of existing and future human activities and uses in their marine waters, balancing sectorial interests and coordinating sectorial policies.

One of the aims of this Directive is protecting the environment and the ecosystem, and achieving a sustainable use of marine resources. In the list of possible activities, uses and interests that Member States shall take into consideration in maritime spatial plans, there are "nature and species conservation sites and protected areas", as well as fishing areas, aquaculture areas, tourism, underwater cultural heritage, installations and infrastructures for energy resources, maritime transport routes and traffic flows, military training areas, raw material extraction areas, scientific research, and submarine cable and pipeline routes.

Member States, according to this Directive, should apply an ecosystem-based approach.

Maritime spatial plans should have been established by 2021, but Italy has not complied with this obligation yet.

According to guidelines, there are three maritime areas, that are the three sub-regions of the Marine Strategy:

- The western Mediterranean Sea
- The Adriatic Sea
- The Ionian Sea and the central Mediterranean Sea.

There will be a maritime spatial plan for each maritime area.

According to legislative decree No. 201/2016, a Technical Committee, which includes representatives of Central Administrations (five Ministries with responsibilities for issues related to sea and coastal uses) and of regions, is in charge of the preparation of the plan (Art. 7).

Legislative decree No. 201/2016 establishes that the existing plans and programmes that take into consideration the marine waters and the economic and social activities carried out therein, as well as those

[66] Art. 18 of law No. 394/1991.

[67] Art. 22 of law No. 394/1991.

[68] Art. 34 of law No. 394/1991.

concerning land activities relevant to the consideration of land-sea interactions, developed and implemented under the European and national provisions in force, are included and harmonized with the provisions of the maritime spatial plans (Art. 5).

The plans will have a duration of 10 years, with the possibility of a mid-term review or, if deemed necessary, following the monitoring of the implementation of the plan or events that require revision.

The plans will provide strategic level indications and guidelines for each Maritime Area and their sub-areas, to be used as a reference for other planning actions (sectorial or local level) and for the granting of concessions or authorizations.

Maritime spatial plans are intersectional, integrated and comprehensive plans, that are superordinate to all other plans and programmes capable of affecting the same scope of application – not only those relating to marine waters, but also those concerning land-based activities that may affect marine waters. Maritime Spatial Plans will be the reference for the sectorial plans, drawing the framework in which the sector plans will go on to define their sectorial objectives and actions (Chap. 14 of the supplementary and interpretative guidelines, containing the addresses and criteria for the preparation of the Maritime Spatial Plans, adopted on 1 December 2017 by decree of the President of the Council of Ministers).

For transboundary cooperation, Legislative Decree 201/2016 and Chap. 15 of the Guidelines foresee the usefulness of envisaging from the very beginning the participation of European Union Member and Non-Member, but neighbouring, States in national planning, through instruments such as programme agreements or technical and/or consultation panels and forums, or similar, also taking advantage of utilizing European projects in which Italy participates.

Law decree No. 173/2022 on the reorganization of the Ministries

It provides for the drawing up of the plan of the sea (Art. 12).

The plan of the sea is triennial and contains strategic guidelines on:

a) protection and enhancement of the sea resources from an ecological, environmental, logistical and economic point of view
b) economic enhancement of the sea with particular reference to underwater archaeology, tourism, initiatives in favour of fishing and aquaculture and the exploitation of energy resources
c) valorization of the seaways and development of the port system
d) promotion and coordination of policies aimed at improving territorial continuity from and to the islands, at overcoming the disadvantages deriving from the insular condition and at enhancing the economies of small islands
e) promotion of the national sea system at the international level, in line with the strategic guidelines for the promotion and internationalization of Italian companies
f) enhancement of maritime State property, with particular reference to maritime State property concessions for tourist-recreational purposes.

The sea plan is published in the Official Gazette of the Italian Republic and is a reference for sectorial plans.

Legislative decree no. 190/2010, implementing the Directive 2008/56 (Marine Strategy Framework Directive)

This legislative decree establishes a framework to develop strategies involving the marine environment and the adoption of measures necessary to achieve and maintain good environmental status by 2020 (Art. 1).

Presidential Decree no. 357/1997, implementing the EU Habitat Directive

The regulation governs the procedures for adopting the measures envisaged by the "Habitats" directive 92/43/EEC on the conservation of natural and semi-natural habitats and wild flora and fauna, for the purpose of safeguarding biodiversity through the conservation of natural habitats listed in Annex A and of the species of flora and fauna indicated in Annexes B, D and E to the regulation.

"Natural habitats of Community interest" are defined as natural habitats, indicated in Annex A, which, within the territory of the European Union, alternatively:

1. risk disappearing
2. have a small natural distribution area as a result of their regression or due to the fact that their area is intrinsically small
3. are outstanding examples of typical features of one or more of the following five biogeographical regions: Alpine, Atlantic, Continental, Macaronesian and Mediterranean.

"Priority natural habitat types" are defined as those natural habitat types in danger of disappearing the conservation of which the European Union has a particular responsibility for due to the importance of their natural area and which are listed in Annex A.

"Species of Community interest" are defined as the species, indicated in Annexes B, D and E, which, in the territory of the European Union, alternatively:

1. are endangered with the exclusion of those whose natural distribution area extends marginally over the territory of the European Union and which are neither endangered nor vulnerable in the western palearctic are;
2. are vulnerable, when their passage into the category of endangered species is deemed probable in the near future, if the factors underlying this risk persist
3. are rare, when the populations are small and, although currently neither endangered nor vulnerable, they risk becoming so regardless of their territorial distribution
4. are endemic and require particular attention, due to the specificity of their habitat or the potential impact of their exploitation on their conservation status
5. are priority species: species for the conservation of which the European Union has a particular responsibility due to the importance of their natural range and which are highlighted in Annex B.

A "site of Community importance" is defined as a site which has been included in the list of sites selected by the European Commission and which contributes significantly to maintaining or restoring a natural habitat type referred to in Annex A or of an Annex B species which is in a favourable conservation status and which is also likely to contribute significantly to the coherence of the Natura 2000 ecological network, in order to maintain biological diversity in the biogeographical region or biogeographical regions in question. For animal species that occupy large territories, sites of community importance correspond to places, within their natural distribution area, which present the physical or biological elements essential to their life and reproduction.

"Special area of conservation" is defined as a site of Community importance, where the conservation measures apply.

The regions identify the sites where the habitats listed in Annex A and the habitats of species listed in Annex B are located and notify the Ministry of the Environment. The Ministry of the Environment presents to the European Commission the proposal of the Sites of Community Importance for the establishment of the coherent European ecological network of special areas of conservation called "Natura 2000", including the quantification of the European Union co-financing necessary for the implementation of the management plans of the special conservation areas, of the measures necessary to avoid the degradation of habitats, and any restoration measures. The Minister of the Environment, by a decree, designates the sites as "Special Conservation Areas", within six years of the definition by the European Commission of the list of sites. To ensure the ecological coherence of the "Natura 2000" network, the Ministry of the Environment defines the directives for the management of functional ecological connection areas.

Decree of the Ministry of the Environment 17 October 2007 and Regulation of the Puglia region No. 28/2008 establishes conservation measures related to Special Areas of Conservation and Special Protection Areas.

Regulation (EU) No. 1380/2013 on the Common Fisheries Policy

It establishes measures for the conservation and sustainable exploitation of marine biological resources that can be adopted by EU and EU member States. In particular, this regulation stipulates that the Union shall endeavour to establish protected areas due to their biological sensitivity where fishing activities may be restricted or prohibited.

Art. 11, relating to Conservation measures necessary for compliance with obligations under Union environmental legislation, allows for the adoption of conservation measures in order to achieve the objectives of the MSFD and Birds and Habitats Directives, and for the consequent establishment of protected areas of biological

sensitivity, including FRAs also under the auspices of the European Union Common Fisheries Policy.

Legislative decree No. 226/2001 and legislative decree No. 4/2012 on fisheries and aquaculture

Legislative decree No. 226/2001 establishes the following principles of fisheries and aquaculture policies (art. 1):

a) principles of sustainability and responsibility for the environment and for consumers
b) priority to means that ensure safe, quality and eco-sustainable productions
c) promotion of employment opportunities by encouraging multifunctionality
d) concertation between the State, the regions, trade associations and trade union organizations
e) consultation of all other associations interested in the sector, including non-governmental organizations
f) use of scientific research in defining the technical rules for accessing biological resources and in defining sustainability indicators.

This legislative decree establishes how to identify, delimit and manage fishing districts, homogeneous marine areas from an environmental, social and economic point of view: they are defined, on a proposal from the region or regions concerned, with a decree of the Minister of Agricultural and Forestry Policies, in concert with the Minister of the Environment, after consultation with the national trade associations (Art. 4).

This legislative decree establishes also that the Ministry of Agricultural, Food and Forestry Policies can stipulate agreements with national trade associations or their consortia for:

a) promotion of activities using eco-sustainable technologies
b) promotion of actions aimed at protecting the marine and coastal environment
c) protection and enhancement of local food traditions, typical, organic and quality products
d) implementation of the control and traceability systems of the agri-food and fish supply chains
e) facilities for access to credit for fishing and aquaculture businesses
f) reduction of procedural times and documentary activities in the context of administrative simplification
g) technical assistance to fishing companies.

Legislative decree No. 4/2012 implements regulation No. 1198/2006 and regulation No. 1005/2008 to prevent, discourage and eliminate illegal, unreported, and unregulated fishing. It defines fishing activities (Arts. 2–6) and identifies minor offences and the related sanctions, administrative offences (among which fishing in areas and times prohibited by current European and national regulations, the fishing of fish stocks for which fishing is suspended, fishing of quantities greater than those authorized, for each species, by European and national regulations) and the related sanctions (Arts. 7–23). The Ministry of Agricultural, Food and Forestry Policies coordinates the control activities, through the port authorities.

The Minister of Agricultural, Food and Forestry Policies can, by a decree, having consulted the Central Advisory Commission for Maritime Fisheries, regulate fishing even by derogating from national legal framework, to adapt it to the progress of scientific knowledge and technological applications, and to promote its development in certain areas or for certain classes. In addition, the Minister of Agricultural, Food and Forestry Policies may, by a decree, suspend fishing activity or impose limitations, in accordance with the EU Regulation, to conserve and manage fisheries resources (Art. 24).

Legislative Decree No. 42/2004, Code of cultural heritage and landscape

The coastal strip that extends up to 300 metres from the shoreline, also for lands that rise above the sea, is defined by law as an area of significant public interest, i.e. an area protected from the point of view of landscape (Art. 142). It follows that the landscape plan, that preserve and enhance the landscape and indicates the changes permitted, may discipline the use of coastal territory. An authorization by the region and the Ministry of culture is required to make interventions affecting the landscape in this area.

The underwater cultural heritage can be protected in the same way, if is designated by the Ministry of culture as an archaeological area, that is defined by law as an area of significant public interest (Art. 142); or it can be protected according to the rules for cultural goods.

3.4.2. Puglia region legal framework relevant to ABMTs in the project area

Puglia region law on the protection and use of the coast, r.l. No. 17/2006

In the context of the integrated coastal zone management, this law regulates the administrative functions of the region, the municipalities and the provinces for the management of the maritime State property and of the territorial sea areas.

These are the principles for regional action (Art. 1):

a) preservation, protection and eco-sustainable use of the environment
b) coastal area planning
c) accessibility to maritime State property and the territorial sea
d) simplification of the administrative action
e) transparency of procedures and public participation
f) cooperation and concertation of public authorities
g) administrative decentralization
h) sustainable development of seaside tourism.

The regional coastal plan regulates the activities and interventions on the maritime State property and on the areas of the territorial sea, including the guidelines for the design of defence works, tourist ports and sea quarries for the extraction of sand for the reconstruction of eroded beaches (Art. 3).

The municipal coastal plan must comply with the regional coastal plan (Art. 4).

The region exercises the following administrative functions (Art. 5):

a) planning, direction and general coordination
b) identification of areas for environmental protection and conservation
c) management of the state property information system (SID)
d) support to coastal Municipalities
e) monitoring and verification of activities of coastal Municipalities
f) release of concessions of state property required by Municipalities
g) exercise of substitute powers
h) exercise of regional activities identified by the Regional Coastal Plan
i) release of concessions for the construction of coastal engineering works.

Municipalities exercise all the other administrative functions relating to maritime state property, including the concessions which do not belong to the regional competence (Art. 6).

Arts. 8–15 regulate the procedure for issuing concessions and the regime of granted concessions.

Art. 16 prohibits the concession in the following areas and related buffer zones:

a) erosive grooves
b) mouths of rivers or streams
c) alluvial channels
d) areas at risk of erosion near cliffs
e) archaeological areas and areas pertaining to historical and environmental heritage.

In areas classified as sites of Community interest and special protection areas or in any case classified as protected, as well as in areas of dune belts and Mediterranean maquis, the concession is subject to the favourable evaluation of environmental incidence of the competent regional office, except in the cases indicated by regional regulations.

In addition, no less than 60 per cent of the state-owned maritime territory of every single coastal municipality (in linear metres, with reference to the coast line) is reserved for public use and free bathing, and no more than 40 per cent of this free area can used for structures classified as “free beach with services”.

The region classifies the touristic value of the coastal area, according to Art. 6 of D.M. 5 August 1998, No. 342, of the Minister of Transport and Navigation (Regulation containing rules for determining the fees relating to state-owned maritime concessions for tourist-recreational purposes).

3.4.3. Italian plans and programmes relevant to ABMTs in the project area

Three-year national fisheries and aquaculture programme 2022–2024, ministerial decree No. 677287/2021

Among the foreseen actions there are: the reform of the ceiling of annual fishing days assigned to some segments of the fleet, with revision of the lists and attribution of ceilings of annual days/boat. In this context, the possibility of allowing the transferability of quotas of assigned days between individual vessels will be evaluated, establishing criteria and safeguard measures; adoption of new technical measures for trawling aimed to avoid catching juveniles and by-catch (grids and other devices applied to the trawl bag); the scale in which to develop this measure will be evaluated at the level of vessel length classes and spatial extension (GSA); experimentation of TAC and Quotas applied to some demersal species in GSA to be identified; the identification of further space-time closures; development of Management Plans for capture systems/demersal species in GSA affected by situations of over-exploitation; intensification of cooperation between States for sustainable management of the capacities of their respective national fisheries sectors and to develop regionalization pursuant to Art. 18 of EU Reg. 1380/2013; the spatial planning of capture and aquaculture activities (AZA), with the creation of reserves, and areas subject to temporary effort reduction measures, for the recovery and protection of fish stocks (ZTB, FRA) with particular reference to the low Adriatic and Tyrrhenian, taking into due consideration the already existing conservation areas; implementation of awareness-raising and information activities aimed at operators in the fishing sector for better management of the system and execution of existing plans; fight against any form of illegal fishing; strengthening of associations; improvement of the market organization of fishery products and marketing.

Table 12. Puglia region plans relevant to ABMTs in the project area

Plan	Source
The Puglia region Document of General Structure	http://www.sit.Puglia.it/portal/portale_pianificazione_regionale/DRAG
The Puglia region Coastal Plan	http://www.sit.Puglia.it/portal/portale_pianificazione_regionale/Piano%20Regionale%20delle%20Coste
The Provincial Territorial Coordination Plans	http://www3.provincia.le.it/ptcp/ptcp/index.htm http://sit.provincia.brindisi.it/ptcp/
The Plan of the Alta Murgia National Park (2016)	https://www.parcoaltamurgia.it/index.php/ente-gestore/pianificazione
The Puglia region Territorial Landscape Plan (2015)	http://www.sit.Puglia.it/portal/portale_pianificazione_regionale/Piano%20Paesaggistico%20Territoriale
Thematic Territorial Landscape Plan of landscape and environmental assets – Thematic Urban Landscape Plan "Landscape" (2000)	http://www.sit.Puglia.it/portal/portale_pianificazione_regionale/Piano%20Urbanistico%20Territoriale%20Tematico
The Puglia region strategic plan of tourism	https://partecipazione.regione.Puglia.it/uploads/decidim/attachment/file/2860/Piano-Strategico-del-Turismo-Puglia365_2016_2025.pdf

3.5. Albanian framework

3.5.1. Albanian legal framework relevant to ABMTs

Law on environmental protection, No. 10431/2011

The law aims to protect the environment, preserve and improve it, prevent and reduce risks to human life and health, ensure and improve the quality of life for the benefit of present and future generations, and ensure the conditions for the sustainable development of the country.

This law defines the general principles, requirements, responsibilities, rules and procedures to ensure a high level of environmental protection in the Republic of Albania.

Law on biodiversity protection, No. 9587/2006

This law aims to regulate the sustainable use of biological diversity components by integrating key elements of biodiversity into strategies, plans, programmes and decision-making at all levels, and to determine measures to maintain or restore to a favourable conservation status the natural habitats and species of wildlife of Albania and of interest to the European Community.

The law calls for Biodiversity Inventory and Monitoring Network to be set up as a main source of information to support decision-making at all levels for the conservation of biodiversity and sustainable use of its components. Ecosystems, habitats and landscapes are protected even when outside the representative network of protected areas. Their conservation includes: a) protected ecosystems, habitats and landscapes; b) specially protected ecosystems, habitats and landscapes; c) degraded ecosystems, habitats and landscapes.

New activities or uses in protected ecosystems, habitats, and landscapes may only be carried after having been subject to environmental impact assessment procedures and having obtained environmental permits.

Law on the protection of wild fauna, No. 10006/2008

This law is aimed at the protection, management and control of wild fauna, with the aim of preserving species, populations, habitats where they live, migration routes, as well as ensuring their requirements for food, shelter and reproduction. Wild fauna in the territory of the Republic of Albania is a national asset, which is administered and is protected by law, in accordance with the relevant international conventions, to which Albania is a party.

Law on protected areas, No. 81/2017[69]

This law regulates the proclamation, conservation, management, management, sustainable use of environmentally protected areas and their natural and biological resources, as well as definition of roles and responsibilities of public institutions and private physical/juridical entities on the protection and sustainable management of PA, through:

- identification, definition and widening of protected areas
- guarding, protection, rehabilitation and recovery of ecosystems and natural habitats, species, landscapes within protected areas
- sustainable use of protected areas by integrating its elements in strategic planning and decision-making.

Classification of protected areas is in line with the IUCN International classification and criteria:

- "Strict nature reserve/scientific reserves (category I)"

[69] See also: DCM Approving the lists of types of natural habitats, plants, animals and birds of interest for EU, No. 866/2014; DCM Approving the lists of types of natural habitats, plants, animals and birds of interest for EU, No. 866/2014; DCM on the criteria and modalities for territorial zoning within environmental protected areas, No. 57/2019; DCM on the criteria for exercising, approving and monitoring for research-scientific activities in environmental protected areas, No. 302/2019; Order on approval of standardized structure of management plan for the protected area, No. 148/2013; DCM on the composition, functions, duties and responsibilities of management committees of protected areas, No. 593/2018. In general, see European Commission, *Study on Proposals for New Marine Protected Areas in Albania, Bosnia and Herzegovina and Montenegro*, 2021.

- "National Park (category II)"
- "Natural Monument (category III)"
- "Managed nature reserves / nature park (category IV)"
- "Protected Landscape (Category V)"
- "Protected area of managed resources (category VI)"
- "Municipal Nature Park (category IV)"
- "Green crown (category V)".

Environmental protected areas include: protected areas of national interest; protected areas of international interest including: "Ramsar" areas, special areas of conservation of interest to the European Community (SACs), sites of community interest for habitat and bird conservation areas and special protection areas (SCIs and SPAs); areas of special conservation interest (Emerald network areas); "Biosphere Reserve" areas; and natural heritage areas.

Environmental protected areas in the territory of Albania are national property, public or private, while natural monuments are unalienable public property. Protected areas can be administered by the State, private entities, municipalities, or a combination of them. This is defined in the DCM that approves the protected area.

The territory of the protected area of the category "National Park", "Managed Nature Reserve" and "Protected Landscape" is divided into sub-zones: the central sub-zone (first level (strict) of protection); the area of traditional and sustainable use (second level of protection); recreation area (third level of protection); buffer zone; sub-zone of heritage and cultural landscape. The categories "strictly protected reserve" and "nature monuments" are only surrounded by a buffer zone.

Activities permitted in the protected areas include: those in conformity with the Management Plan; monitoring of the ecosystem, habitats and flora and fauna; interventions for ecosystem regeneration; any activity in accordance with the decision of the National Territorial Council. In the marine, lake and river protected areas, the following activities shall be permitted after prior approval: monitoring of the ecosystem, habitats and flora and fauna; diving and underwater sustainable tourism with environmentally friendly methods; temporary, seasonal tourist constructions with lightweight, environmentally friendly structures; any other activity in conformity with the Management Plan; any other activity in conformity with the decision of the National Territorial Council. Military activities do not need a prior environmental permit. In marine and coastal protected areas fishing for commercial purposes is prohibited. Commercial fishing is permitted only in marine and coastal protected areas of categories IV, V and VI, following the approval of the Director General of the National Agency of Protected Areas. Forests in environmentally protected areas are not classified as productive forests. Hunting is prohibited in all categories of environmentally protected areas. Necessary interventions for regeneration and health of ecosystems in the protected areas are carried out by the inhabitants of protected areas, to meet their heating needs, on the basis of prior approval by RAPA of the technical project and the nominal list of inhabitants of the area, confirmed by the administrator of the local government unit. Management of forest and forest assets, water and water assets, as well as other public and private property located within a protected area must be carried out by the administration of the protected area and in accordance with the management plan of the area. The administration carries these activities on its own, through the local community and/or an entity authorized by it. When these assets are private property, they shall be managed and used by the owner or legal user only in conformity with the site management plan and with the prior approval of the administration of the protected area. State main stakeholders for conservation, planning and management.

Law on integrated water management, No. 111/2012[70]

The purpose of this law is:

a) protection and improvement of the aquatic environment, surface waters, whether temporary or permanent, inland marine waters, territorial waters, exclusive economic zones, continental shelf,

[70] See also Law on environmental treatment of polluted waters, No. 9115/2003; DCM on the sanitary regulation for bathing water management, No. 797/2010; DCM on the allowed norms of effluent discharges and the zoning criteria for the recipient water environment, No. 177/2005; DCM on the definition of environmental waters quality norms, No. 246/2014; DCM Approving the list of priority substances in the water environment, No. 267/2014; DCM Approving the requirements to prevent ship generated waste and cargos residues be discharged at sea, No. 1104/2015; Law on integrated waste management, No. 10463/2011.

transboundary waters, groundwater, and the status of them

b) providing, preserving, developing and utilizing water resources as rational and necessary for the life and social and economic development of the country

c) fair distribution of water resources, according to the purposes of use and their effective management and management

d) protection of water resources from pollution, waste and waste beyond actual needs

e) defining the institutional framework, at national and local level, for the implementation of a national policy for the management and management of water resources for the benefit of the community and the social and economic interests of the country.

The following are owned by the State and administered by State bodies: a) all water resources of the Republic of Albania; (b) all beds and banks of rivers, streams and other natural flows, whether temporary or permanent, curative, mineral, thermo-mineral and geothermal waters, canals, lakes, ponds, lagoons and natural or artificial catchments, islands and catchments; sand, rocks and soils in riverbeds, lakes and catchments, as well as groundwater geological formations; c) land derived from the withdrawal of water or the progress of the land in the direction of the water, when it relates to land owned by the State; d) all state-of-the-art hydro technical structures and works, such as dams, irrigation, drainage and navigation systems, drinking water stations and canals, and related works. Such State property rights are inalienable and timeless.

Integrated water resources management is based on the following principles: respect for the integrity of the water basins, based on the social and economic requirements of water resources, while protecting and preserving the quality of these resources and the quality of the environment for future generations; coordinating public control over water resources through territorial planning and socio-economic development projects, at national and local levels; rational use of water resources and discharge control; adherence to the principle of recovering the costs of water services, including environmental costs, in accordance with the "polluter pays" principle; the principles of environmental protection set forth in law No. 10 431, dated 9 June 2011 "On the protection of the environment"; ensuring a sufficient supply of good quality surface and groundwater for sustainable, balanced and equitable water use; taking preventive action not to damage water resources, as a priority, which must be corrected at the source. The integrated management of water resources intends to contribute in particular to: ensuring a sufficient quantity of surface and groundwater of good quality necessary for a sustainable, balanced and fair use of water; significant reduction of groundwater pollution; achievement of objectives, in accordance with relevant international agreements, including those intended to prevent and put an end to marine pollution.

Surface waters are classified according to their chemical and ecological status. Ground waters are classified according to the quantitative and chemical status. Such classification for each water basin is approved by DCM, after prior approval by the National Water Council. Protected areas, in accordance with this Law and other laws and by-laws, are designated for the purpose of protection of waters and aquatic ecosystems and shall include special protective measures. Protected areas include: hygienic-sanitary areas for protection of water resources, designated for the production of drinking water; protected areas, defined by law "On protected areas", fishing areas and shellfish rearing, in accordance with fisheries legislation; areas for thermal baths, for curative treatment and recreation; areas prone to eutrophication and areas at risk from nitrates and nitrite; areas intended for the protection of plants or animals, as well as habitats, where the conservation or improvement of water status is an important element of their protection. Certain river basins or watercourses may be determined as "special conservation areas". Protected areas under this law are determined by the Water Resources Management Agency, in cooperation with the MoTE. Proclamation of such areas is made by DCM. Water Resources Management Agency, Water Basin Management Offices, Water Basin Councils and the MoTE design, manage, and update the inventory of protected areas as an integral part of the protected area management plan. The management plan of the protected area is included in the management plan of the respective water basin.

Water resources are used for: household, communal, agricultural purposes, including irrigation and livestock water; aquaculture, water transport, industrial, hydropower production; trade; tourism, entertainment,

including navigation for entertainment; other purposes approved by the National Water Council. Activities carried on professional bases in water basins or requiring water use may need a permit, authorization or concession.

Authorities drafting plans and studies of territory regulation need to also consider water resource management plans.

Law on protection of the marine environment from pollution and damage, No. 8905/2002

This law aims at protecting the marine environment of Albania from pollution and damage and at preventing pollution and damage caused by human activities at sea and in the coastal area, which disrupt the water quality, damage the marine and coastal resources, endanger fauna and flora, threaten human health, and impede the normal development of activities in this environment.

The marine environment of Albania is an inalienable State property. It can be used and exploited for economic, commercial, scientific, social, sporting, tourist and military activities. This use can be made by State bodies, by natural and legal persons, domestic or foreign, only under the conditions provided by law. Environmental Inspectorate, the port captains, the state authorities that have licensed the activities, and other bodies designated by law are the authorities in charge of the control of the marine environment and the activities carried out there. To carry out its duties, the Inspectorate coordinates work with port captains, with the Fisheries Inspectorate, with the State Police, and with the Coast Guard of the Republic of Albania. The law forbids the following activities from taking place in in the marine environment: disposal of toxic and explosive hazardous substances and waste; disposal of a list of substances referred to in Annex I attached to this Law; spillage of hydrocarbons and wastewater; disposal of solid materials of any nature and kind, with the exception of fishing gear and equipment and materials required for the construction of ports; disposal of waste and any material from ships, platforms, installations and from the coast; transportation of hazardous materials and waste; the sinking of ships, cargo and goods of any kind; the sinking and abandonment of any installation that has served various activities; construction and operation of equipment emitting ionizing radiation; burning of materials of any kind; access to ports with unclean ballast of vessels of any kind, type and tonnage.

Law on fishing, No. 64/2012

This law regulates the fishing activity management and provides protection of marine life and inland waters, by promoting sustainable development in maritime and inland waters of Albania. It aims at:

- ensuring a rational and responsible use of biological resources, inland waters and marine waters of Albania
- laying down rules for the fisheries sector management
- defining conservation measures for the protection of biological resources in marine and inland waters
- promoting scientific and technological research and fishing data collection
- ensuring the operation and management of fishing ports and centres
- a structural policy, with the aim of restructuring the sector fisheries, ensuring sustainable development of the sector, strengthening competition of economically valuable development of fishing subjects, revitalization of areas dependent on fishing, as well as improving market supply and growth of production value
- establishing a control system for fishing.

The following are subject to this law:

- Albanian and foreign nationals seeking to carry fishing activities in the maritime space and inland waters of Albania
- Albanian and foreign vessels seeking to carry fishing activity in the maritime area of Albania
- activities of Albanian flag fishing vessels operating in the waters of other countries and offshore
- all fishing activities taking place in the territory of Albania.

Protected fishing zones are approved by DCM. In such areas the following activities are prohibited:

- to carry fishing activities
- to capture or use fauna or flora
- use sand or gravel, dump any contaminating material, or relocate the waters or damage the environment
- to build structures on land or in water

- to undertake or perform other activities that may have a negative impact on the protected area ecosystem.

In order to protect the natural reproduction of marine and inland waters fish and fry, as well as other aquatic organisms, the minister may order a fishing ban for certain periods of time. The minister can also define the number of the fishing vessels, their power, fishing equipment that can or cannot be used in certain fishing areas, number of permits in a given area, etc.

The Law provides for the following prohibitions:

- the capture, collection and/or trade of fish and other aquatic organisms with explosives, chemicals or any other way that kills, intoxicates or poisons them
- keeping on shore explosives or chemical substances that kill, poison or intoxicate fish and other aquatic organisms
- the use and boarding of toxic, narcotic and corrosive substances; equipment generating electrical discharges; explosives; substances which, if joined together, may explode; towed vehicles, St. Andrew's crosses or similar devices, used for the collection of red coral and other coral species or other coral-like organisms; pneumatic hammers or other shock-absorbing devices, in particular for two-footed mollusks embedded in the rock; collecting end nets with an opening size of less than 40 mm for trawlers
- fishing in the port area, access roads and anchorages
- fishing with trawl fish, dragons, traps, kettles, shrimps, trawls, coastal and similar nets at the bottoms of vegetation, especially for *Posidonia oceanica* and other marine lanterns (*lamparo*).

Other prohibited acts include: Fishing, keeping on board, transiting, deliberate placing on the market or for consumption in any period, area and by any means or equipment of these aquatic organisms:

- river coral – *Salmo letnica*, river
- corals (Corallium spp.)
- Trout – *Salmotrutta magrostigma Salmo marmoratus*
- *Acipenser sturio* sticks
- *Acipenser naccarii*
- sharks – *Cetorhinus maximus*
- *Carcharoeodon carcharias*
- sea cow – *Mobular mobula*
- Dithers – *Lithophaga lithophaga*
- sponges
- sea mammals (whales, dolphins and seals)
- sea turtles (*Carretta carretta*, *Chelonia mydas* and *Dermochelys coreacea*)
- freshwater turtles (*Emys orbicularis*, *Mauremys caspica*)
- marine birds.

Fishing vessels equipped with commercial fishing permits are prohibited from using equipment that are not branded at designated locations beyond 12 nautical miles from the territorial sea. It is forbidden to provide fishing boats with motor power on end fishing smaller than 224 kW and greater than 746 kW. Fishing outside the territorial waters of Albania is done with special authorization of the minister.

Law on aquaculture, No. 103/2016

A permit system is in force for aquaculture activities and a contract is signed for such activity to take place. Areas designated for aquaculture are approved through a planning system so as to integrate the activity of aquaculture in the aquatic, coastal and land area with other users, to avoid conflicts in the use of these areas. Three zoning categories are defined:

- areas suitable for aquaculture activity
- areas not suitable for aquaculture activity
- areas for aquaculture activity with special rules and/or restrictions.

Law on cultural heritage and museums, No. 27/2018

The law aims at the preservation of national cultural heritage, museums and cultural landscape, safeguarding assessment and management, hence contributing to national memory safeguarding, and the tangible and visible representation of national identity, thus expressing cultural values, encouraging the country's cultural development, as well as preventing illegal treatment of cultural goods.

Even intangible cultural heritage is included in the cultural heritage (Art. 4). Cultural properties, archaeological sites, and objects originating from Albania underground or territorial waters are considered State and public property (Art. 4). This law defines (Art. 5) the "underwater cultural heritage": it includes all traces of mankind existence, of a cultural, historic or archaeological nature, located partially or entirely and

periodically or permanently underwater, for at least 100 years, such as:

a) sites, structures, buildings, work tools and human remains, along with their archaeological and natural context
b) vessels, aircraft, or other vehicles or any part thereof, their cargo or other contents, along with their archaeological and natural context.

Pipelines and cables laid down in the sea bed are not considered underwater cultural heritage. Pipeline and cable-deriving installations laid down in the sea bed under continuous use are not considered part of underwater cultural heritage.

There is a definition also of "archaeological site": it is a natural site or landscape with movable or immovable objects, whether excavated or not, that are found or located on the surface, underground or in Albanian territorial waters, and are subject to study with archaeological methods.

Law on tourism, No. 93/2015

The purpose of this law is to promote Albania as an attractive tourist destination for domestic and foreign visitors, supporting the development of sustainable tourism, ensuring that tourism service providers meet the demands of tourists, in a healthy and safe environment, and respecting the needs of today's host communities and future generations. The objects of this law are: regulation of relations between public institutions and private entities, natural and legal persons, domestic or foreign, that exercise tourist activity in Albania; regulation of cooperation and interaction of central and local government in defining policies and developing strategies in the field of tourism; regulation of relations between state institutions and potential investors, based on public interest in tourism development. Tourism and other related activities are based on the principle of sustainable development, including both economic, environmental and socio-cultural development.

3.5.2. Albanian plans and programmes relevant to ABMTs in the project area

The General National Spatial Plan 2015–2030 is the highest instrument of territorial planning in Albania, which addresses planning issues in an integrated way, viewing the Albanian territory as a whole. It singles out the coast as the most important zone of the national territory because of its position, natural values, biodiversity significance, and cultural and historical heritage (CAMP Otranto agreement, para. 2.3).

The Integrated Coastal Zone Inter-Sectoral Plan (PINS-Bregdeti) provides the vision of coastline development. It orients the sectoral developments of national importance in the field of tourism, environment, transport, energy, agriculture, culture, etc., as well as urban developments in the territories administered by the municipalities. The plan also aims to establish a better relationship between business investment requirements with the sustainable development of the territory, protection and preservation of historic assets, cultural heritage, and protected natural areas, and at the same time prevent investment in areas that pose a risk to life, the nature or the environment. The PINS Bregdeti, within the ICZM, provides a vision and development strategy that will ensure prosperity for the near future and the protection and conservation of the coastal zone for future generations where the integrity of coastal ecosystems remains a priority (CAMP Otranto agreement, para. 2.3).

Natural areas plans: DCM 96, dated 21 November 1966, establishing Llogara National Park, and its management plan; DCM 289, dated 28 April 2010, establishing Sazan-Karaburun Marine National Park; Regulation of the Ministry of Agriculture No. 1, dated 27 July 1977, establishing Karaburun Managed Nature Reserve; VKM6 No.680, dated 22 October 2004, establishing Vjose-Narte Protected Landscape, and its management plan; Orikum-Tragjas Management Plan; Butrinti National Park Management Plan.

On the basis of the specific geographical and ecological aspects of the study area described in paras. 2.1 to 2.9, and considering the available legal instruments analysed by paras. 3.1 to 3.3, two options for further action towards the establishment of ABMTs and an integrated ABMT system in the Otranto Strait area will be proposed in the following chapter.

4. Proposal of ABMTs in the project area

As described in chapter 2, the project area is characterized by several common peculiarities, pressures and issues that call for a transboundary and integrated management approach. The analysis of economic activities and the environmental features provides the background on drivers and pressures exerted in the coastal and offshore area and the scientific evidence available on some key aspects allows identifying the main impacts on habitats, biodiversity and the environment in general in the project area:

- overexploitation of fish stocks
- impacts on marine megafauna
- impacts on benthic habitats
- marine litter accumulation
- coastal erosion
- vulnerability to flooding.

Complementing this analysis with the spatial conservation measures in place and with the provisions from the available planning tools, a synthesis of stocktaking evidence and identification of candidate areas for ABMTs has been provided, by dividing the project areas into "spatial domains", from west to east (see Table 11). For each domain, specific management needs have been identified. The following domains have been considered:

- Italian territorial waters along the Puglian coast within 50 m depth/3 nm
- Italian territorial waters along the Puglian coast between 3 and 12 nm
- offshore area comprised of the Italian and Albanian territorial waters
- Albanian territorial waters along the coast of Vlora between 3 and 12 nm
- Albanian territorial waters along the coast of Vlora within 50 m depth/3 nm
- all areas.

Based on the evidence and conclusions from the stocktaking phase described in chapter 2 and considering the results of the analysis of the legal context and related tools available, as analysed in chapter 3, some proposals for ABMTs identification in the project area are presented in this chapter.

4.1. Approach to spatial management of the sea in the project area

As already remarked,[71] the South Adriatic Ionian Strait, which includes the project area, qualifies for an EBSA, according to the Scientific criteria for identifying ecologically or biologically significant marine areas in need of protection in open waters and deep-sea habitats, adopted within the framework of the CBD Convention. EBSAs are identified with the aim to support effective policy action by countries and competent international and regional organizations. They provide an understanding of the most ecologically and biologically important ocean areas that support healthy marine ecosystems. Criteria for EBSAs identification are provided in the following box and their assessment for the South Adriatic Ionian Strait is also provided.

[71] Supra, para. 3.3.2.

CBD scientific criteria for ecologically or biologically significant areas (EBSAs) (Annex I, Decision IX/20) and their assessment in the area of the South Adriatic Ionian Strait (dec-COP-12-DEC-22)

- Uniqueness or Rarity (High)
- Special importance for life history stages of species (High)
- Importance for threatened, endangered or declining species and/or habitats (High)
- Vulnerability, Fragility, Sensitivity, or Slow recovery (High)
- Biological Productivity (Medium)
- Biological Diversity (High)
- Naturalness (Medium)

Given that solid scientific grounds already exist, future action by Albania and Italy in the project area could follow two proposed options, based on two different levels of cooperation.

Under the first option, using the available legal tools, Albania and Italy could establish, either within or beyond their territorial seas in the Strait of Otranto, one or more ABMTs on a case-by-case basis. Such an action will provide an important contribution to the achievement of the 30 x 30 target, pursued in both the Kunming-Montreal CBD targets and the Post-2020 Barcelona Convention targets. It will also show how sub-regional initiatives can be put forward in the Mediterranean Sea area. The contents of this cooperation option are illustrated in para. 4.2.

The second option is based on a more advanced level of cooperation. The ABMTs envisaged under the first option would be included within a flexible and permanent scheme, which, through a framework agreement (hereinafter referred to as "the Agreement"), envisages the Otranto Strait area as "a single complex area", composed of a number of differentiated, but coordinated, ABMTs and consequent management zones. This more integrated cooperation option is illustrated in para. 4.2.2.2. It builds upon the first option to include the envisaged ABMTs within a permanent and flexible integration scheme. According to the second option, Albania and Italy could also establish a more integrated level of cooperation, if they deem it appropriate.

4.2. Option 1 – Use of available legal tools: ABMTs to be established or enlarged in the project area

Available legal tools can be applied to establish ABMT – or to enlarge existing ones. This can be done either in areas within national jurisdiction (AWNJ) or in areas beyond it (ABNJ).

In the project area the Parties could undertake to:

- study the possibility of establishing or enlarging one or more ABMTs in AWNJ and ABNJ, in the framework of and in cooperation with competent international organizations (GFCM, IMO, Barcelona Convention etc.)
- study the possibility of establishing or enlarging in AWNJ protected natural areas, including protected natural areas of international interest
- in the case of Albania, meet the conditions listed for the Emerald network, according to Recommendation 16/89 and Resolution No. 5 (1998) of the Standing Committee on Areas of Special Conservation Interest (ASCIs) of the Bern Convention on the Conservation of European Wildlife and Natural Habitats [72]

[72] Criteria for the identification of Areas of Special Conservation Interest under the EMERALD network: Revised Annex I to Resolution No. 4 of 1996 of the Bern Convention on endangered natural habitat types using the EUNIS habitat classification (Resolution No. 4 of 1996) and Revised Appendix 1: Species requiring specific habitat conservation measures (Resolution No. 6 of 1998).

- in the case of Albania[73] and Italy, meet the conditions listed for the Natura 2000 network, according to (i) the European Union Council Directive 92/43/EEC (Habitats Directive), including Sites of Community Importance (SCIs)/Special Area of Conservation (SACs), identified according to the lists of habitats and species indicated under Annex I and Annex II of the Habitats Directive, respectively; (ii) European Union Council Directive 79/409/EEC (Birds Directive), including Special Protection Areas (SPAs) for bird species
- exchange data, information and knowledge, as well as good practices for the management of coastal areas, in particular for the regulation of tourism, the conservation of landscape and underwater cultural heritage, the prevention of marine litter pollution and the protection of charismatic flagship species,[74] establishing a mechanism for the coordinated management of the respective coastal zones, according to Art. 27 of the Protocol on Integrated Coastal Zone Management in the Mediterranean..[75] This provision binds Parties to cooperate in activities of common interest (exchange of information on best environmental practices, definition and use of coastal zone management indicators, establishment and updating of assessments of the use and management of coastal zones, demonstration projects of integrated coastal zone management, etc.)

The following paragraphs identify some ABMTs available that could be implemented in the project area, which may be promoted independently or by the Agreement that is proposed in paragraph 4.2. For each tool the following elements are identified: the legal basis, the geographical scope, the sectors subject to regulation, the pressures the tool would help to manage, the significant elements to be protected, the possible contents of the measures, the procedure for its establishment (with the estimated duration of the procedure, assumed on the basis of the time required by the legal provisions, and on the basis of the time that has been employed in similar cases), the problematic aspects, and eventually relevant examples. The proposals are identified based on the analysis of the main drivers, pressures and environmental impacts, as well as the provisions from the management tools in place, as summarized in the table at the end of the previous chapter.

4.2.1. Protected natural areas

For the waters located within the territorial sea of Albania and Italy, the States can foresee the enlargement or the strengthening of the protection status of existing protected natural areas, as well as the establishment of new protected areas. This type of ABMT can also include the establishment or enlargement of Areas of Special Conservation Interest (ASCIs) (Emerald network) or of Sites of Community Importance (SCIs)/Special Areas of Conservation (SACs) and Special Protected Areas (SPAs) (Natura 2000 network), as well as other tools such as, for example, the Biosphere reserves under the new UN programme Man and the Biosphere (MAB).

In addition, Albania and Italy may provide for measures to be applied to the network of sites of Natura 2000 to ensure protection of the ecological corridors of protected species in the Otranto Strait, where identified by additional studies.

The Albanian Ministry of Environment and Tourism could work on the ecological network administration plan relating to existing or to be established protected

[73] Despite the fact that Albania is not yet a member State of the European Union, Albanian Law No. 81/2017 provides for the possibility of establishing as protected areas of international interest not only those under the Ramsar Convention or the Bern Convention, but also areas of interest to the European community, which include special habitat and bird conservation areas (Art. 6, 28, 29, 30, 31 and 32 of Law No. 81/2017).

[74] In this regard, particular focus will be made on the strengthening of the already existing collaboration among the Marine Protected Areas in the study area – also including the Montenegrin and Greek neighbouring areas – for monitoring and assessment of the state of the sea turtle *Caretta caretta*, in view of identification of common transboundary measures for the protection of this species.

[75] Albania is a party to the Protocol. Although Italy is not yet a party to it, the Protocol has been approved by the European Union that is a party to it (European Union Council decision of 13 September 2010, concerning the conclusion, on behalf of the European Union, of the Protocol on Integrated Coastal Zone Management in the Mediterranean to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean).

areas of European Union interest, according to Arts. 30 and 31 of the Law No. 81/2017, defining:

a) the objectives of the network;
b) the contribution of each element of the network to achieving these objectives;
c) network failures;
d) action plan to achieve the objectives.

The ecological network is formed by:

a) the central area, of European importance for the conservation of biological diversity, which includes ecosystems, habitats and natural and semi-natural landscapes;
b) corridors to improve the connection of central areas, favouring the movement of species;
c) buffer zones to support and protect the ecological network from external influences and where sustainable and ecological development is promoted within them.

Similarly, the Italian Ministry of environment can draw up further guidelines for the management of functional ecological connection areas, which are of primary importance for wild fauna and flora, according to Art. 3 of the D.P.R. No. 357/1997.

The following paragraphs illustrate how this ABMT can be used in each State.

4.2.1.1. Albania: strengthening of protection and/or extension of the Marine National Park of Porto Palermo

Legal basis: Albanian Law on protected areas, No. 81/2017.

Sectors: All.

Significant elements: As highlighted already in chapter 2, the area of Porto Palermo is reach in biodiversity. Regarding the marine habitats and species of conservation interest, the following have been observed in the area (RAC/SPA – UNEP/MAP, 2013): association with *Lithophyllum byssoides*, association with *Cystoseira amentacea* var. spicata, *Posidonia oceanica* meadows, association with *Cymodocea nodosa*. The area also hosts some fish species of international importance as rare or endangered species that require special protection and preservation of their habitats, as foreseen in several international agreements and conventions (RAC/SPA-UNEP/MAP, 2013): *Hippocampus hippocampus* – Short snouted seahorse, *Isurus oxyrinchus* – Shortfin mako, *Lamna nasus* – Porbeagle, *Rostroraja alba* – White skate, Sciaena umbra – Brown meagre, *Sphyrna zygaena* – Smooth hammerhead, *Syngnathus abaster* – Black-striped pipefish, *Umbrina cirrosa* – Shi drum, *Xiphias gladius* – Swordfish.

The marine-coastal natural ecosystem of Porto-Palermo Bay has been declared a "Natural Park" (category IV of protected areas according to IUCN classification and Art. 14 of Law No. 81/2017) with the decision of the Council of Ministers No. 557 of 29 July 2022.

Geographic scope: The present extension of the Natural Park of Porto Palermo and the surrounding areas (marine areas within national jurisdiction).

Overall objective: This ABMT foresees:

1. the strengthening of the protection status of the area from category IV ("Natural Park", regulated by Art. 19 of Law No. 81/2017) to category II ("National Park", regulated by Art. 16 of Law No. 81/2017) according to IUCN classification and Art. 14 of Law No. 81/2017; and/or
2. the extension of the geographic scope of the Marine Natural Park. Despite the absence of specific pressures in the area (see chapter 2), the enlargement of the protected area would allow creating a buffer zone around the core part of the protected area that will remain within the bay. Moreover, some of the key species of conservation interest recorded in the area are mobile and therefore would greatly benefit from a larger protected area. A proposal for the extension is presented in Figure 67.

Procedure: According to Art. 35 and 36 of the Law No. 81/2017, the approval of the modification of the protected area or its expansion is decided by the Council of Ministers, according to the proposal of the minister, and after the decision of the National Territorial Council.

The National Agency for Protected Areas which is the responsible authority for managing and monitoring the protected area, has to draw up the management plan for the area.

Management objectives: Protection of key habitat and species, restoring degraded areas, and ensuring sustainable uses by local communities. Specific management objectives to be defined through a dedicated study and consultation with local stakeholders.

Measures: Enlargement of the area for strict protection, and other sub-zones: the area of traditional and sustainable use (second level of protection), the recreation area (third level of protection), the buffer zone; the sub-zone of heritage and cultural landscape. Elaboration of a management plan, after a dedicated study and consultation with local stakeholders, the individuation of measures to monitor the ecosystem, habitats, and flora and fauna.

Issues: Possible conflicts with economic activities when strengthening the level of protection or enlarging the geographic scope of the Marine Park.

Estimated time for establishment: 10 years..[76]

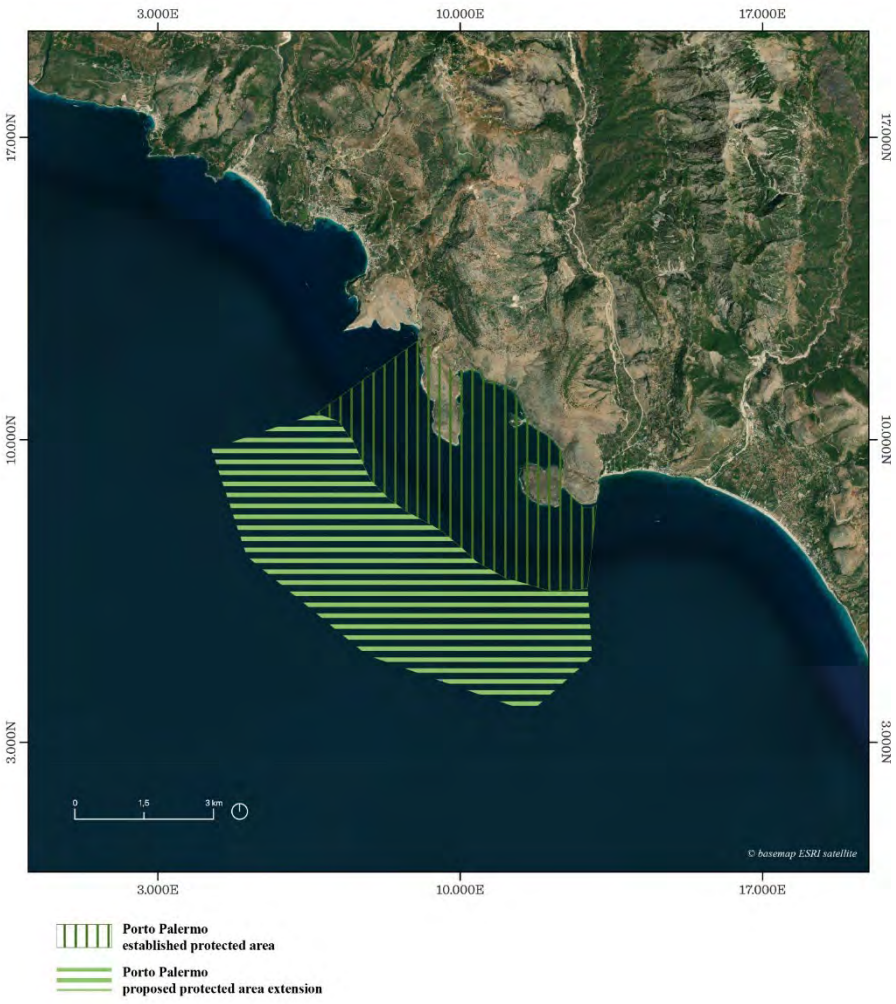

Figure 67. Proposed extension of the protected area in Porto Palermo

4.2.1.2. Italy: extension of the Marine Protected area of Torre Guaceto

Legal basis: Italian Law on protected areas, No. 394/1991 and 979/1982.

Sectors: Navigation, tourism, fishing.

Significant elements: Recently (2020), in the framework of the project MAVA (Empowering the legacy: Scaling up co-managed and financially sustainable No-Take Zones/ Marine Protected Areas), the Marine Protected Area of Torre Guaceto has worked with the stakeholders to discuss enlarging the present MPA extension to all the SAC of Torre Guaceto and Macchia San Giovanni. Through the involvement of stakeholders, new NTZs

[76] The establishment of the Porto-Palermo Bay Natural Park is the result of a participatory process that started in 2012 under the leadership of the Albanian Ministry of Environment and the National Agency for Protected Areas and ended in 2022 (source: here).

(No-Take Zones, areas in which any fishing activity is prohibited) were identified and subsequently proposed to the competent Ministry in line with European Directives (Habitats and Birds) and with the new Biodiversity Strategy 2030.

Pressures: on the coast: high touristic presence in the area; at land-sea interface: hydrological and ecological alteration of the wetland area; at sea: professional artisanal fisheries and recreational fisheries; Illegal, Unreported and Unregulated fishing (IUU).

Geographic scope: Extend the actual MPA to include and manage the already established Special Area of Conservation (SAC) of Torre Guaceto and Macchia San Giovanni (marine areas within national jurisdiction, and terrestrial areas).

Overall objective: Identify a unique protected area (see Figure 68) integrating existing protection measures in order to increase protection efficacy.

Procedure: The Minister of the Environment and Energy Security establishes the enlargement of the marine protected area according to Art. 18 of Law 394/1991, Art. 26 of Law 979/1982 and Art. 77, co. 2 of Legislative Decree 112/1998, possibly based on the proposal of the managing body of the area.

Management objectives: Regarding fisheries: reduce fishing pressure in some key areas, to support recovery of fish stocks and ultimately increase catches and revenues for small-scale fisheries in the area; increase efficiency of measures to ban IUU fishing.

Measures: Establishment of new No-Take Zones.

Issues: Lack of integration with the land part of the coast due to lack of competences of MPA management; lack of management means for the MPA (personnel, resources), complex legislative framework.

Estimated time for establishment: 3 years.

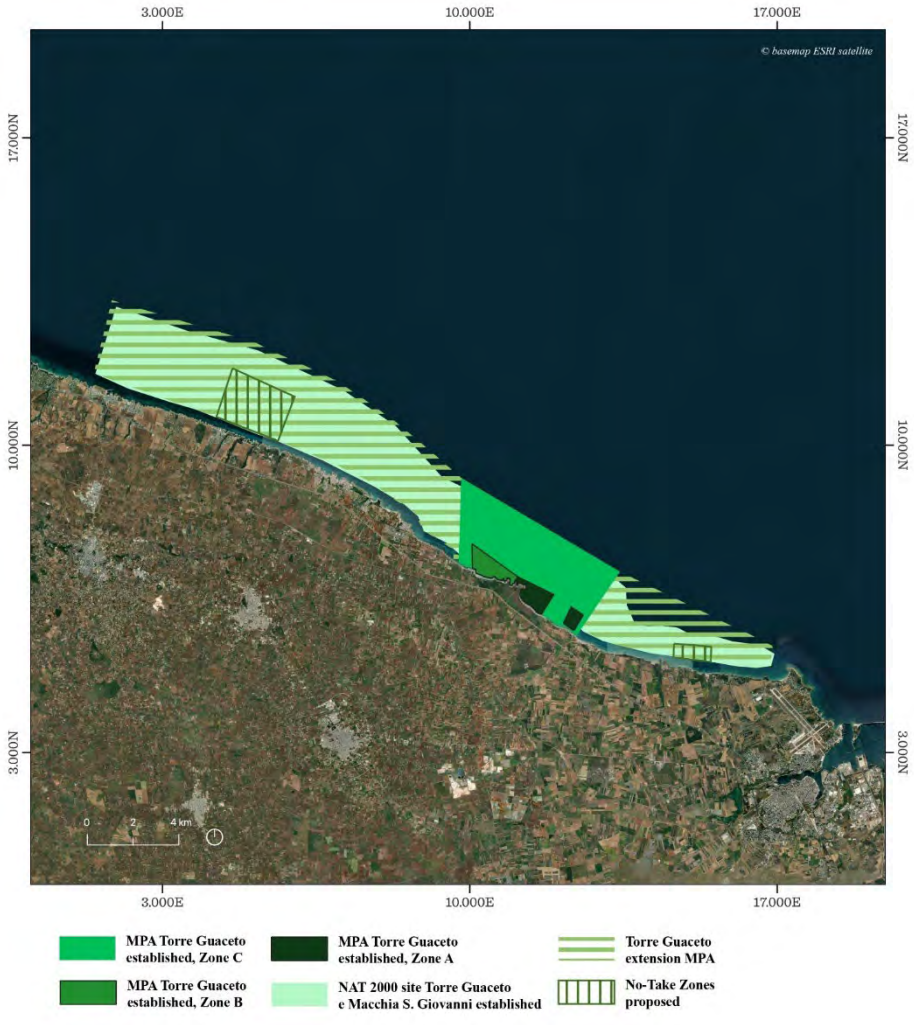

Figure 68. Proposed extension of the Marine Protected area of Torre Guaceto

4.2.1.3. Italy: designation of the Marine Protected area of Capo d'Otranto – Zinzulusa and Romanelli caves – Capo di Leuca

A procedural process is currently underway, under the Italian Ministry of Environment and Energy Security (MASE), with the support of the Italian Institute for Environmental Protection and Research ISPRA, for the establishment of the Marine Protected Area "Capo d'Otranto – Zinzulusa and Romanelli caves – Capo di Leuca. Eleven (11) coastal municipalities are intested in the designation process (Figure 69): Alessano, Andrano, Castrignano del Capo, Castro, Corsano, Diso, Gagliano del Capo, Otranto, Santa Cesarea Terme, Tiggiano and Tricase. At the same time, the Puglia region has financed, as part of the PO EMFF 2014–2020 programming, the "CORISMA" project (in which ARPA Puglia also participates) which has among its objectives to support the acquisition of detailed data in the area, to support the completion of the ISPRA technical investigations. Considering the data acquisition process is still in place, no information is available so far regarding the possible perimeter for the protected area to be established, nor on the possible conservation objectives or measures.

Figure 69. Coastal municipalities interested by the proposed designation of the Marine Protected area of Capo d'Otranto – Zinzulusa and Romanelli caves – Capo di Leuca

4.2.2. Other ABMTs

Other of area-based management tools, different from natural protected areas, could also be envisaged for the project area, following the relevant international instruments. They have the purpose of managing a given activity with the aim of achieving particular conservation and sustainable use objectives.

4.2.2.1. Fisheries Restricted Area (FRA)

Legal basis: Agreement under the General Fisheries Commission of the Mediterranean (GFCM). This proposal coincides with the proposal for a Fishery Restricted Area named *Deep water essential fish habitats and sensitive habitats in the South Adriatic* submitted to the GFCM's Subregional Committee for the Adriatic Sea in 2018 by MedReaAct on behalf of the Adriatic Recovery Project.

Sectors: Fishing.

Significant elements: EBSA under the CBD. Proposal submitted to the GFCM by MedReAct on behalf of the Adriatic Recovery Project on 31 March 2018, for the Deep-Water Essential Fish Habitats and Sensitive Habitats in the South Adriatic (GSA18). Resolution GFCM/44/2021/3 on a roadmap for the establishment of a fisheries restricted area in the southern Adriatic Sea (geographical sub-area 18). According to para. 2, "the GFCM Secretariat, with the support of relevant CPCs (Contracting Parties and Cooperating Non-contracting Parties), should support, in 2023, the implementation of the roadmap towards the establishment of an FRA in the southern Adriatic (geographical sub-area 18)". According to para. 1, "the GFCM Secretariat, with the support of relevant CPCs, should launch, in 2022, a pilot project to underpin the biology and ecology of bamboo coral in the Adriatic Sea, including a quantification of the interactions between *Isidella elongata* and bottom contact fisheries and the determination of their footprint, within the framework of the Working Group on Vulnerable Marine Ecosystems, including a session on essential fish habitats". According to para. 6, "in 2023, the SAC (Scientific Advisory Committee on Fisheries) should evaluate the possible FRA proposal in the southern Adriatic Sea and the GFCM should examine such proposal at its annual session in 2023".

According to the report of the meeting of the Sub-regional Committee for the Adriatic Sea of the GFCM (Split, Croatia, 30 May–2 June 2023), the mid-term results of work packages 3 (Analysis of available data) and 4 (Age and growth of *Isidella elongata*) have been presented. This report highlights that "the analysis of available data (2012–2020) regarding the distribution of *Isidella elongata facies*, overlapping essential fish habitats and the spatio-temporal distribution of bottom trawling fishing effort on the same areas, demonstrated the importance of obtaining new information on the actual distribution of the bamboo coral facies by means of a non-destructive method such as the ROV survey planned for August 2023. Data showed that the presence of the bamboo coral had progressively decreased in the area surveyed by the MEDITS both in terms of biomass and of age classes with the disappearance of larger individuals in the most recent hauls (2018–2020). Still, the distribution of the fishing effort (based on AIS data only) seemed to increase and to expand progressively to deeper areas and even around 1000 m in some cases. The study on the age and growth of Isidella evidenced a slow grow rate and specimens as old as 70 years – in line with results obtained elsewhere – confirming the extreme sensitivity of this species to anthropogenic disturbances as well as its low resilience".

Pressures: Pressures due to fishing on demersal fish stocks and vulnerable marine ecosystems, including nursery and spawning areas.

Geographic scope: marine areas beyond national jurisdiction, continental shelf, marine areas within national jurisdiction in the South Adriatic (Figure 70).

Overall objective: This ABMT aims to Establish a Fishery Restricted Area under the GFCM in the sea area indicated in Figure 70.

Procedure: Proposal to the GFCM Scientific Advisory Committee, for the submission to the GFCM. Recommendation of General Fisheries Commission for the Mediterranean, adopted by a two-thirds majority of Parties present and voting.

Management objectives: recovery of overexploited fish stock, minimization of impact on bottom habitats, minimization of impacts on marine mega fauna, linked to by catch.

Measures: Different zones and related prohibitions/ conditions of fishing activities: for example, prohibition in zone A; time closures in zone B/C and authorization requested; designation of landing points where catches can be landed. Monitoring, control and surveillance: the list of all landing points and the list of all authorized vessels must be communicated to the GFCM each year; fishing vessels authorized to fish must be equipped with vessel monitoring systems (VMS) or automated identification systems (AIS). Those vessels that are not authorized for fishing in such zones are allowed to transit through the FRA only if they follow some conditions: for example, if they follow a direct course at a constant speed of no less than 7 knots and are equipped with VMS or AIS active on board.

Issues: Possible repercussions on existing fishing activities

Examples: The Jabuka/Pomo Pit FRA, Bari Canyon FRA.

Estimated time for establishment: 1 year.

Figure 70. Possible geographic scope for a Fishery Restricted Area in the South Adriatic

Other ABMTs are indicated in the following paragraphs, to be possibly considered for application to the entire study area or to parts of it. Based on the information available, it has not been possible to identify a geographic scope for their application. This would require additional studies (in the case of PSSA) or other preliminary actions (in the case of SPAMI). Nevertheless, their potential relevance for the study area as management tools is confirmed based on the available information on the environmental, socio-economic and legislative features of the study area.

4.2.2.2. Particularly Sensitive Sea Area (PSSA)

Legal basis: International Maritime Organization Conventions.

Sectors: Maritime transport.

Significant elements: presence of large cetaceans and of marine megafauna in general. Evidence of the impact on these biodiversity components is still lacking in the area. There is a need for better documenting the presence of these mobile species in the area and collect evidence on the eventual the impacts due to maritime traffic: collisions, wounding, displacement, disorientation etc.

Pressures: Pollution emission, including marine litter, noise emission, risk of collision with marine megafauna.

Geographic scope: Marine areas within national jurisdiction and marine areas beyond national jurisdiction in the project area, within limits to be defined.

Procedure: Joint submission of a PSSA proposal to the IMO by Albania and Italy, together with the relevant associate protective measures (either binding or recommended). Proposal by the Italian Ministry of the Environment and Energy Security through its representative to the IMO. Proposal by the Albanian Ministry of the Environment and the Ministry of Infrastructures to the Ministry of Foreign Affairs.

Objectives: reducing ship pollution and the risk of maritime incidents.

Measures: Discharge restrictions, such as those applicable in Special Areas under MARPOL Annexes I, II, V and VI (for example, an interdiction to discharge noxious liquid substances under Annex II); ships' routeing measures (suggested or mandatory); mandatory reporting and installation of Vessel Traffic Services (VTS); equipment requirements for ships, such as oil tankers; measures on ballast water exchange; reporting on sighting of charismatic species.

Issues: Difficulty to get international support for a proposal that could affect maritime traffic in a waterway much used for international navigation. In such a context, pursuing the objectives of the MARPOL Annex II relative to the Control of pollution by noxious liquid substance in bulk would probably be easier and more feasible to be addressed.

Estimated time for establishment: 5 years.

Example: The Strait of Bonifacio PSSA.

4.2.2.3. Transboundary Specially Protected Area of Mediterranean Importance (SPAMI)

Legal basis: Barcelona Convention, Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Scope: Marine Areas within and beyond National Jurisdiction. In principle this ABMT could be applied to the entire project area, including the coastal area.

Sectors: coastal and maritime tourism, fishing, maritime transport, activities on land (e.g. agriculture, industry, presence of urban areas).

Pressures: All kinds of pressure on areas of particular natural or cultural value.

Significant elements: SPAMIs already existing in the area: Karaburun Sazan National Marine Park (Albania) and Torre Guaceto Marine Protected Area and Natural Reserve (Italy). In addition, as detailed in paragraph 4.2.1.3, a proposal for the establishment of the Marine Protected Area of Otranto – Santa Maria di Leuca is in an advanced stage of elaboration. As 11 out of the 29 Italian marine protected areas have been included subsequently in the SPAMI List, the conditions for such an inclusion should be assessed also in this specific case.

Procedure: Joint proposal by the Italian Ministry of the Environment and Energy Security and the Albanian Tourism and Environment Ministry through their respective National Focal Points to RAC SPA and submitted to the SPA/BD Protocol Parties. The decision to include the area in the SPAMI List is taken by consensus by the Parties during their periodical meetings.

Issues: It could take a long time for the elaboration and approval of the proposal. Need for a decision taken by consensus by the parties to the SPA/BD Protocol. Only the parties to the Protocol are bound by the relevant measures on the high seas.

Objectives: Protect specific habitat and species.

Measures: Management plan (mandatory).

Measures to ensure a favourable state of conservation for specified species and to protect them and their habitat from negative impacts; adoption of national strategies with the aim of progressively suppressing discards of toxic components; prohibition of 'taking' or disturbance of species; promotion, in the competent forums and after scientific evaluation, of regulations concerning the use of new fishing methods; prohibition of high-speed offshore races..[77]

Measures to monitor the area and intensify the fight against all sources of pollution, both sea- and land-based; regular meetings to ensure the application of and follow up of the measures; encouragement of national and international research programmes, as well as public awareness campaigns directed at professional and other users of the sea and non-governmental organizations relating to the communication to the competent authorities of the relevant information.

Example: The Pelagos Sanctuary.

Time: Several years.

4.2.2.4. ABMTs under the BBJN Agreement

As the Agreement under the UNCLOS on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ Agreement) has been recently adopted (June 2023), it could be envisaged to establish in the future ABMTs in the project area under the procedure set forth in Arts. from 19 to 23 of this Agreement. In fact, as illustrated by the following box, the indicative criteria for identification of areas identified under the BBNJ Agreement comprise (and integrate) the ones identified for EBSAs. Therefore, from an ecological and biological point of view, and pending the formal assessment process, the area seems to be suitable to be considered as a protected area under the BBNJ Agreement.

Indicative criteria for identification of areas identified under the BBNJ Agreement (Annex 1, A/CONF.232/2023/4)

a) Uniqueness
b) Rarity
c) Special importance for the life history stages of species
d) Special importance of the species found therein
e) The importance for threatened, endangered or declining species or habitats
f) Vulnerability, including to climate change and ocean acidification
g) Fragility
h) Sensitivity
i) Biological diversity and productivity
j) Representativeness
k) Dependency
l) Naturalness
m) Ecological connectivity
n) Important ecological processes occurring therein
o) Economic and social factors
p) Cultural factors
q) Cumulative and transboundary impacts
r) Slow recovery and resilience
s) Adequacy and viability
t) Replication
u) Sustainability of reproduction
v) Existence of conservation and management measures.

[77] This measure was specifically adopted in the Pelagos Sanctuary following the fatal accident of Stefano Casiraghi, the husband of Caroline of Monaco, during the 1990 World Offshore Championships in Monte Carlo.

However, the possibility to resort to the BBNJ Agreement seems more hypothetical than real from the practical point of view. The BBNJ Agreement is not yet in force. and some time is needed for its ratification by the required number of States (60). In addition, the BBNJ Agreement will apply to "areas beyond national jurisdiction"[78] and will consequently not be applicable in the project area, as soon as Albania and Italy decide to establish therein an exclusive economic zone.[79] Finally, with the adoption and the future entry into force of the BBNJ Agreement, it is even more likely that the few Mediterranean States (like Albania and Italy) that have not yet established an exclusive economic zone will take such a decision. The reason is that BBNJ Agreement provides for a regime of sharing of benefits arising from marine genetic resources in areas beyond national jurisdiction,[80] the same resources would fall under the sovereign rights of the coastal State, if it establishes an exclusive economic zone. This does not detract from the fact that the BBNJ Agreement can be seen as a remarkable instance of the general trend to protect the marine environment and as a further moral incentive to establish ABMTs, including marine protected areas, wherever the conditions for doing so occur and other legal instruments are available.

4.2.3. Albania: areas of interest for additional studies towards MSP and ABMTs

Based on the evidence from the stocktaking phase, some areas of particular interest for the establishment of ABMTs have been identified in the Albanian territorial waters comprised in the study area, due to their environmental and socio-economic value and peculiarities. They are:

1. the area of Vlora Bay interested by the presence of *Posidonia oceanica* meadows on the bottom;
2. the offshore area of the Karaburun peninsula, recognized as a Cetacean Critical Habitat (CCH) under ACCOBAMS (The Sazani Island – Karaburun Peninsula, Adriatic and Ionian Sea, Albania), as an area of special importance for the common dolphin and other cetaceans.

Both these two areas are crucial for a number of economic sectors: the Vlora bay area is important for tourism (boating, bathing and coastal tourism); the area offshore of the Karaburun Peninsula is intensively used for maritime traffic and fishing.

Recognizing the need to reconcile environmental protection with socio-economic sustainability, this feasibility study suggests additional studies in the context of MSP to be undertaken in these areas, focusing on cumulative effect assessment of human activities on marine habitats and species and alternative scenario analysis, in order to identify the most sustainable (environmentally, economically and socially) spatial management options. Spatial and non-spatial management measures to enhance the environmental sustainability of tourism, navigation and fishing could be considered (e.g. code of conduct for nautical activities, information activities for tourists, installation of ecological mooring systems, speed control of vessels and boats, training activities of fishers, and upgraded fishing equipment to avoid bycatch).

[78] Art. 3.

[79] Notably, the BBNJ Agreement also provides that, in case an ABMT established under it subsequently falls, either wholly or in part, within the national jurisdiction of a coastal State, "the part within national jurisdiction shall immediately cease to be in force" (Art. 22, para. 6).

[80] Part II of the BBNJ Agreement.

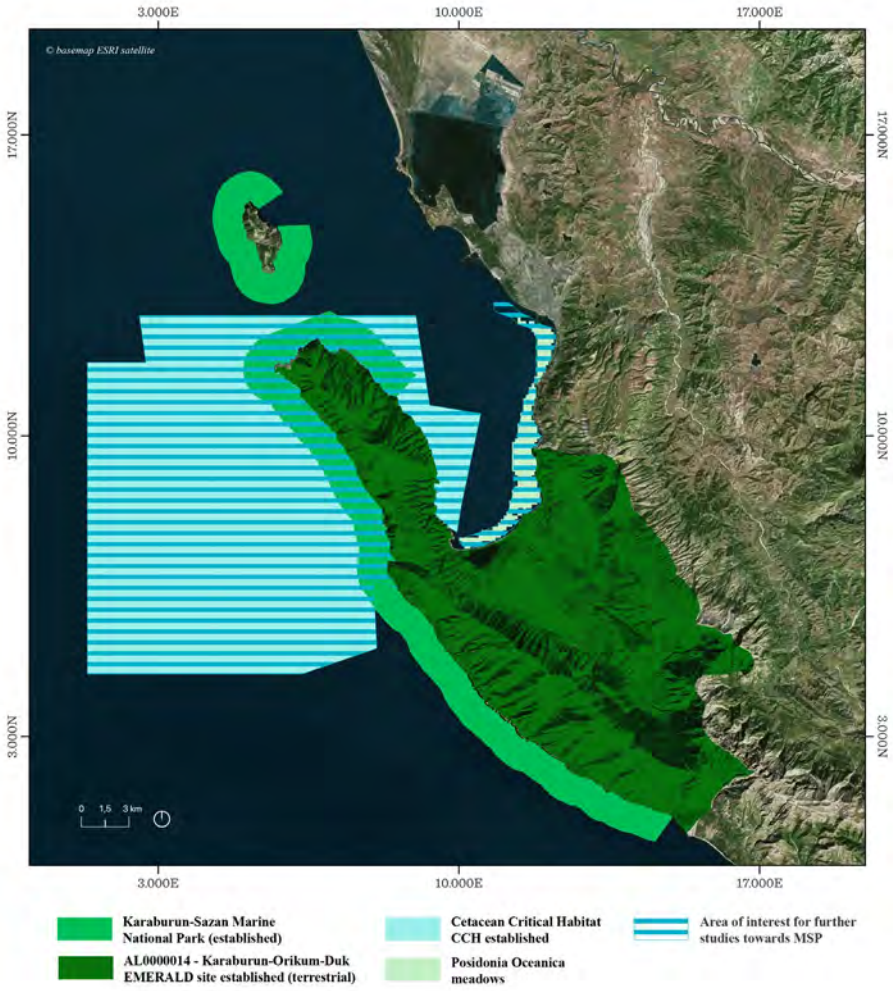

Figure 71. Areas of interest for additional studies towards MSP

4.3. Option 2 – An integrated cooperation scheme

As a second option, a more advanced level of cooperation can be considered, integrating the envisaged ABMTs within a permanent and flexible overarching scheme. This option builds upon the first one in the sense that it is suitable to include any (or all) of the ABMTs described in paragraph 4.2.

A more integrated level of cooperation could also be envisaged if Albania and Italy deem it appropriate. It would be based on a bilateral framework agreement, which envisages the Strait of Otranto area as "a single complex area", composed of a number of differentiated, but coordinated, ABMTs and consequent management zones. All the ABMTs would be involved in the integrated cooperation scheme.

A specific Agreement on the Otranto Strait Trans-boundary Area of Cooperation (OSTAC) seems the best (and, probably, the only) solution to integrate different sectoral actions, corresponding to different ABMTs and covering waters under different legal regimes, into a coherent coordination scheme. If compared to the 1999 Pelagos Agreement, the envisaged Agreement should have a broader content and a more articulated purpose, as well as stronger implementation provisions, due to the multiple and various protection objectives.

The Agreement will have as geographical scope of application the entire project area, as described in chapter 2, including the land part of the coastal zone, the portion of the two States territorial seas, as well as the

high seas waters beyond them (or the waters included in the exclusive economic zones, if they are established). With such a scope, the Agreement will allow for a holistic approach to the management of the project area, integrating the management needs of the coastal waters, of the land-sea interactions and of the marine space between the two States.

The possibility that Albania or Italy establish in the project area ecological protection zones or exclusive economic zones, in which they will exercise sovereign rights and jurisdiction for the relevant subject matters, should also be considered in the Agreement through a carefully drafted provision.

The Agreement will strengthen the ABMTs already in place in the area and provide a framework for other ABMTs to be established in the area, where there is a need to do so, according to the intervention logic illustrated in Figure 72.

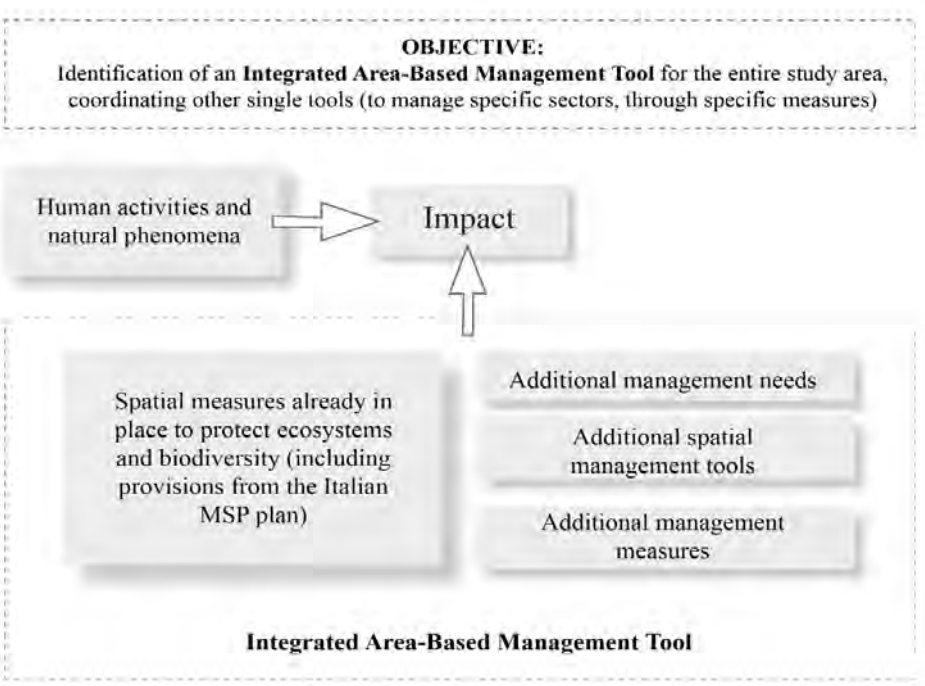

Figure 72. Diagram illustrating the intervention logic for the establishment of a set of ABMTs in the project area

The detailed composition of the Coordination body shall be defined by the Parties at a later stage, in relation to their specific needs. In general, it should be composed in such a way as to represent, in addition to the two State parties, the public bodies involved in the implementation of the management plan of the project area. The Managing entity/coordination body could be supported by, for example, a Scientific Committee or a Reserve Committee, representing the wider community with interests in the area: scientists, representatives of the civil society, economic operators and trade associations. In order to guarantee effective management of the OCTAC, it is important to involve in the management also institutions, local bodies and operators based in the territory.

The Coordination body of the OSTAC should adopt a Management plan of the entire project area. The Management plan of the OSTAC will identify objectives, measures, scope, and the authorities responsible for implementation of the measures identified for the entire Agreement area, as well as for each single ABMT. The management plan of the entire area will be updated following the adoption of the ABMTs and the relevant measures of which will be reported in the annexes to the plan. The Coordination body will monitor the implementation of the management plan.

Albania and Italy should establish equivalent sanctions for the violation of the provisions contained in the management plan and its annexes.

The future involvement in the cooperation scheme of other States in the Adriatic and Ionian sub-regions, which have an interest in the Otranto Strait for navigation, fishing or other purposes, should be carefully considered as a fruitful addition, especially when all the maritime delimitations in the area will be settled. In this broader perspective, the cooperation scheme could be included within the European Union Strategy for the Adriatic and Ionian Region (EUSAIR), based on Communications adopted by the Commission in 2012 and 2014 and followed by an Action Plan, which includes an environmental quality pillar (Grbec *et al.*, 2023).

In addition, the two States could further study the possibility to establish, with the involvement of the Puglia region and Vlora region, a European Grouping of Territorial Cooperation (EGTC), the "Otranto Strait Transboundary Area of Cooperation" (OSTAC), providing for a joint Coordination body, a management plan, and a monitoring system.

EGTCs are European Union instruments to facilitate transnational territorial cooperation, as established under a specific convention concluded by the interested institutions (for example, the International Marine Park of the Strait of Bonifacio, established by the Corsican Environmental Office, France, and the La Maddalena Archipelago National Park, Italy). The participation in an EGTC by members from third countries (e.g. Albania) neighbouring an EU member State (e.g. Italy) "should be possible where the legislation of a third country, or agreements between at least one participating Member State and a third country, so allows"..[81] An EGTC could ensure not only a strengthened integration, but also the implementation of operations supported by the European Union through the European Regional Development Fund, the European Social Fund and/or the Cohesion Fund..[82]

In particular, the OSTAC joint management body could have the function of:

- promoting the activities foreseen in the Agreement
- adopting the general management plan
- proposing the establishment or enlargement of ABMTs to competent institutions
- monitoring the compliance with the Agreement.

4.4. Overview of the possible ABTMs

The following map provides an overview of the proposed ABMTs to be applied across the entire project area (the ones that have been described in the paragraphs above and for which identification of a possible geographic scope was feasible). Other ABMTs could be identified (as described above too, such as PSSA and SPAMI), based on additional studies and initiatives.

In Table 13 the ABMTs are framed in the context of the stocktaking evidence presented in chapter 2 and the management needs consequently identified. Clearly, not all the management needs are fully targeted by the proposed ABMTs; however, the implementation of these ABMTs would greatly enhance the sustainable management of marine and coastal activities in the project area.

[81] Preambular para. 9 of Regulation 1302/2013. This could be understood in the sense that, to establish an EGTC in the Otranto Strait Area, Albania does not need to align its legislation to the EU legislation, provided that specific rules on the OCTAC are included in an agreement between Albania and Italy.

[82] See Art. 7, para. 3, of EU Regulation 1082/2006 of 5 June 2006, as amended by EU Regulation 1302/2013 of 17 December 2013. According to Art. 3a, para. 2, of the amended Regulation, "an EGTC may be made up of members located on the territory of only one Member State and of one or more third countries neighbouring that Member State, including its outermost regions, where the Member State concerned considers that EGTC to be consistent with the scope of its territorial cooperation in the context of cross-border or transnational cooperation or bilateral relations with the third countries concerned".

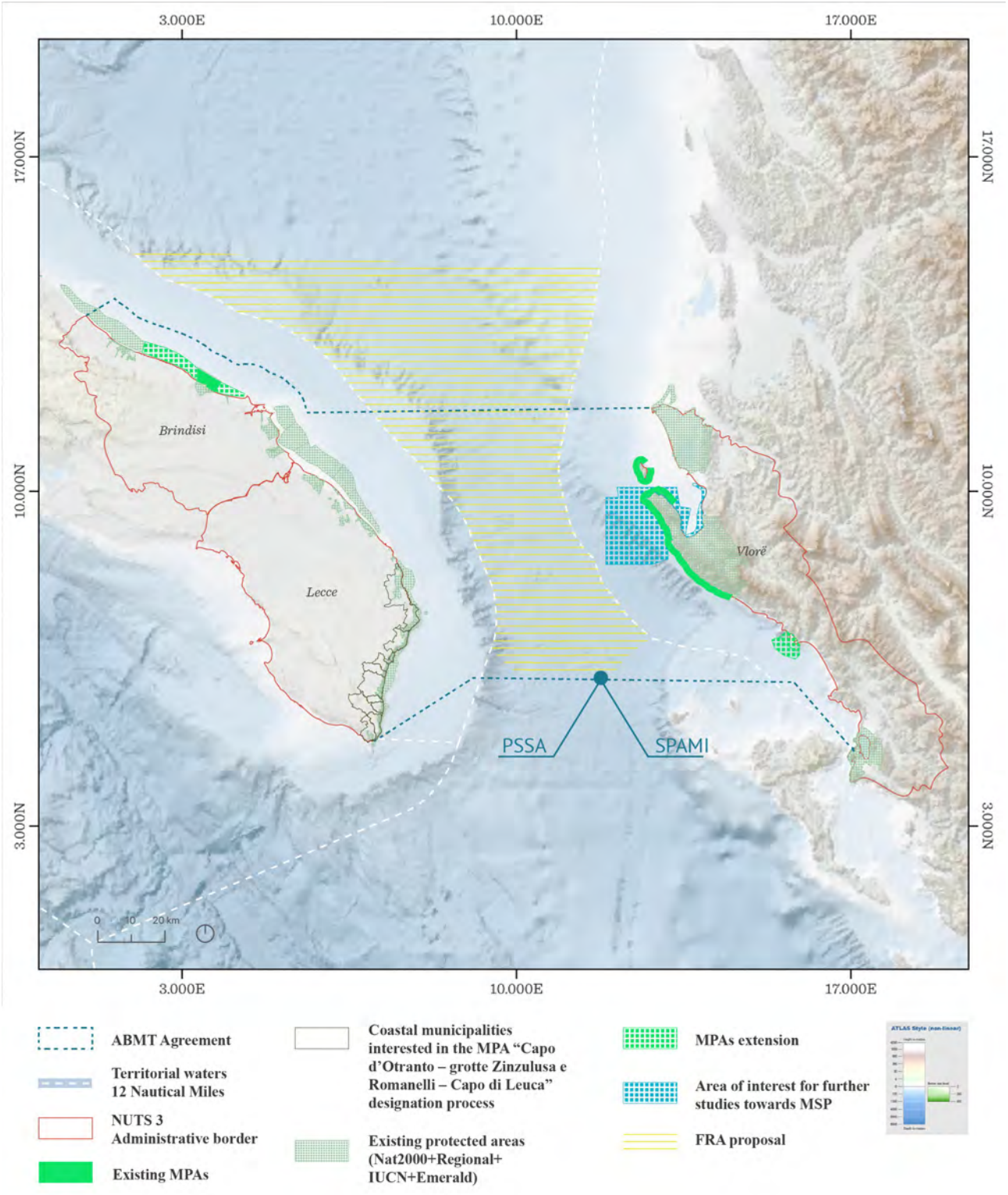

Figure 73. Map summarizing the possible identification of ABMTs in the project area. In addition to the ABMTs described in the legend of the map, PSSA and SPAMI are relevant tools to be considered too, also if a specific geographic scope for their application in the project area has not been identified in the framework of this study

Table 13. Synthesis of the proposed ABMTs as derived from the stocktaking evidence and management need in the different candidate areas

Area	Main drivers	Environmental impacts	Spatial measures in place to protect ecosystems and biodiversity	Management needs	Proposed ABTMs
Italian territorial waters[83] along the Puglian coast within 50 m depth/3 nm	Tourism (beach and nautical) Small-scale and recreational fishery (Potential aquaculture sites) Climate change	Threats to seabed habitats (including protected species: *Posidonia oceanica*, precoralligenous, coralligenous) Coastal erosion	Trawling fishery forbidden Natura 2000 sites and one MPA established along the coast GSA 18 measures	Ensure implementation of existing measures (e.g. with regard to restriction related to professional and recreational fisheries: with regard to the control of accesses to protected areas), control and monitoring Increase the extension protected natural areas Ensure integration with terrestrial planning provisions	Extension of Torre Guaceto MPA
Italian territorial waters along the Puglian coast between 3 and 12 nm	Fishing (trawling) Maritime transport (cargos and tankers)	Overexploitation of fish stocks Threats to seabed habitats Threats to megafauna Threats to underwater cultural heritage sites	GSA 18 measures	Ensure connection (continuum) and coherence between coastal and offshore areas, in relation with management measures for maritime traffic and fishing	Establishment of a PSSA could be considered
Offshore area comprised of the Italian and Albanian territorial waters	Fishing, on western margin (trawling) Maritime transport (cargos, tankers, passenger) (Potential gas exploitation sites) Telecommunication cables	Overexploitation of fish stocks Threats to seabed habitats (including protected species – deep-sea corals) Threats to megafauna (including protected species)	South Adriatic Ionian EBSA (no measures identified) GSA 18 measures Trawling forbidden in a limited portion (GFCM-FRA below 1,000 m depth)	Establish new measures to manage fishing activities (permanent closure in a core area, fishing under authorization in a buffer area, as in the proposal for the GFCM-FRA Otranto Strait) Measures to manage maritime traffic (to be identified considering speed reduction, use of dedicated corridors, code of conducts as to avoid collisions with marine megafauna, etc.)	Establishment of the GFCM-FRA Otranto Strait Establishment of a PSSA could be also considered
Albanian territorial waters along the coast of Vlora between 3 and 12 nm	Maritime transport (Fishing data missing)	Overexploitation of fish stocks Threats to megafauna (including protected species)	South Adriatic Ionian EBSA (no measures identified) CCH Sazani Island – Karaburun Peninsula (no measures identified) Ionian Archipelago IMMA (no measures identified) GSA 18 measures	Create new protected natural areas Increase knowledge on drivers/pressures/impacts	Establishment of an EMERALD area off the Karaburun peninsula, to protect cetaceans Establishment of a PSSA could be considered

[83] In this analysis internal waters are not considered

Area	Main drivers	Environmental impacts	Spatial measures in place to protect ecosystems and biodiversity	Management needs	Proposed ABTMs
Albanian territorial waters along the coast of Vlora within 50 m depth/3 nm	Tourism (under development) Aquaculture Fishing (illegal practice reported)	Threats to seabed habitats – rocky and sandy (including protected species: *Posidonia oceanica*)	South Adriatic Ionian EBSA (no measures identified) CCH Sazani Island – Karaburun Peninsula (no measures identified) Ionian Archipelago IMMA (no measures identified) Karaburun-Sazan National Park MPA Porto Palermo Marine National Park Trawling fishery forbidden GSA 18 measures	Ensure sustainable management of touristic fluxes including nautical tourism Ensure implementation of existing measures, control and monitoring (e.g. ensure respect of provisions related to fishing, contrast to illegal fishing; ensure respect of access restrictions) Create new protected natural areas Ensure integration with terrestrial planning provisions	Strengthening of protection and/or extension of the Marine National Park of Porto Palermo Establishment of an EMERALD area in the Vlora Bay to protect Posidonia
All areas				Introduction of an overarching management tool to achieve coordination and harmonization of all the measures for the entire complex project area, including the terrestrial part	Albania-Italy agreement (OSTAC) Eventually, a SPAMI could be proposed

Additional suggestions

Albania and Italy could consider enlarging the area of transboundary cooperation and open the dialogue with Greece. This would help better addressing the transboundary management of maritime and coastal activities in the area, according to the ecosystem-based approach. In fact, some important pressures have transboundary relevance (e.g. all pressures related to maritime traffic, marine litter pollution). In addition, protection of mobile species does require a more comprehensive approach.

The protection of cetaceans and other marine megafauna charismatics species (*Delphinus delphis Monachus monachus* Tursiops *truncatus*, *Monachus monachus*, *Balaenoptera physalus)* in the transboundary area of the Ionian Archipelago represents an excellent example of the need for transboundary management including areas of the Greek seas but other elements of common interest do exist in the area.

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Annex 1
Extracts from the draft Italian MSP plan for the Adriatic maritime area relative to the Adriatic Puglian waters

Specific objectives for Puglian territorial waters. Source: draft Italian MSP plan for the Adriatic maritime area. The below table has been translated from Italian to English by the authors of the present report, so the translation should not be considered as official.

Use / Sector	Code	Specific objective
Environmental and natural resource protection	(A/6)OSP_N|01	Contribute to the achievement and maintenance of the environmental objectives deriving from the marine strategy framework directive (MSFD) and the water framework directive (Dir. 2000/60/EC) also by filling the knowledge gaps present in the descriptors and providing for structural modernization and correct management of urban and industrial waste
	(A/6)OSP_N|02	Conserve, restore and monitor marine biodiversity (e.g. *Posidonia oceanica* meadows, coralligenous and deep biocoenoses, marine mammals) in line with the objectives of the Biodiversity Strategy and with the provisions of the PAF, enhancing, expanding and strengthening the system of protected areas and the Regional Ecological Network in a framework of overall ecological coherence
	(A/6)OSP_N|03	Improve the environmental quality of the coastal system by raising its ecological gradient; integrate the aspects of land-sea interaction and integrated management of the coastal strip, with particular reference to environmental and naturalistic aspects, also having regard to terrestrial habitats and species
	(A/6)OSP_N|04	Protect the marine environment from the impacts of human activity
	(A/6)OSP_N|05	Promote waste management actions found in the sea and on the beaches, through policies to combat "Marine Litter", which include better waste management, the reduction of packaging waste, the increase in recycling rates (of plastic in particular), the improvement of wastewater treatment, the promotion of waste recovery activities already dispersed
Landscape and cultural heritage	(A/6)OSP_PPC|01	Increase the degree of naturalness of the coastal system, redesign and redevelop coastal rural landscapes and historic urban waterfronts, restore coastal natural and historical-cultural places of landscape value when degraded by uncontrolled human development
	(A/6)OSP_PPC|02	Enhance the perceptive aesthetic structure of landscape and promote reciprocal and complementary relationships between inland landscapes and coastal landscapes to develop land-sea interaction and the use of cultural heritage, with particular regard to sites and cultural heritage on the coasts related to the defensive system (historic centres, castles, fortified palaces, towers, city walls), often inserted in prestigious urban and environmental contexts; prevent transformations that alter or compromise the functional, historical, visual, cultural, symbolic and ecological components and relationships that characterize and identify the structure of the regional coastal landscape
	(A/6)OSP_PPC|03	Recover dune systems, cliffs, wetlands, water basins and canals, as well as the marginal areas close to the coast and heavily degraded, and strengthen the ecological connections also through the relocation of existing infrastructures lacking landscape value and identity value
	(A/6)OSP_PPC|04	Strengthen interventions aimed at promoting slow mobility systems also for connections between the coast and the hinterland
	(A/6)OSP_PPC|05	Safeguard the great scenarios characterizing the regional image: safeguard the panoramic views of significant landscape values, characterized by particular environmental, naturalistic and historical-cultural values

Use / Sector	Code	Specific objective
	(A/6)OSP_PPC|06	Promote the protection and enhancement of coastal panoramic beauties, in compliance with the permitted uses, preserving the horizon line as a valuable element of the coastal marine landscape, also identifying maritime stretches of water as further contexts of landscape protection of coastal areas, enhancing skylines, visual cones, intervisibility of places, panoramic points and natural and anthropic visual fulcrums, main settlements, castles, towers, lighthouses and any other architectural and cultural asset, located in a privileged orographic position, from which it is possible to capture panoramic views of the landscapes characterizing the regional identity
	(A/6)OSP_PPC|07	Protect the submerged archaeological heritage also through the strengthening and adaptation of the knowledge base, the deepening of the impact assessments and the strengthening of the seabed monitoring actions correlated to the implementation of interventions (e.g. nourishment, dredging, small movements) which may have repercussions on known and potential sites
	(A/6)OSP_PPC|08	Strengthen interventions aimed at promoting and conserving in situ the underwater cultural heritage and archaeological, monumental and cultural heritage values, through the protection of context values and preserving the marine and coastal landscape to integrate the landscape dimension with the cultural one of the heritage assets
Maritime safety and security	(A/6)OSP_S|01	Increase legality and safety in sea areas and in port activities and infrastructures, also by promoting a widespread presence of the Coast Guard and other law enforcement agencies.
Coastal and maritime tourism	(A/6)OSP_T|01	Promote quality tourism focused on innovative products and on products characterized by a strong territorial imprint and which sees the achievement of high-quality standards (such as maintaining the quality status of bathing water, maintaining and respecting nature) and elements for its promotion
	(A/6)OSP_T|02	Promote the distribution of tourist flows across the entire year, through the enhancement of the hinterland and the reduction of hotspots with a high concentration of tourist flows and establish criteria based on an ecosystem approach for the use of state-owned areas for tourist and recreational purposes
	(A/6)OSP_T|03	Promote pleasure boating through establishing a network of dedicated sustainable infrastructures, promoting innovation in the shipbuilding sector and of experiential tourism on the coastal strip by protecting the landscape features of the coastal system and the architectural features of seaside cities
	(A/6)OSP_T|04	Promote the integrated development of sustainable tourism-sports activities (e.g. cycle tourism, rowing, sailing, kite-surfing, windsurfing, recreational diving) through appropriate spatial planning of the same, providing adequate infrastructural support on land (landing points, support structures, etc.) and enhancing the use of new technologies
	(A/6)OSP_T|05	Promote panoramic viewpoints as a resource for the tourist use of the area, as points from which it is possible to capture overall panoramic views of the regional landscape
	(A/6)OSP_T|06	Strengthen interventions aimed at promoting experiential tourism of the sea "from the sea", enhancing the perception of the coastal landscape from the sea with suitable transport systems (environmentally compatible propulsion systems), and through the protection of intervisibility
	(A/6)OSP_T|07	Strengthen interventions aimed at promoting underwater tourism by enhancing the use of new technologies
Fishing, including aquaculture-related aspects	(A/6)OSP_P|01	Promote the conservation and rational management of the biological resources of the sea and inland waters in compliance with the protection of the environment and marine ecosystems, also through the planning of the fishing effort, the adoption of selective fishing systems as well as the study and control of the interrelationships between the marine, lagoon, lake and river environment and fishing and aquaculture
	(A/6)OSP_P|02	Support and apply the integrated management of the coastal strip through effective governance tools (also local) of coastal resources and territories, promoting generational turnover and the adaptation of infrastructures and connected services
	(A/6)OSP_P|03	Fight illegal fishing in line with EU regulations, in particular for the protection of fish stocks in the reproduction and growth phases, also through the establishment of biological rest areas and nursery and restocking areas
	(A/6)OSP_P|04	Promote the reduction of the use of plastics, counteract ghost fishing and the spread of microplastics

Use / Sector	Code	Specific objective
	(A/6)OSP_P|05	Strengthen interventions aimed at promoting the recycling of waste products and the correct disposal of waste deriving from fishing, pleasure boating, etc.
	(A/6)OSP_P|06	Guarantee the necessary aids for the maintenance of traditional fishing systems and related equipment (traditional rush pots, fishing with "lampara", etc.) to the fishing sector throughout the area
Aquaculture	(A/6)OSP_A|01	Identify suitable areas for aquaculture (AZA) to be used for farming purposes, as well as the service spaces necessary for carrying out this activity
Coastal defence in the context on Integrated Coastal Zone Management	(A/6)OSP_DC|01	Protect the morpho-dynamic balance of coastal environments from erosion phenomena through the preparation of a cognitive framework for the phenomenon of coastal erosion in its complexity, area and temporal dimension, identification of areas at risk and predisposing factors/accidents (subsidence, solid transport, etc.), determination of the interference of the phenomenon with other processes (for example habitat loss) at the scale of the coastal Physiographic Unit
	(A/6)OSP_DC|02	Develop, on a physiographic unit scale, methodologies and intervention strategies for contrasting coastal erosion, subsidence of coastal plains and for the defence of coastal areas from flooding caused by weather-marine events, according to the population and the elements exposed as well as the existing constraints, ensuring connection with the flood risk management plan and civil protection planning
	(A/6)OSP_DC|03	The sea as a large public park: regulating the use of the areas of the maritime state property by preserving them from incongruous uses and unauthorized use, promoting purposes of free use and the development of environmentally friendly recreational tourist activities, guaranteeing the protection of the environmental, naturalistic and landscape aspects of the Puglian coast
	(A/6)OSP_DC|04	Ensure an 'active protection' of the coast to counter the ever-increasing demand for coastal soil transformation through: (i) Reward systems to encourage the adaptation of existing buildings to changes in weather and climate; (ii) Modifications to the seabed system of existing buildings to reduce interference with wave motion and coastal dynamics; (iii) Identification of areas with elements at risk (buildings, buildings, etc.) present within the maritime state property or near it; (iv) Identification of buffer zones; (v) Adoption of mechanisms for the acquisition of publicly owned areas and the relocation/withdrawal of elements at risk; (vi) Activation of pilot projects on stretches of coast (even limited ones), through economic/urban incentives aimed at restoring the natural capacity of the coast to adapt to climate change, including those caused by sea level rise; (vii) Regulation of interventions on existing or new buildings within the buffer zones; (viii) Restoration and creation of green infrastructures with strategic objectives for contrasting coastal hydrogeological instability such as coastal strips and coastal wetlands
	(A/6)OSP_DC|05	Promote the natural nourishment of the coast and the management and artificial nourishment of the coastal strip by enhancing sediments as a strategic resource and developing suitable management programmes for sediments deriving from dredging activities
	(A/6)OSP_DC|06	Promote coast contracts as voluntary planning tools aimed at pursuing, through integrated actions, both the protection and enhancement of territories and local development
	(A/6)OSP_DC|07	Promote the implementation of programmes for the reclamation of large industrial areas, the reconversion of areas in crisis/decommissioned areas and the carrying out of emergency intervention activities for the defence of the sea and coasts from pollution by hydrocarbons and other harmful substances
	(A/6)OSP_DC|08	Raising the urban quality of coastal areas, through redevelopment of seafronts and waterfronts
	(A/6)OSP_DC|09	Guarantee the conservation of the coast, also ensuring the protection of the visibility of the coast line both from the hinterland and from the sea and limiting the possibility of foreseeing new settlement loads on the coastal front outside the consolidated margins of urban settlements
	(A/6)OSP_DC|10	Promote the reduction of terrigenous inputs in the sea area
	(A/6)OSP_DC|11	Promote the transformation of fixed structures used as bathing establishments into structures that are easy to remove, in order to allow the pursuit of the objectives of protecting the significant landscape value and restoring balance during the winter season

Use / Sector	Code	Specific objective
Maritime transport and ports	(A/6)OSP_TM|01	Seizing all the opportunities offered by the establishment of the interregional ZES, guarantee the development of maritime commercial traffic involving the regional commercial port system, in the context of the TEN-T networks and international and global traffic scenarios, with a view to sustainable development
	(A/6)OSP_TM|02	Enable the development of shipbuilding activities in line with the production trends of the sector
	(A/6)OSP_TM|03	Manage the periodicity of seabed maintenance interventions functional to the activities of the commercial and tourist port system, guaranteeing the sustainable management of sediments
	(A/6)OSP_TM|04	Promote cross-border cooperation by establishing an active and long-term partnership through the improvement of multimodal connections and maritime transport
	(A/6)OSP_TM|05	Enhance the port areas through a redevelopment process, with the development of passenger and cruise ports and urban integration and application of the standards defined by MITE for green ports adapted to the various regional port realities
	(A/6)OSP_TM|06	Promote the recycling of obsolete nautical and naval units through the definition and research of new standards for the execution of activities by adopting the principles of the circular economy
	(A/6)OSP_TM|07	Promote the reduction of CO_2 and noise emissions from naval units (reduction of speed, use of non-traditional energy sources and fuels, etc.)
	(A/6)OSP_TM|08	Countering the introduction of non-indigenous species through maritime transport (biofouling and ballast water)
Energy	(A/6)OSP_E|01	Promote research in the field of sustainable exploitation of wave energy compatibly with the protection of the landscape and biodiversity
	(A/6)OSP_E|02	Promote the transformation of ports into structures with a positive energy balance, also through the production of wave energy, encouraging the reduction of CO_2 emissions and other pollutants connected to the combustion of fossils linked to port activities
	(A/6)OSP_E|03	Reconciling the protection of the marine-coastal habitat, the landscape and visual integrity with innovative forms of energy production from renewable sources (e.g. offshore wind on existing and abandoned platforms integrated with the green hydrogen production chain and similar)
Military defence	(A/6)OSP_D|01	To allow the maintenance of the military functions of some areas, reducing their conflicts with other existing uses
	(A/6)OSP_D|02	Compatibly with institutional use, promote the representative redevelopment and usability of fortifications and military sites of cultural value (e.g. Taranto Castle)

Planning Units (PU) and vocations in Puglian territorial waters. Source: draft Italian MSP plan for the Adriatic maritime area. The below table has been translated from Italian to English by the authors of the present report, so the translation should not be considered as official.

U.P.	Uses: Priority (P), Reserved, Limited (L) and Generic (G)	Motivations for typology attribution	Other uses	Considerations on other uses	Relevant environmental, landscape and cultural value elements
A/6_01	P (t, n, ppc) Priority use (P): ▪ coastal and maritime tourism ▪ protection of the environment and natural resources ▪ landscape and cultural heritage	Presence of areas with a high naturalistic and landscape vocation (SIC-ZSC-ZPS-PNG) on land and sea. High density tourist areas (municipality of Hvar). Presence of marinas (mouth Varano and mouth of Capoiale).	Uses: ▪ fishing ▪ sea transport and ports ▪ nautical tourism ▪ aquaculture ▪ other uses compatible with priority uses	Permitted fishing activities in compliance with current legislation. In the area there are shellfish farms. Presence of Italy-Montenegro power line. Shipping area (merchant, oil, passenger). Presence of areas of use for military exercises. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	On the coast and at sea there are: ▪ SAC Island and Lake Varano (IT9110001) ▪ SAC Duna and Lake Lesina (IT9110005) ▪ Gargano National Park ▪ pSIC Torre Mileto High naturalistic value for high density of species and habitats protected by the Natura2000 Directives (Habitats and Birds). Widespread presence of underwater archaeological sites (ARCHEOMAR data) and architectural of cultural interest along the coast.
A/6_02	L (n) Limited use: ▪ protection of the environment and natural resources	Presence of areas with a high naturalistic and landscape vocation (SIC-ZSC-ZP-AMP-PNG) on land and/or at sea. Biological protection area.	Uses: ▪ landscape and cultural heritage ▪ coastal and maritime tourism ▪ other uses compatible with the limited use, with particular reference to the provisions of the Regulation of Implementation and Organization of the Marine Protected Area Isole Tremiti	Very high density tourist areas. Fishing activities allowed in compliance with current legislation and regulations of protected areas and biological protection zones. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Within the UP fall: ▪ SPA "Tremiti Islands" (IT9110040); ▪ ZTB "Area Tremiti" ▪ AMP Marine Nature Reserve "Tremiti Islands" High naturalistic value for high density of species and habitats protected by the Natura 2000 Directives (Habitats and Birds). Widespread presence of submerged archaeological objects (ARCHEOMAR data).

U.P.	Uses: Priority (P), Reserved, Limited (L) and Generic (G)	Motivations for typology attribution	Other uses	Considerations on other uses	Relevant environmental, landscape and cultural value elements
A/6_03	P (t, n, ppc) Priority use: ▪ coastal and maritime tourism ▪ protection of the environment and natural resources ▪ landscape and cultural heritage	Presence of areas with a high naturalistic and landscape vocation (SIC-ZSC-ZPS-PNG) on the ground. Area with intense attendance for beach tourism with the towns of Peschici, Vieste and Mattinata, with the presence of marinas (Vieste, Peschici, Rodi Garganico and Mattinata).	Uses: ▪ aquaculture ▪ fishing ▪ nautical tourism ▪ sea transport ▪ other uses compatible with priority uses	Permitted fishing activities in compliance with current legislation. Shipping traffic area (merchant, oil, passenger). Presence of small aquaculture facilities. Use for aquaculture as long as compatible with the presence of species and habitats protected by the Habitats Directive and with the protection of submerged archaeological sites. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	On the coast there are: ▪ SPA Gargano Promontory (IT9110039) ▪ SAC Testa del Gargano (IT9110012) ▪ SAC Manacore del Gargano (IT9110025) ▪ ZSC Pineta Marzini (IT9110016) ▪ Gargano National Park High naturalistic value for high density of species and habitats protected by the Natura2000 Directives (Habitats and Birds). Presence of vast area of corals (habitat 1170) and of habitats 8330 (semi-submerged and submerged caves). The area is characterized by rocky coast with cliffs with high panoramic value and landscape. Widespread presence of underwater archaeological sites (ARCHEOMAR data) and architectural of cultural interest. Presence of sand deposits.
A/6_04	P (ppc) Priority use: ▪ landscape and cultural heritage	Presence of areas with a high naturalistic and landscape vocation on the coast. The area is characterized by the presence of rocky coast with cliffs with high panoramic value and landscape.	Uses: ▪ protection of the environment and natural resources ▪ coastal and maritime tourism ▪ aquaculture ▪ fishing ▪ nautical tourism ▪ sea transport ▪ removal of wrecked sand ▪ other uses compatible with priority uses	Permitted fishing activities in compliance with current legislation. Presence of sand deposits. Presence of large area of corals. Use for aquaculture as long as compatible with the presence of species and habitats protected by the Habitats Directive and with the protection of underwater archaeological sites. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	On the coast there are: ▪ SPA Gargano Promontory (IT9110039) ▪ SAC Testa del Gargano (IT9110012) ▪ SAC Manacore del Gargano (IT9110025) ▪ ZSC Pineta Marzini (IT9110016) ▪ Gargano National Park High naturalistic value for high density of species and habitats protected by the Natura2000 Directives (Habitats and Birds). Presence of vast area of corals (habitat 1170) and of habitats 8330 (semi-submerged and submerged caves).

U.P.	Uses: Priority (P), Reserved, Limited (L) and Generic (G)	Motivations for typology attribution	Other uses	Considerations on other uses	Relevant environmental, landscape and cultural value elements
A/6_05	P (tm) Priority use: ▪ maritime transport and ports	Presence of the Manfredonia Industrial Port. Shipping area (merchant, oil, passenger). ZES Adriatica – Port of Manfredonia. Areas with an average tourist density (municipality of Manfredonia).	Uses: ▪ aquaculture ▪ fishing ▪ nautical tourism ▪ other uses compatible with priority uses	Presence of Marina (Marina del Gargano). Presence of aquaculture facilities. Areas with an average tourist density (municipality of Manfredonia). Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Within the UP fall: ▪ SPA Gargano Promontory (IT9110039) ▪ Gargano National Park Presence of architectural sites of cultural interest. High naturalistic value for high density of species and habitats (protected by the Natura 2000 Directives (Habitats and Birds). The UP includes the contaminated site of National Interest of Manfredonia, which includes the marine area overlooking the chemical centre.
A/6_06	P (tm, p) ▪ sea transport ▪ fishing	Area with intense naval traffic (mercantile, oil and passengers). Permitted fishing activities in compliance with current legislation.	Uses: ▪ aquaculture ▪ nautical tourism ▪ other uses compatible with priority uses	Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Presence of submerged archaeological objects (ARCHEOMAR data). High naturalistic value for high density of species and habitats (protected by the Natura 2000 Directives (Habitats and Birds). Part of the area included in the EBSA (Ecologically or Biologically Significant Areas – CBD) "South Adriatic Ionian Straight".

U.P.	Uses: Priority (P), Reserved, Limited (L) and Generic (G)	Motivations for typology attribution	Other uses	Considerations on other uses	Relevant environmental, landscape and cultural value elements
A/6_07	P (t, n, ppc) Priority use: ▪ coastal and maritime tourism ▪ protection of the environment and natural resources ▪ landscape and cultural heritage	Presence of areas with a high naturalistic and landscape vocation (SIC-ZSC-ZPS-AP) on land and/or at sea. Presence of Wet Areas. Area with intense attendance for beach tourism in the town of Margherita di Savoia. Area intended for tourist-recreational diving. Present Marina of Margherita di Savoia.	Uses: ▪ aquaculture ▪ fishing ▪ nautical tourism ▪ other uses compatible with priority uses	Permitted fishing activities in compliance with current legislation. Presence of aquaculture areas and mollusc farming facilities. Use for aquaculture as long as compatible with the presence of species and habitats protected by the Habitats Directive and with the protection of underwater archaeological sites. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Within the UP fall: ▪ SAC Captaincy Wetlands (IT9110005) ▪ AP Saline di Margherita di Savoia ▪ SPA Marshes near the Gulf of Manfredonia (IT9110038) High naturalistic value for high density of species and habitats protected by the Natura2000 Directives (Habitats and Birds). Presence of Coral bottom Biocenosis, mosaic of coral and coastal debris (habitat 1170) and *Cymodocea nodosa* meadows (Habitat 1110). Presence of species protected by the Habitats and Birds Directive. Archaeological link "Porto di Salapia". Presence of submerged archaeological heritage, archaeological constraint, archaeological sites and finds (ARCHEOMAR data), architectural heritage of cultural interest declared along the coast.
A/6_08	L (d) Limited use: ▪ defence	Presence of zones of national military exercises "T -East of Foggia" and "Barletta – Foce Ofanto".	Other uses compatible with limited use	Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Mouth of the Ofanto River. Presence of corals (habitat 1170). High naturalistic value for high density of species and habitats (protected by the Natura 2000 Directives (Habitats and Birds).
A/6_09	P (t, n, ppc) Priority use: ▪ coastal and maritime tourism ▪ protection of the environment and natural resources ▪ landscape and cultural heritage	Presence of SAC. Presence of Biocenosis in *Posidonia oceanica* and the seabed in Coralligeno. Widespread presence of marinas. ZES Adriatica (Barletta Molfetta). Areas of high tourist density.	Uses: ▪ aquaculture ▪ fishing ▪ nautical tourism ▪ other uses compatible with priority uses	Permitted fishing activities in compliance with current legislation. Presence of fish farm. Use for aquaculture as long as compatible with the presence of species and habitats protected by the Habitats Directive and with the protection of submerged archaeological sites. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Within the UP falls ZSC (IT9120009) Posidonieto San Vito – Barletta. High naturalistic value for high density of species and habitats protected by the Natura 2000 Directives (Habitats and Birds). Widespread presence of archaeological sites and finds (ARCHEOMAR data). Presence of architectural heritage of cultural interest declared along the coast.

U.P.	Uses: Priority (P), Reserved, Limited (L) and Generic (G)	Motivations for typology attribution	Other uses	Considerations on other uses	Relevant environmental, landscape and cultural value elements
A/6_10	G Generic use	Various uses that share the same space in compliance with the specific rules of each use and rules of coexistence between uses.	Main uses: ▪ energy ▪ fishing ▪ aquaculture ▪ sea transport	Permitted fishing activities in compliance with current legislation. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	
A/6_11	P (tm) Priority use: ▪ maritime transport and ports	Presence of the Port of Barletta. ZES Adriatica (Barletta Molfetta).	Uses: ▪ fishing ▪ other uses compatible with priority uses	Permitted fishing activities in compliance with current legislation. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Presence of architectural heritage of cultural interest declared along the coast. Presence of site and archaeological find (ARCHEOMAR data).
A/6_12	P (n, tm) Priority use: ▪ protection of the environment and natural resources ▪ sea transport and ports	Presence of the Port of Molfetta. ZES Adriatica (Barletta Molfetta). Presence of areas with a high naturalistic vocation (ZSC). Presence of priority habitat *Posidonia oceanicae* of Biocenosis of the funds in Coralligeno.	Uses: ▪ fishing ▪ other uses compatible with priority uses	Permitted fishing activities in compliance with current legislation. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Presence of high natural value area: ▪ (SAC) Posidonieto San Vito – Barletta (IT9120009) Presence of architectural heritage of cultural interest declared along the coast of Puglia. Presence of weapons of war.
A/6_13	G Generic use	Various uses that share the same space in compliance with the specific rules of each use and rules of coexistence between uses.	Uses: ▪ energy ▪ fishing ▪ aquaculture ▪ sea transport	Permitted fishing activities in compliance with current legislation.	A portion of the area contains the established (D.M. 22/01/2009) area "Z.T.B. Off the coast of Puglia". Part of the area included in the EBSA (Ecologically or Biologically Significant Areas – CBD) "South Adriatic Ionian Straight".
A/6_14	P (tm) Priority use: ▪ sea transport and ports	Presence of the Port of Bari.	Uses: ▪ defence ▪ other uses compatible with priority uses	Presence of zones of national military exercises "Bari-Fesca". Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Presence of priority habitat *Posidonia oceanica*.

U.P.	Uses: Priority (P), Reserved, Limited (L) and Generic (G)	Motivations for typology attribution	Other uses	Considerations on other uses	Relevant environmental, landscape and cultural value elements
A/6_15	P (t, n, ppc) Priority use: ▪ coastal and maritime tourism ▪ protection of the environment and natural resources ▪ landscape and cultural heritage	Presence of areas of high natural value (SAC-AP). Presence of priority habitat *Posidonia oceanicae* in Coralligeno. Presence of habitats 8330 semi-submerged and submerged caves. Medium and high density tourist areas.	Other uses: ▪ aquaculture ▪ fishing ▪ nautical tourism ▪ other uses compatible with priority uses	Presence of ports (Cala Ponte, Monopoli, Savelletri, Torre Canne), fishing boats and pleasurePort Authority in Monopoli. Permitted fishing activities in compliance with current legislation. Use for aquaculture as long as compatible with the presence of species and habitats protected by the Habitats Directive and with the protection of submerged archaeological sites. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Presence of high natural value area: ▪ (SAC) Posidonieto San Vito – Barletta (IT9120009) Posidonieto ▪ SAC Brindisino coast (IT9140002) ▪ SAC Torre Guaceto e macchia S. Giovanni (IT9140005) Presence of the Costa Ripagnola Regional Park on land/sea. High naturalistic value for high density of species and habitats (protected by the Natura2000 Directives (Habitats and Birds). Widespread presence of submerged archaeological objects (ARCHEOMAR data). Presence of architectural heritage of cultural interest declared along the coast of Puglia.
A/6_16	P(n, tm) Priority use: ▪ protection of the environment and natural resources ▪ sea transport and ports	Presence of the Port of Monopoli ZES Adriatica. Presence of areas with a high naturalistic vocation (ZSC). Presence of priority habitat *Posidonia oceanicae* di Biocenosi dei fondali a Coralligeno.	Other uses: ▪ fishing ▪ coastal and maritime tourism ▪ other uses compatible with priority uses	Permitted fishing activities in compliance with current legislation. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI. Areas with an average tourist density.	Presence of high natural value area: ▪ (SAC) Posidonieto San Vito – Barletta (IT9120009) Presence of architectural heritage of cultural interest declared along the coast of Puglia.
A/6_17	L(n) Limited use: ▪ protection of the environment and natural resources	Presence of areas with a high naturalistic vocation (ZSC-ZPS-AMP). Presence of priority habitat *Posidonia oceanicae* of Biocenosis of the funds in Coralligeno.	Other uses: ▪ coastal and maritime tourism ▪ landscape and cultural heritage ▪ other uses compatible with limited use	Fishing activities allowed in compliance with current legislation and the regulation of the AMP Torre Guaceto. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Presence of: ▪ SAC Torre Guaceto e macchia S. Giovanni (IT9140005) ▪ SPA Torre Guaceto (IT9140008) ▪ Marine Protected Area Torre Guaceto Nature Reserve Presence of species protected by the Habitats and Birds Directive. Presence of architectural heritage of cultural interest declared along the coast of Puglia. Widespread presence of submerged archaeological objects (ARCHEOMAR data).

U.P.	Uses: Priority (P), Reserved, Limited (L) and Generic (G)	Motivations for typology attribution	Other uses	Considerations on other uses	Relevant environmental, landscape and cultural value elements
A/6_18	G Generic use	Various uses that share the same space in compliance with the specific rules of each use and rules of coexistence between uses.	Main uses: ▪ energy ▪ fishing ▪ aquaculture ▪ sea transport	Permitted fishing activities in compliance with current legislation. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI and could be the subject of a request for concession pursuant to Law 13 January 2023, n. 6 (research permit F.R40.NP).	Part of the area included in the EBSA (Ecologically or Biologically Significant Areas – CBD) "South Adriatic Ionian Straight".
A/6_19	P (tm) Priority use: ▪ sea transport and ports	Presence of the Port of Brindisi (ZES Adriatica). SIN Brindisi.	Other uses: ▪ fishing ▪ nautical tourism ▪ other uses compatible with priority uses	Permitted fishing activities in compliance with current legislation. Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Widespread presence of submerged archaeological objects (ARCHEOMAR data). High naturalistic value for high density of species and habitats protected by the Natura 2000 Directives (Habitats and Birds). The UP includes the contaminated site of National Interest of Brindisi, which includes an extensive marine portion that extends for about 5600 hectares.
A/6_20	L (d) Limited use: ▪ defence	Presence of zones of national military exercises "Capo Torre Cavallo".	Other uses: ▪ other uses compatible with limited use	Prohibition of new instances of hydrocarbon research and cultivation in agreement with the PITESAI.	Presence of ZSC – SPA Ponds and Saline Punta della Contessa (IT9140003) and Regional Park Ponds Saline Punta della Contessa. Presence of habitats and species protected by the Habitats and Birds Directive. Widespread presence of the submerged archaeological assets (ARCHEOMAR).

U.P.	Uses: Priority (P), Reserved, Limited (L) and Generic (G)	Motivations for typology attribution	Other uses	Considerations on other uses	Relevant environmental, landscape and cultural value elements
A/6_21	P (t, n, ppc) Priority use: ▪ coastal and maritime tourism ▪ environmental and natural resource protection ▪ landscape and cultural heritage	Presence of high nature value areas (ZSC-SPA-AP) on land and/or at sea. Presence of priority habitat *Posidonia oceanica* and Biocenosis of the Coralligenous seabed.	Other uses: ▪ aquaculture ▪ fishing ▪ nautical tourism ▪ other uses compatible with priority uses	Presence of a fishing-aquaculture concession area. Fishing activities allowed in compliance with current legislation. Presence of tourist ports (Casalabate, Frigole). Use for aquaculture as long as it is compatible with the presence of species and habitats protected by the habitat directive and with the protection of submerged archaeological sites. Prohibition of new requests for exploration and production of hydrocarbons in accordance with PITESAI.	Presence of: ▪ ZSC – SPA Stagni e Saline di Punta della Contessa (IT9140003) and Stagni Saline Punta della Contessa Regional Park ▪ SAC Bosco Tramazzone (IT0140001) ▪ ZSC Rauccio (IT9150006) ▪ SAC Aquatina di Frigole (IT9150003) Oriented regional nature reserve – Bosco di Cerano (EUAP0579) High naturalistic value due to the high density of species and habitats (protected by the Natura 2000 Directives (Habitats and Birds). Presence of architectural assets and architectural assets of declared cultural interest along the Puglian coast. Widespread presence of submerged archaeological assets (ARCHEOMAR data).
A/6_22	L (d) Limited use: ▪ defence	Presence of areas of national military exercises “Torre Venneri”.	Other uses: ▪ other uses compatible with priority uses	Areas with a high tourist density. Presence of tourist ports (San Cataldo). Prohibition of new requests for exploration and production of hydrocarbons in accordance with PITESAI.	The PU includes: ▪ SAC Aquatina di Frigole (IT9150003) ▪ ZSC Venneri Tower (IT9150025) ▪ ZSC/SPA Le Cesine (IT9150032) ▪ Le Cesine Nature Reserve High naturalistic value due to the high density of species and habitats (protected by the Natura 2000 Directives (Habitats and Birds). Presence of submerged archaeological assets (ARCHEOMAR data).

U.P.	Uses: Priority (P), Reserved, Limited (L) and Generic (G)	Motivations for typology attribution	Other uses	Considerations on other uses	Relevant environmental, landscape and cultural value elements
A/6_23	P (t,n, ppc) Priority use: ▪ coastal and maritime tourism ▪ environmental and natural resources protection ▪ landscape and cultural heritage	Presence of high nature value areas on land and/or at sea. Presence of priority habitat *Posidonia oceanica* (1120) and coral habitat (1170) and habitat 8330 (semi-submerged and submerged caves). Areas with a high tourist density. Presence of tourist ports (San Foca di Melendugno).	Other uses: ▪ aquaculture ▪ fishing ▪ nautical tourism ▪ other uses compatible with priority uses	Fishing activities allowed in compliance with current legislation. Use for aquaculture as long as it is compatible with the presence of species and habitats protected by the habitat directive and with the protection of submerged archaeological sites. Prohibition of new requests for exploration and production of hydrocarbons in accordance with PITESAI.	The PU includes: ▪ ZSC Le Cesine (IT9150032) ▪ SPA le Cesine (IT91500014) ▪ ZSC Alimini (IT9150011) ▪ ZSC Torre dell'Orso (IT9150004) High naturalistic value due to the high density of species and habitats (protected by the Natura 2000 Directives (Habitats and Birds). Presence of submerged archaeological assets (ARCHEOMAR data). Presence of architectural assets of declared cultural interest along the Puglian coast.
A/6_24	P(tm) Priority use: ▪ maritime transport and ports	Presence of the Port of Otranto Vessel traffic area (merchant, oil, passengers).	Other uses: ▪ fishing ▪ coastal and maritime tourism ▪ nautical tourism ▪ other uses compatible with priority uses	Fishing activities allowed in compliance with current legislation. Prohibition of new requests for exploration and production of hydrocarbons in accordance with PITESAI.	Presence of high nature value areas: ▪ ZSC Alimini (IT9150011) Presence of priority habitat *Posidonia oceanica* (1120) and coralligenous habitat (1170). Presence of submerged archaeological assets (ARCHEOMAR data). Presence of architectural assets of declared cultural interest along the Puglian coast.

U.P.	Uses: Priority (P), Reserved, Limited (L) and Generic (G)	Motivations for typology attribution	Other uses	Considerations on other uses	Relevant environmental, landscape and cultural value elements
A/6_25	P (ppc) Priority use: ▪ landscape and cultural heritage	The area is characterized by the presence of a rocky coast with cliffs with high panoramic and landscape value. Presence of priority habitat *Posidonia oceanica* (1120) and coral habitat (1170) and of 8330 semi-submerged and submerged cave habitats. Presence of areas of high natural value (SAC--AP) on the coast and at sea. Area with medium and high tourist density.	The area is characterized by the presence of a rocky coast with cliffs of high panoramic and landscape value. Presence of priority habitat *Posidonia oceanica* (1120) and coralligenous habitat (1170) and of habitats 8330 semi-submerged and submerged caves. Presence of high nature value areas (SAC-AP) on the coast and at sea Area with medium and high tourist density.	Fishing activities allowed in compliance with current legislation. Prohibition of new requests for exploration and production of hydrocarbons in accordance with PITESAI.	The area is characterized by the presence of a rocky coast with cliffs of high panoramic and landscape value. Presence of: ▪ ZSC Costa Otranto S. Maria di Leuca ▪ Costa Otranto S. Maria di Leuca Regional Natural Park High naturalistic value due to the high density of species and habitats (protected by the Natura 2000 Directives (Habitats and Birds). Part of the area is included in the EBSA (Ecologically or Biologically Significant Areas – CBD) "South Adriatic Ionian Straight". Presence of submerged archaeological assets (ARCHEOMAR data).
A/6_26	P (t, n, ppc) Priority use: ▪ coastal and maritime tourism ▪ environmental and natural resource protection, landscape and cultural heritage	Presence of high nature value areas (ZSC-AP) on land and/or at sea. Presence of priority habitat *Posidonia oceanica* (1120) and coralligenous habitat (1170) and of habitat 8330 (semi-submerged and submerged caves). Areas with a high tourist density, with a widespread presence of marinas.	Other uses: ▪ aquaculture ▪ fishing ▪ nautical tourism ▪ maritime transport ▪ other uses compatible with priority uses	Presence of a fishing-aquaculture concession area. Fishing activities allowed in compliance with current legislation. Use for aquaculture as long as it is compatible with the presence of species and habitats protected by the habitat directive and with the protection of submerged archaeological sites. Prohibition of new requests for exploration and production of hydrocarbons in accordance with PITESAI.	Presence of: ▪ ZSC Costa Otranto S.M. of Leuca(IT9150002) ▪ Otranto-SM Leuca regional park (land) High naturalistic value due to the high density of species and habitats (protected by the Natura 2000 Directives (Habitats and Birds). Presence of submerged archaeological assets (ARCHEOMAR data). Presence of architectural assets of declared cultural interest along the Puglian coast.

Annex 2
Examples of ABMTs implemented in other areas

The Pelagos Sanctuary

A SPAMI that presents a transboundary character is the Pelagos Sanctuary for marine mammals, established under an Agreement signed in Rome in 1999 by France, Italy and Monaco. This is the first treaty ever concluded with the specific objective of establishing a protected area for marine mammals. It entered into force on 21 February 2002 and is also believed to be the first example of a high seas marine protected area in the world. However, considering that, since the adoption of the Agreement, France has established an exclusive economic zone and Italy has established an ecological protection zone, the high seas that are in the Pelagos Sanctuary are today reduced to the waters above the Monegasque continental shelf.

The Sanctuary extends for about 96,000 km^2 of waters located between the continental coasts of the three State parties and the islands of Corsica (France) and Sardinia (Italy). It encompasses waters having the different legal condition of maritime internal waters, territorial sea, ecological protection zone (in the case of Italy) exclusive economic zone (in the case of France) and high seas.

The parties to the Agreement undertake to adopt measures to ensure a favourable state of conservation for every species of marine mammal and to protect them and their habitat from negative impacts, both direct and indirect (Art. 4).

Moreover, the parties undertake to monitor the area and intensify their fight against all sources of pollution, both sea- and land-based. In particular, Art. 6, par. 2, provides for the adoption of national strategies with the aim of progressively suppressing discards of toxic components within the Sanctuary, by recognizing priority to those substances enumerated in Annex I to the Land-Based Protocol to the Barcelona Convention.

The parties prohibit in the Sanctuary any deliberate 'taking' (defined as "hunting, catching, killing or harassing of marine mammals, as well as the attempting of such actions") or disturbance of mammals. Non-lethal catches may be authorized in urgent situations or for in-situ scientific research purposes (Art. 7a).

As regards the question of driftnet fishing, the parties undertake to comply with the relevant international and European Union regimes (Art. 7b). This is an implicit reference to European Council Regulation No. 1239/98 of 8 June 1998, which prohibited as from 1 January 2002 the keeping on board, or the use for fishing, of one or more driftnets used for the catching of the species listed in an annex. The Parties to the Agreement undertake to exchange their views, if appropriate, in order to promote, in the competent forums and after scientific evaluation, the adoption of regulations concerning the use of new fishing methods that could involve the incidental catch of marine mammals or endanger their food resources, taking into account the risk of loss or discard of fishing instruments at sea (Art. 7 c).

The Parties also undertake to exchange their views with the objective of regulating and, if appropriate, prohibiting high-speed offshore races in the Sanctuary (Art. 9).

The parties are bound to hold regular meetings to ensure the application of and follow-up of the Agreement (Art. 12, par. 1). In this framework, they are required to encourage national and international research programmes, as well as public awareness campaigns directed at professional and other users of the sea and non-governmental organizations, relating, inter alia, to the prevention of collisions between vessels and marine mammals and the communication to the competent authorities of the presence of dead or distressed marine mammals (Art. 12, par. 2).

A management body of the Pelagos Sanctuary is, however, lacking.

Prior to 2004, each party determined its own priorities and management projects at a national level. Cooperation with the other parties was informal and occurred only

occasionally, in order to establish shared aims as part of the development of the management plan, which was adopted by the three parties in 2004. With the creation of a Permanent Secretariat in 2006, the parties began to routinely work together to implement the provisions of the management plan. The latter also takes into account actions implemented as part of other agreements and international programmes, such as ACCOBAMS, RAMOGE, and UNEP/MAP. Moreover, in 2007, three Working Groups were established in the framework of the Pelagos Sanctuary, with the view to pursuing the following goals: knowledge and means of management; communication and prevention; and governance. Among the aims of the Working Groups, there is the proposal of concrete measures that meet shared objectives and respond to practical management issues for the different scenarios, as well as the setting out of recommendations that include a summary of the aims, the forecast cost, financing, schedule and evaluation criteria. In the lack of a specific management body for the area, cooperation between the parties, also through the Working Groups, remains crucial.

As Art. 56, b, iii, of the UNCLOS specifically recognizes the coastal States' jurisdiction with regard to the protection and preservation of the environment within of coastal States within the exclusive economic zone, it seems that the parties are already entitled to enforce the rules that apply within the Pelagos Sanctuary in respect of all foreign ships to be found within its boundaries in application of the general principle *in maiore stat minus*. This, at least, is certainly true when the clear aim of those measures is protecting and preserving the natural habitat of cetaceans. Particular attention, however, must be devoted to the navigational rights of third States, as no measure may encroach the freedom of navigation that applies not only on the high seas, but also in the exclusive economic zone.

In this regard, it is of evident relevance that the inclusion of the Pelagos Sanctuary in the SPAMI List has secured recognition to the area by all the parties to the Barcelona Convention, so enlarging the number of States that are bound by the relevant measures. Moreover, the Pelagos Sanctuary is also recognized in the framework of ACCOBAMS as an important area for achieving the objectives of this agreement.

The two Permanent Secretariats of the ACCOBAMS and the Pelagos Agreement have signed a Memorandum of Understanding to formalize their partnership and harmonize efforts in the protection of those species of cetaceans that are protected under ACCOBAMS and are found within the Pelagos Sanctuary. This kind of initiative may prompt the parties to undertake further measures. For instance, France has recently enacted a legislation that prohibits, starting from 1 January 2021, the intentional approach to certain species of cetaceans within less than 100 metres in all marine protected areas, including the Pelagos Sanctuary.

The Pelagos Sanctuary, therefore, is an area that is subject, at the same time, to a trilateral treaty, two treaties specifically devoted to the protection of species (ACCOBAMS) and habitats (SPA/BD Protocol), as well as the national legislations of the bordering States. It may be added that, in 2022, the IMO Marine Environment Protection Committee agreed in principle on the proposal for the designation of a PSSA in the North-Western Mediterranean Sea to protect cetaceans from international shipping, submitted by France, Italy, Monaco, and Spain..[84] The proposal, which encompasses the two SPAMIs of the Pelagos Sanctuary and the Spanish cetacean corridor, aims at protecting cetaceans from the risk of ship collisions and ship-generated pollution and at increasing awareness of a critically important area for the fin whale and the sperm whale. Following discussion and widespread support for the proposal, a technical group was set up to review it..[85]

The Pelagos Sanctuary is an example of international cooperation to achieve environmental objectives based on the establishment of a specially protected area through the two parallel steps of a specific treaty and a SPAMI. Other layers of cooperation involving ABMTs, such as a PSSA, are likely to be added to the picture. Maritime traffic in the Pelagos Sanctuary may create dangers for certain species, like in the CAMP Otranto Project. However, unlike the CAMP Otranto Project, the Pelagos Sanctuary is intended to protect the habitat of a limited number of marine mammals species and does

[84] IMO doc. MEPC 79/10 of 9 September 2022.

[85] IMO doc. MEPC 79/15 of 8 February 2023.

not specifically address the coastal zone. Moreover, the Pelagos Sanctuary involves all the three coastal States bordering the area, which is not the case in the CAMP Otranto Project.

The Strait of Bonifacio

The Strait of Bonifacio is an international strait between the two islands of Corsica (France) and Sardinia (Italy). Its smallest width is 3.23 nm. Navigation through the strait is difficult due to the winds, currents and several minor insular formations (islands, rocks, and low-tide elevations).

The Strait of Bonifacio is the first PSSA established in the Mediterranean Sea (IMO Resolution MEPC.204(62) of 15 July 2011) and the second in the world for an international strait. Resolution MEPC.204(62) recommends a number of measures, such as use of ships' routeing, ship reporting and pilotage, which are addressed to loaded oil tankers and ships carrying dangerous chemicals or substances in bulk.

Inside the Strait of Bonifacio, which is also totally included within the Pelagos Sanctuary SPAMI, two marine protected areas have been established by France and Italy, namely, on the northern side, the *Natural Reserve of the Strait of Bonifacio* (1999)[86] and, on the southern side, the *La Maddalena Archipelago National Park* (1996).[87]

Moreover, France and Italy made use for the Strait of Bonifacio of the opportunity offered by European Union Regulation 1082/2006 on a European Grouping of Territorial Cooperation (EGTC),[88] which introduced a new instrument for cross-border cooperation; EGTCs are legal entities established through a binding cooperation convention by European Union member States, regional authorities, local authorities or bodies governed by public law, as the case may be. In addition, an EGTC may include as members one or more third States that are "neighbouring" at least of one European Union member States that is a member of the same EGTC.[89] (this implies that Albania, or public bodies of this State, could become members of an EGTC for the CAMP Otranto Project area).

On 20 December 2010, the Executive Board of *La Maddalena Archipelago National Park* approved the Convention for the Establishment of the International Marine Park of the Strait of Bonifacio (*Parc Marin International des Bouches de Bonifacio* – PMIBB).[90] On 27 January 2011, the Corsican Assembly, on behalf of the Corsican Environment Office, approved the same instrument.[91] The PMIBB and the EGTC statute were signed by representatives of the two States on 7 December 2012. The EGTC is responsible, inter alia, for adopting the management plan for the area and for it to be periodically revised on the basis of scientific findings, for proposing to the relevant authorities appropriate measures towards the strengthening of maritime safety in the strait and for implementing joint actions of maintenance and restoration of sensitive marine and terrestrial habitats.

The cooperation established by France and Italy for the Strait of Bonifacio shows how two national neighbouring protected areas, while keeping their individuality, have established an international marine park. They have resorted to a European Union particular instrument (the European Grouping of Territorial Cooperation), which could be useful also for the CAMP Otranto Project area. The measures adopted in the Strait of Bonifacio are particularly addressed towards the safety of navigation in an international strait and have involved the IMO for the adoption of a PSSA. Similar measures and procedures could be taken in consideration also for the CAMP Otranto project area. However, it should be recalled that, while being an important international seaway, for geographical reasons the Strait of Otranto is not a strait to which the UNCLOS regime of transit

[86] Ministerial Decree of 23 September 1999.

[87] Decree of the President of the Italian Republic of 17 May 1996.

[88] *Official Journal of the European Union* No. L 210 of 31 July 2006.

[89] According to Art. 3a, para. 3, of the EGTC Regulation, "third countries neighbouring a Member State, including its outermost regions, include maritime borders between the countries concerned".

[90] Deliberation of the Executive Board of *La Maddalena Archipelago National Park* No. 31 of 20 December 2010.

[91] Deliberation of the Assembly of Corsica No. 11/004 of 27 January 2011.

passage is applicable..[92] Moreover, Albania and Italy have already concluded in 2000 four memoranda of understanding relating to safety of navigation in the Southern Adriatic Sea..[93]

The Jabuka/Pomo Pit FRA

Among the FRAs established by the GFCM particularly relevant are those located in the Adriatic Sea. The Jabuka/Pomo Pit FRA was established in 2017 through Recommendation GFCM/41/2017/3.

As a basis of the measure, this instrument explicitly refers to the precautionary approach, in accordance with the 1995 Agreement for the Implementation of the Provisions of the UNCLOS relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks and the FAO Code of Conduct for Responsible Fisheries.

The establishment of the FRA followed Resolution GFCM/40/2016/2 for a midterm strategy (2017–2020) towards the sustainability of Mediterranean and Black Sea fisheries, particularly Target 4, Output 2 a) on "the promotion of the identification and establishment of new FRAs to protect priority areas within ecologically or biologically significant marine areas (EBSAs), VMEs (vulnerable marine ecosystems), etc., from harmful fishing activities, and the implementation of monitoring and control systems to ensure the efficiency of these spatial measures, also in relation to Target 3". In fact, the Jabuka/Pomo Pit is also an EBSA under the CBD.

The means through which the demersal-species protection goal is pursued in the area entails the protection of the corresponding VMEs and essential habitats, through an innovative area-based protection tool divided into different zones.

In Zone A, any professional fishing activity with bottom-set nets, bottom trawls, set longlines and traps is prohibited. In Zone B, since 2017, such fishing activities have been prohibited from 1 September to 31 October each year. Professional activities may be allowed in this zone only whether the vessel or its master is in possession of a specific authorization and historical fishing activities are demonstrated. States – either GFCM members or cooperating non-members – are required to keep a register of the fishing vessels authorized to fish in this zone. In any case, such vessels cannot fish for more than two fishing days per week, and those using otter twin trawl gear are not entitled to fish for more than one fishing day per week. In Zone C, both the above fishing activities and recreational fisheries are prohibited from 1 September to 31 October each year. It is worth noting that the relevant recommendation does not prohibit the second type of activity neither within Zone A nor Zone B. Only professional activities may be allowed in Zone C, provided that the vessel or its master is in possession of a specific authorization and that historical fishing activities in the zone are demonstrated. Also in this case, vessels must be registered in order to be allowed in the zone. Those fishing with bottom trawls are entitled to do so only on Saturdays and Sundays, from 05.00 till 22.00. Those fishing with bottom-set nets, set longlines and traps are allowed to fish only from Monday at 05.00 till Thursday at 22.00. Fishing gear on board or in use must be duly identified, numbered and marked before starting any fishing operation or navigation within the FRA.

All catches of demersal stocks can be landed only in designated landing points: to this aim, GFCM members and cooperating non-members designate landing points in which landings of demersal stocks from the Jabuka/Pomo Pit FRA are authorized.

The list of all landing points and the list of all authorized vessels must be communicated to the GFCM by 30 April each year.

Besides the area-based measures and time closures, the instrument establishing the Jabuka Pomo/Pit FRA includes certain provisions addressing monitoring. In particular, fishing vessels authorized to fish in Zone B or

[92] See *supra*, para. 1.B.

[93] Memoranda of understanding on mandatory ship reporting system in the Adriatic Sea (Adriatic Traffic), on the establishment of a common vessel traffic service in the Adriatic Sea, on the establishment of a common routing system and traffic separation scheme in Southern Adriatic Sea and on cooperation in search and rescue operations at the Adriatic Sea. All the memoranda were concluded in Ancona on 19 May 2000. In fact, the memorandum on a common routing system lists the coordinates of two "recommended courses" for ships going northward and southward. See Interreg Adrion (Adriatic-Ionian) – Slovenian Maritime Administration, *Analysis of Existing Agreements in the Field of Safety of Navigation in the Adriatic and Ionian Seas*, 2022.

C must be equipped with vessel monitoring systems (VMS) or automated identification systems (AIS). Those vessels that are not authorized for fishing in such zones are allowed to transit through the FRA only if they follow a direct course at a constant speed of no less than 7 knots and are equipped with VMS or AIS active on board.

It is also provided that GFCM members and cooperating non-members call the attention of the relevant national and international authorities in order to protect the Jabuka/Pomo Pit FRA from the impact of any activity that may jeopardize the conservation of the characteristic features of the particular habitats. These States may decide to adopt stricter measures for the vessels flying their flag.

At the time of its adoption, it was decided that the recommendation establishing the Jabuka/Pomo Pit FRA would produce effects until 31 December 2020. Direct information collected by the consultants of the present study with the GFCM confirms that the Jabuka/Pomo Pit FRA is considered one of the best examples of management for the conservation of demersal species in a transboundary area (involving Croatia and Italy). Accordingly, the Jabuka/Pomo Pit FRA has been confirmed as a 'permanent' FRA, together with all the associated management measures, at the 44th session of the GFCM (2–6 November 2021).

The Bari Canyon FRA

The 44th session of the GFCM established an FRA in the so-called 'Bari Canyon'.

Recommendation GFCM/44/2021/3 defines two zones: in Zone A professional and recreational fishing is prohibited (para. 4) and zone B is a buffer zone, where fishing with towed nets, bottom set nets and recreational fishing are prohibited (para. 5). Fishing activities with set longlines and traps may be allowed provided that the vessel and/or its master are in possession of a specific authorization and that historical fishing activities in the buffer zone are demonstrated. The CPCs shall establish a register of the fishing vessels authorized to fish in Zone B (para. 6).

The CPCs shall communicate to the GFCM Secretariat, not later than 30 April 2022 of the first year of implementation, the list of authorized vessels for 2022 and subsequently, not later than 30 April each year, the list of authorized vessels for the forthcoming year. For each vessel, the list shall contain the information detailed in Annex 2 (para. 7).

Authorized fishing vessels shall only land catch of demersal stocks at the CPCs' designated landing points. To this end, each CPC shall designate landing points in which the landings of demersal stocks from the Bari Canyon FRA is authorized. The list of such landing points shall be communicated to the GFCM Secretariat by 30 April each year starting from 2022 (para. 8).

Fishing vessels authorized to fish in Zone B shall be equipped with vessel monitoring systems (VMS) and/or automated identification systems (AIS) in correct working order, and the fishing gear on board or in use shall be duly identified, numbered and marked before starting any fishing operation or navigation in the FRA (para. 9).

Fishing vessels equipped with bottom-set nets, bottom trawls, set longlines and traps without authorization shall be allowed to transit through the FRA only if they follow a direct course at a constant speed of not less than 7 knots and are equipped with VMS and/or AIS active on board (art. 10).

The two FRAs already established in the Adriatic Sea show how many specific provisions can be adopted to regulate fishing inside ABMTs and promote the sustainable exploitation of living resources therein. Considering that a roadmap for the establishment of an FRA in the South Adriatic has been agreed by the GFCM,[94] a future FRA in the CAMP Otranto Project area seems an appropriate ABMT to strengthen the cooperation between the two bordering States (involving also third States in it) and to create a connection between the two respective coastal zones.

[94] *Supra*, para. 2.C.

FOSTERING PARTNERSHIPS ACROSS THE ADRIATIC SEA

For coastal sustainability in Albania and Italy

CAMP Otranto is the first transboundary project since the launch of the Coastal Areas Management Programme (CAMP) in 1989. The project's main objective is to test the CAMP methodology at a transboundary scale in the Otranto Strait, including marine areas within and beyond national jurisdiction which affect both Albania and Italy regardless of different natural, juridical and socio-economic conditions. By tackling coastal and marine environmental challenges in this very sensitive part of the Mediterranean basin, the project contributes to the development of sustainable coastal management, sharing know-how and modelling best practice.

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