



SUSTAINABLE PORTS IN PELAGOS SANCTUARY CONSULTANCY CALL 5

Di Majo Francesco Maria, Lanfredi Caterina, Roppo Cristiana



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PRELIMINARY SHORT TECHNICAL REPORT
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1. WORKING GROUP

The working group appointed for the Call 5 - Sustainable ports in Pelagos Sanctuary (hereinafter, for brevity "Call 5") under contracts No. 2023-10a, 10b and 10c, consists of three experts with complementary skills, namely:

- Francesco Maria di Majo, lawyer specialized in ports and shipping law, renewable energy and environmental law, former President (2016-2020) of the Port System Authority of Civitavecchia and former Vice President of Medports (francesco.dimajo@bridgelaw.it);
- Caterina Lanfredi, marine biologist, PhD in Environmental engineering, engaged in the field of cetacean conservation, particularly in the Pelagos Sanctuary area, for over 20 years (lanfredicaterina@gmail.com);
- Cristiana Roppo, lawyer with a Master degree in Environmental law, with special reference to the Pelagos Agreement and cetacean conservation (cristiana.ropo@libero.it).

The activity of Call 5 is supervised by Dr. Maxime Sebe (m.sebe@ville-bormes.fr).

2. OBJECTIVE OF CALL 5

Call 5 is focused on the topic of Sustainable ports in Pelagos Sanctuary and, in particular, in the assessment of the actual and/or potential impact of port-related activities and associated pollution on habitat quality, with a *focus* on surrounding cetacean habitats. In addition, the consultancy aims to identify recommendations for future monitoring activities and to better target specific actions to support good practices for sustainable activities of the ports within the Pelagos Sanctuary.

Given the above, the consultancy, in collaboration with the Permanent Secretariat, will contribute to the development of advisory material to raise awareness on good practices in sustainable port activities.

The work developed during the consultancy can contribute to the actions "Coexistence between marine mammals and uses of the sea" of the Management Plan and relevant Action Plan 2022-2027 (adopted through Resolution 8.1, COP8 - Rome, 15-16 December 2021), as well as some of the activities foreseen in the 2022-2023 Plan of Work (adopted through Resolution 8.2, COP8 - Rome, 15-16 December 2021). The outcomes can contribute to the preparation of the Quality Status Report (2026-2027), with special regard to following activities: assessment of the impact of tourism activities (bathing and boating) including related pollution (E-22b) and Pelagos against pollution and EcoPorts (H-271a).

In the light of the documents approved by the management bodies of several SPAMIs and taken into account the main barriers to the effective management of MPAs as identified in the COP 22 to the Barcelona Convention and its Protocols, we deem that the good practices should ultimately lead to the harmonisation of the laws and regulations of the Pelagos Agreement Parties (Vezzani, 141-170, Italian Yearbook of International Law, 2021).

3. DELIVERABLES AND TENTATIVE/FIXED DEADLINES

The Consultancy tasks under Annex 1 of the contracts, including delivery deadlines and progress *status*, are summarized in Table 1. List of Deliverables.

The planned timeline of the tasks is also reported in Figure 1. GANTT chart.

Table 1. List of Deliverables

Deliverable # (Ref. in Annex 1)	Topic of the Deliverable	Deadline (Tentative/Fixed)	Progress status
Deliverable 1 (1b)	Inventory of ports and (at least) major marinas and assessment of levels of activities that might lead to impacts, where possible, in different seasons and over time	End March 2024 (Tentative)	Ongoing
Deliverable 2 (1a)	Selection of likely impacts/activities affecting cetaceans and their habitats.	May 2024 (Tentative)	Planned
Deliverable 3 (1c)	Classify types of ports/marinas in a context of risk assessment framework (consult with Contract Service of calls 2 and 3).	End September 2024 (Tentative)	Planned
Deliverable 4 (2)	Submit a preliminary short technical report (to inform the STC16 on the ongoing work).	March 2024 (Fixed)	Delivered
Deliverable 5 (2)	Submit interim [administrative] report	May 2024 (Fixed)	Planned
Deliverable 6 (3)	Review of existing guidelines, good practices, charters for sustainable ports.	Mid July 2024 (Tentative)	Ongoing
Deliverable 7 (4)	Develop priority recommendations with a view to facilitate the adoption by the Pelagos Agreement of tailored guidelines/Charters for sustainable ports and marinas.	Mid November 2024 (Tentative)	Planned
Deliverable 8 (5)	Draft of advisory material (to be agreed with the Permanent Secretariat) to raise awareness among port authorities, shipping companies, tourism organisations and recreational boaters on good practices in sustainable port activities	End February 2025 (Tentative)	Planned
Deliverable 9 (6)	Submit draft final technical report on all deliverables (for the STC17 consideration).	End March 2025 (Fixed)	Planned
Deliverable 10 (6)	Submit final [administrative] report	June 2025 (Fixed)	Planned

GANTT CHART

2024

	1	2	3	4	5	6	7	8	9	10	11	12
Deliverable 1												
Deliverable 2												
Deliverable 3												
Deliverable 4												
Deliverable 5												
Deliverable 6												
Deliverable 7												
Deliverable 8												
Deliverable 9												
Deliverable 10												

2025

	1	2	3	4	5	6
Deliverable 1						
Deliverable 2						
Deliverable 3						
Deliverable 4						
Deliverable 5						
Deliverable 6						
Deliverable 7						
Deliverable 8						
Deliverable 9						
Deliverable 10						

Figure 1. GANTT Chart The Deliverable numbers are reported in Table 1.

3.1. Meetings attendance by Call 5 experts.

Held:

- Kick-off meeting with the Pelagos Secretariat – 21st February 2024
- Consultancy 2 meeting (to establish synergies with other consultancies) – 6th March 2024

Planned:

- Internal meeting with our assigned supervisor, Dr. Maxime Sebe, and Dr. Laurine Guonot, coordinator of the French WG on Collision – 27th March 2024
- STC16 meeting – 27th April 2024
- Consultancies meeting with the Pelagos Secretariat - May 2024

4. PROGRESS STATUS

4.1. Ongoing activities

With respect to the Deliverables reported in Table 1, this section provides details of the ongoing activities performed by the consultants to fulfil the tasks under Annex 1 of the contracts.

Deliverable 1 - Inventory of ports and (at least) major marinas and assessment of levels of activities that might lead to impacts, where possible, in different seasons and over time (trends since 2018)

The first phase of Call 5 focuses on gathering data and constructing an Inventory of Ports (IoPs) that will include all ports within the Pelagos Sanctuary. This first step is essential to the objectives of the consultancy, considering that it will allow a characterization of the existing scenario in the Sanctuary area, required to better target the future recommendations, guidelines and best practices to adopt in the area.

The IoPs will be provided as ESRI shapefile, Google Earth file (.kml) and as .csv file.

The first activity was to develop a detailed and comprehensive list of ports and marinas (hereafter called ports) within the Pelagos Sanctuary area. The list was created by consulting different data sources, starting from the list of major ports available on the official government sources (such as OpenData website of Italian Ministry of Infrastructure and Transport - Ministero delle Infrastrutture e dei Trasporti - <https://dati.mit.gov.it/catalog/dataset/porti> updated 2022), EUROSTAT database and the EU georeferenced Sources European Marine Observation and Data Network (EMODnet/Human activities data/Main Ports <https://emodnet.ec.europa.eu/en>, plan pratiques des ports) and Port System Authorities.

Due to the limited number of ports listed in these sources and the paucity of information, the list was then integrated by consulting the Italian and French pilot books (i.e. <https://www.pagineazzurre.com>, plan pratiques des ports) <https://www.calameo.com/read/0050948862774cbeg291e>.) or by accessing directly to the dedicated port webpages (i.e. Monaco ports <https://www.ports-monaco.com/it/i-porti-di-monaco/il-porto-di-fontvieille/>) and by double checking the ports presence and position on public satellite data (such as Google Earth <https://earth.google.com/>).

Once having a full list of ports, to every port the following data have been associated:

- Port Name
- Position (latitude and longitude in degrees, minutes, seconds and in decimal degrees)
- Country (Italy, France and Monaco) and region (Italy: Liguria, Toscana, Sardegna, France: Provence Alpes Côte D'Azur, Corsica and Monaco: Montecarlo).

Currently, the IoP present a list of 245 ports with 166 in Italy, 77 in France and 2 in Monaco (Figure 2 and 3).

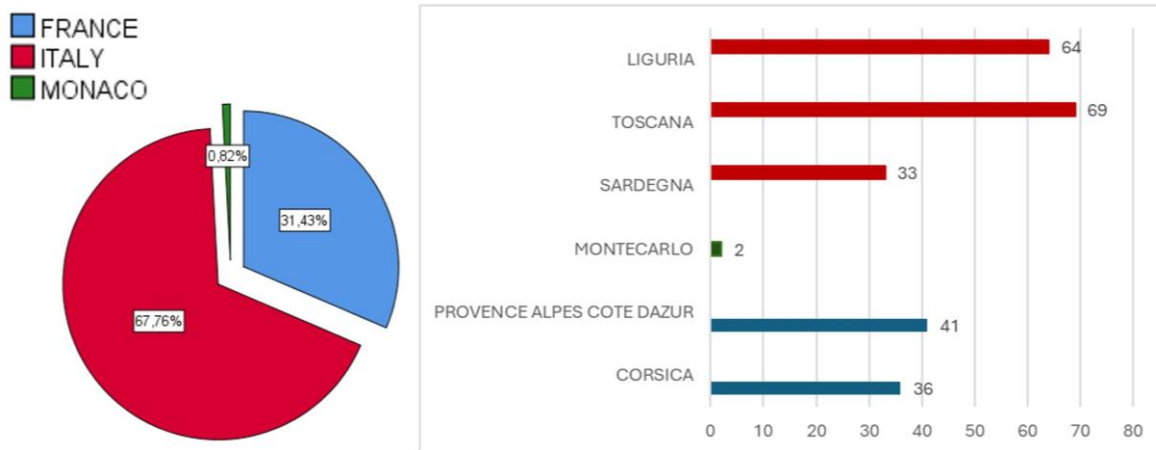


Figure 2. Port classification by Country and Region.

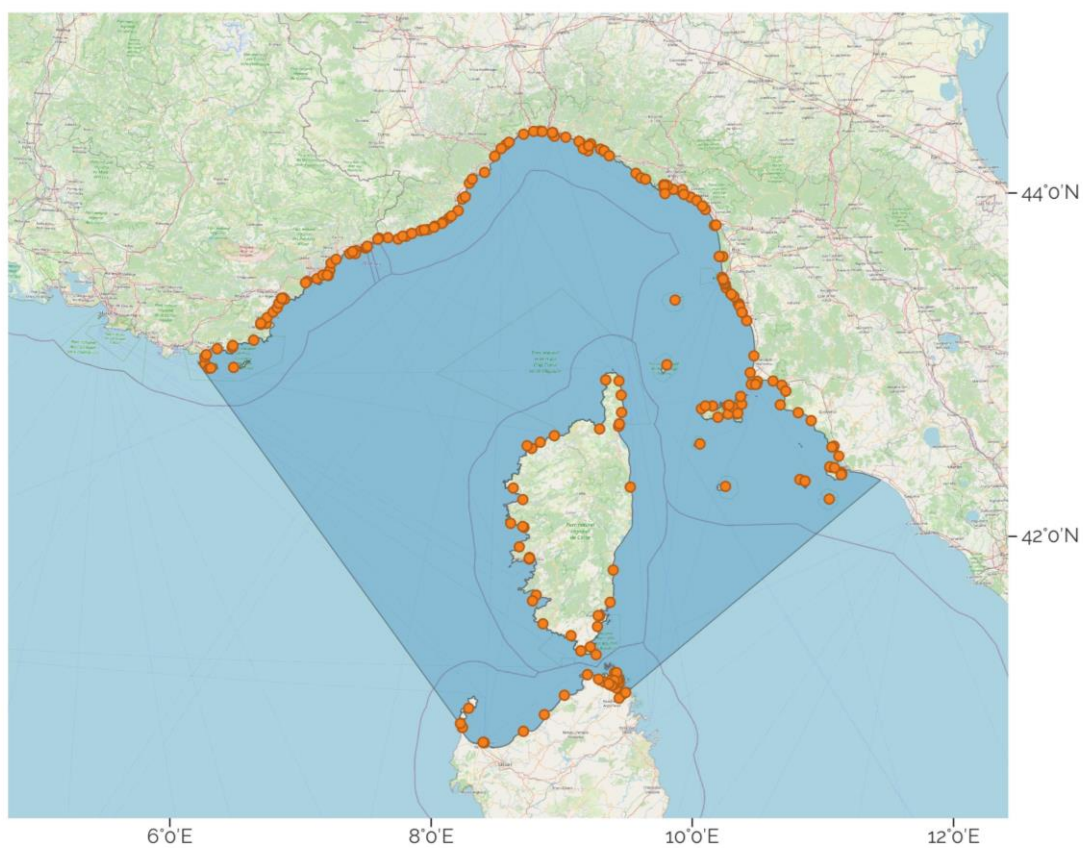


Figure 3. Georeferenced location of the ports identified within the Pelagos Sanctuary.

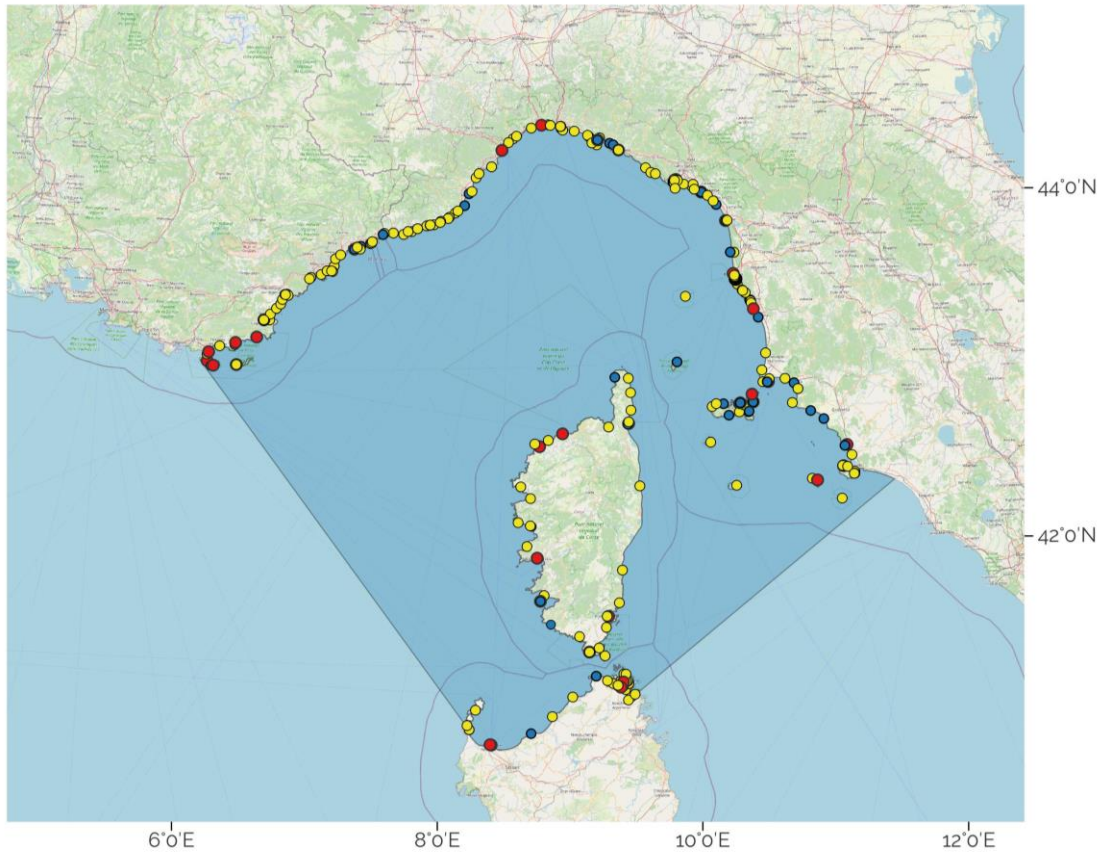


Figure 4. Classification of the ports in Commercial (red), Fishery (blue), Touristic (yellow) and Military (black).

Taking into account the information available on the ports' websites, the Port System Authorities' website and the pilot books, each port has been categorised into one of the following four macro-categories: Tourist, Commercial (Cargo or Passengers), Military and Fishing (Figure 4).

74% of the ports are dedicated to a single function (i.e. only touristic or only commercial function) while the remaining 26% serves for multiple functions.

Monaco has only marinas, while the commercial, tourist and fishing categories are represented in all French and Italian regions (Figure 5), with the tourist category more represented in all countries, but with a higher percentage in France (Provence Alpes Côte d'Azur, 41.58%). On the other hand, fishing ports are more represented in Italy (Tuscany, 11.06 %). The two military ports in the Pelagos Sanctuary are located along the Italian coast.

Among the 34 ports classified as commercial, ten support both cargo traffic (Cargo-Container and Ro-Ro) and passenger traffic (ferries, fast ferries, and cruise ships) and are Genoa, Livorno, Marina di Carrara, Piombino, Porto Torres and Vado Ligure (ITALY) and Nice, Ajaccio and Bastia (FRANCE). While the other commercial ports mainly support passenger traffic (58.8% n:20).

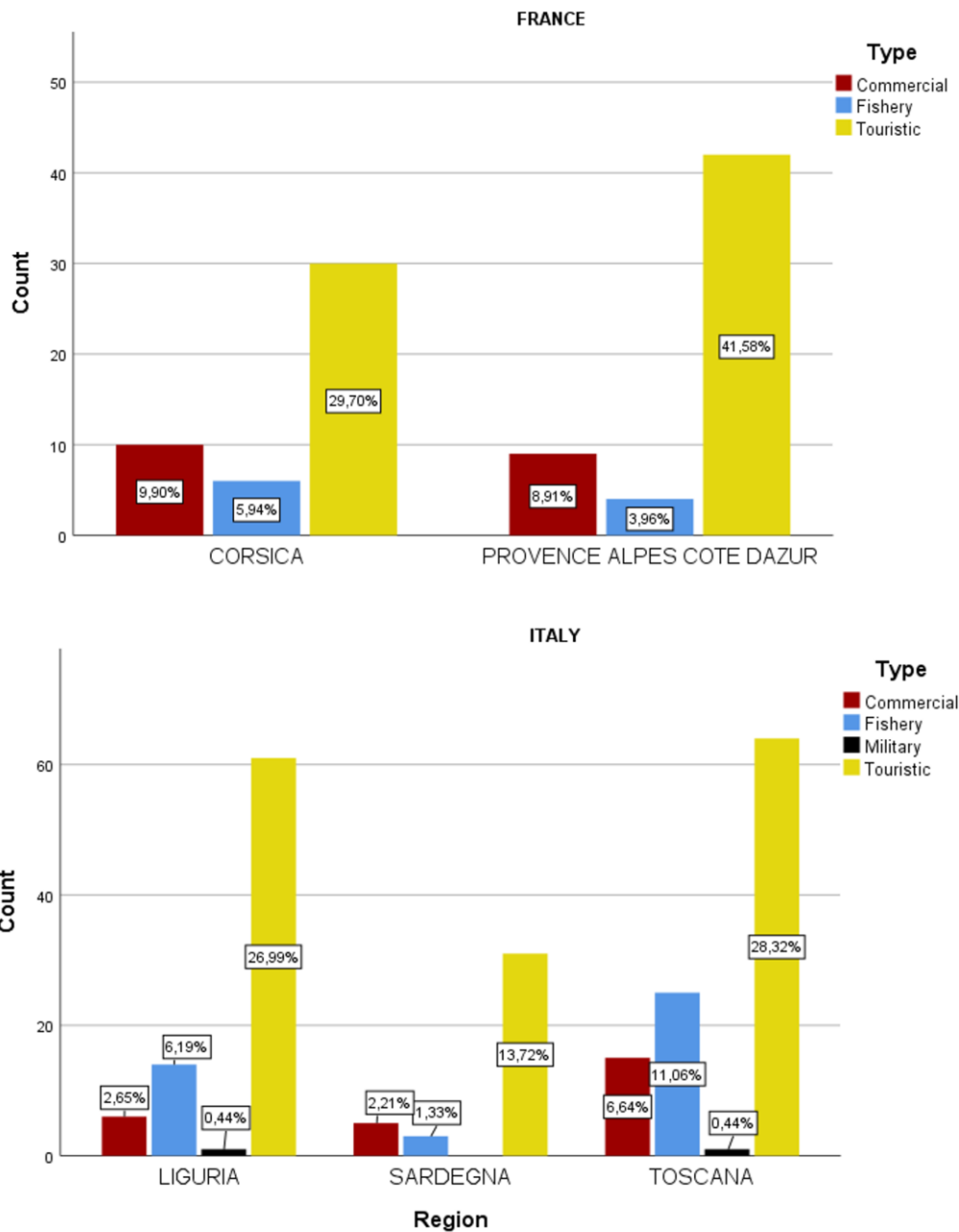


Figure 5. Port classification by macro-category and region.

To identify the most important ports, information on port capacity (number of berths) and maximum length capacity (in metre) have been associated, where available.

This activity is ongoing and new data will be integrated in the IoPs as soon as they become available.

In view of better understanding the legal and conservation *status* of the port location, the presence of Marine Protected Areas and other areas of special protection (such as Special Areas of Conservation - Habitats Directive, Specially Protected Areas of Mediterranean Importance - Barcelona Convention, national parks) has been spatially associated by means of QGIS software (Version 3.28), using spatial data extracted from the Protect Planet database <https://www.protectedplanet.net/en>.

Spatial interpolation with the data showed that 49% of ports are located in or near existing sites recognised for ecological importance (Figure 6).

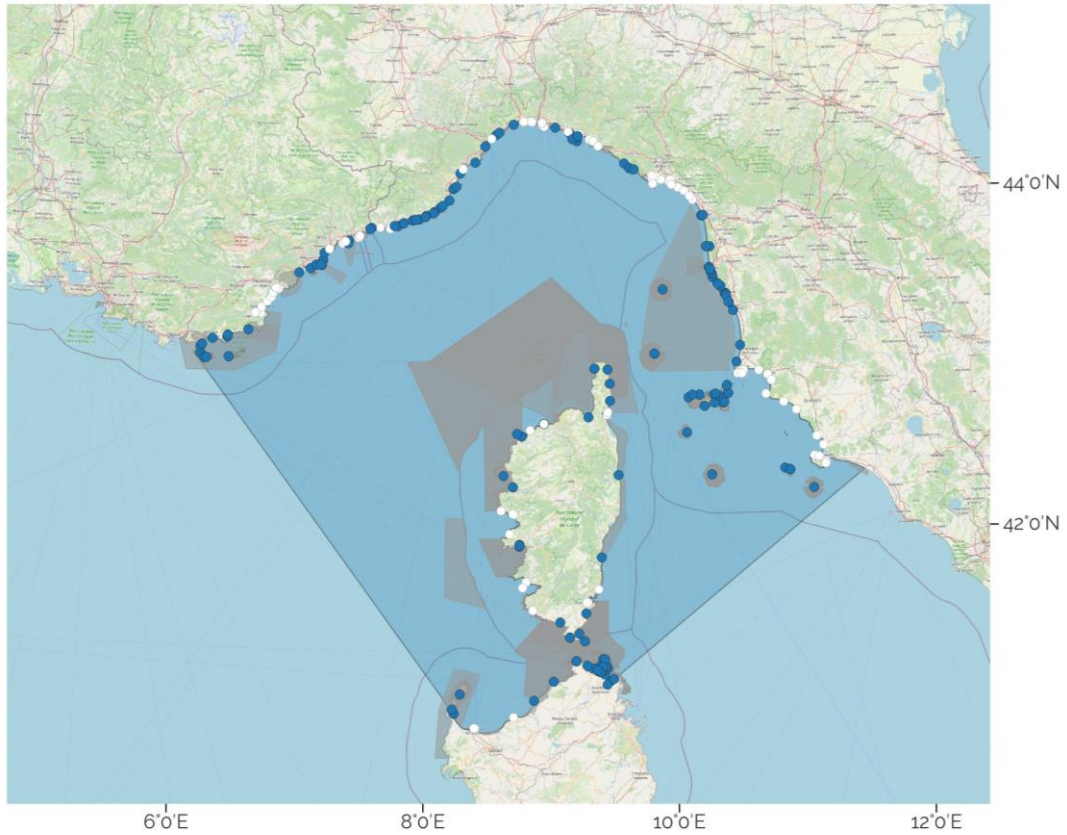


Figure 6. Classification of the ports based on the presence (blue) or absence (white) of protected site (MPA, SIC, SPAMI – in gray).

In addition, considering the spatial data (as ESRI shapefiles) made available by the Pelagos Secretariat, information on whether the Municipality where the port is located has signed the Pelagos Partnership Charter has been included. 45% of ports are located in municipalities that have adopted the Pelagos Partnership Charter (Figure 7).

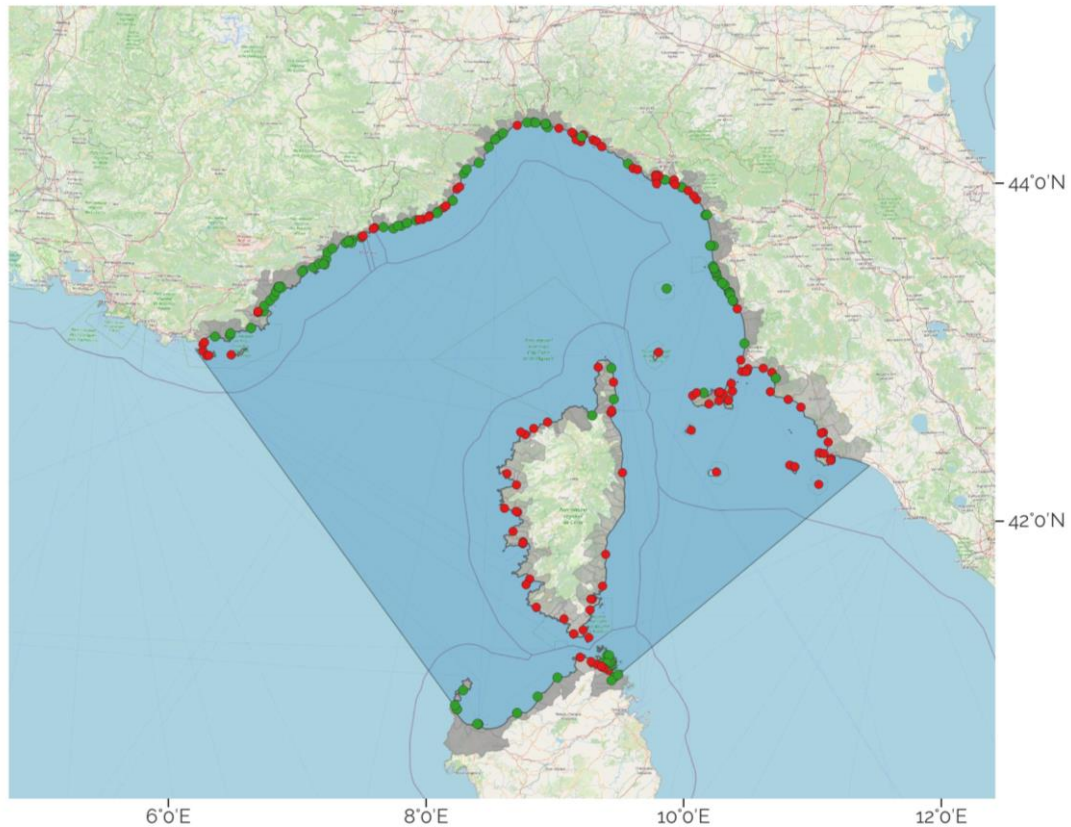


Figure 7. Classification of the ports based on the adoption of the Pelagos Partnership Charter (green) by the municipality where the ports are located (gray).

Finally, with specific reference to commercial ports the traffic statistics have been extracted by considering the available information (i.e. statistics) from public sources (i.e. Italian Port Association - Assoportiti <https://www.assoportiti.it/it/home/>, Assonautica <https://www.assonautica.it/>), Port System Authorities websites or by direct contact with the port authorities.

The time period selected for this analysis is 2019-2023 to be consistent with the work performed in Consultancy 2.

On this regard, during the data collection it was found that evidence of the vessel traffic was not available in the websites of the companies/entities that manage the tourist ports and marinas within the Pelagos Sanctuary (even those over 24 metres, which are considered ships). On the contrary, statistics on maritime traffic - including the quantity and type of goods loaded and unloaded in the ports, as well as the number of passengers embarked/disembarked, ferries and cruises - were gathered with reference to the main commercial ports of the Pelagos Sanctuary, which are managed (at least in Italy) by non-economic public entities, the Port System Authorities, who are required to publish these data.

Other sources were therefore sought and activated to retrieve data on vessel traffic to/from tourist ports, by directly contacting the companies managing these marinas (e.g. the Marinedi company which manages Porto Ercole in Tuscany and the Porto Marina di Chiavari in Liguria, <https://www.marinadichiavari.it/chi-siamo/>), as well as local/regional associations protecting the interests of various marinas, such as

the Marine Association of Tuscany, <https://marinedellatoscana.it/>). Since Liguria and Sardinia do not have a similar association, in addition to establishing direct contacts with individual marinas where appropriate, we contacted the Assonat Association, Associazione Nazionale Approdi e Porti Turistici (National Association of Tourist Marinas and Harbours), which aims to protect the interests of entrepreneurial subjects involved in the construction and/or management of tourist port facilities.

Talks are underway with all these subjects to obtain data on vessels that have sailed/called the Sanctuary's tourist ports from 2019 to 2023.

Contact will also be established with the Regional Port Authority of Tuscany, of which the port of Viareggio is a member.

Please consider that having established direct contacts with the owners of the companies and/or associations that manage these marinas is turning out to be useful insofar, as there has been wide willingness to cooperate also with regard to possible initiatives to raise awareness among recreational boating/yachting towards greater protection of the marine mammals of the Sanctuary.

Please consider that with reference to the French ports within the Pelagos Sanctuary, we are currently in the process of gathering additional data with the help of our supervisor Dr. Maxime Sebe, with whom we already exchanged several emails regarding the task. A meeting to discuss the subject is scheduled on Wednesday 27th March 2024.

This activity is ongoing and new data will be integrated in the IoPs as soon as they become available.

Deliverable 6 - Review of existing guidelines, good practices, charters for sustainable ports

Deliverable 6 aims to identify - by July 2024 - the most effective guidelines and good practices that could be shared by the Port System Authorities, together with all the relevant ports of the Pelagos Sanctuary.

As a first step we will examine the existing and available measures (voluntary or binding), such as incentive systems for shipping companies or leisure boats who'd reduce their environmental footprint or speed, also considering the ones already in place in Italy.

Regarding the reduction of plastics in the sea, we are first of all ascertaining whether initiatives similar to the one launched by the Port System Authority of the Ports of Rome in 2019 'Fishing for litter' have been carried out in the ports of the Sanctuary <https://civitavecchia.portmobility.it/it/il-progetto-fishing-litter-arriva-anche-al-porto-di-fiumicino>. This initiative involved institutional subjects (Lazio Region and Arpa) and private parties, such as Co.re.pla. (National Consortium for the collection, recycling and recovery of plastic packaging), Legambiente Lazio, together with fishermen, who are registering first-hand the increase of plastic waste in their nets. In this project, fishermen had the opportunity to collect plastic waste caught during fishing activities, sending it for recycling and thus contributing to the reduction of plastic waste in the marine environment.

These initiatives, which still appear to have only a local or regional dimension (as in the case of Lazio), could be brought to an international level by involving the three Sanctuary States.

In addition, we are taking into account the campaigns recently launched by the municipality of Genoa and other smaller ports and marinas of Liguria, aiming at mitigating the impacts of plastics and microplastics in the sea. In fact, several electric sea-bins and so-called Trash Collec'Thors have been recently installed, right in the frame of Sustainable Development goals set in the Agenda 2030.

Furthermore, we are also considering Project "SMILE" - Strategies for Marine Litter and Environmental prevention of sea pollution in coastal areas. In this case, a special vessel equipped with an automatic system that removes litter from the sea using the suction effect of the propellers has been launched in Liguria, together with the Guardia Costiera Ausiliaria Regione Liguria, in the framework of the project "Mare Pulito" taking place every summer in the coastal area between Veresimo and Capolungo.

As second step, we will consider the available measures developed in other European countries (good practices which have been recently developed in Europe for the promotion of eco-friendly commercial ports - such as Espo EcoPorts and incentive schemes for ships that go beyond EU and/or requirements) or developed in an extra European context (as like the port of Vancouver, Canada).

We will therefore investigate whether similar projects could be usefully adopted by other the ports and marinas of the Sanctuary.

4.2. Other initiatives

In order to identify initiatives, guidelines and good practice for sustainable ports, it is in our opinion important to establish a formal dialogue with the Italian Ministry of Infrastructure and Transport and, in particular, with the Department that is currently preparing, together with the Ministry of Environment and Energy Security other institutions, the Maritime Spatial Management Plans (implementing the EU Directive 2014/89).

The Maritime Spatial Planning could be described as a "*first-level instrument to the additional and pre-existing planning acts for the management of the 'marine territory', the content of which must necessarily flow into it*" (Council of State/Consiglio di Stato, sez. IV, 2 March 2020, no. 1486), and falls within the typology of "superplans".

Maritime Spatial Planning with an ecosystem-based approach is vital to ensure a sustainable balance in the long term between nature and human activities such as fishing, aquaculture, maritime transport and maritime transport and energy infrastructure such as rapidly growing offshore wind power.

To this end, we have kindly asked the Secretariat of the Pelagos Agreement to send a note to the Italian Focal point.

A draft letter has been prepared and made available for the Secretariat's convenience. In the draft letter we have also pointed out that the Technical Commission VIA-VAS, in its opinion no. 501 of August, 8th 2023 (Strategic Environmental Assessment SEA - Italian Maritime Spatial Management Plan Tyrrhenian and Western Mediterranean Sea Area) invited the MIT to integrate the Maritime Spatial Management Plan, taking into account some recommendations that also concern the Pelagos Sanctuary.

The above-mentioned SEA opinion also recalls mitigation measures concerning the impact of maritime traffic in the Pelagos Area.

4.3. Planned activities

For all the remaining required tasks, the methodology to be used by the consultant is briefly outlined below for each Deliverable and will be adapted as the work progresses.

Deliverable 2 - Selection of likely impacts/activities affecting cetaceans and their habitats and Deliverable 3 - Classify types of ports/marinas in a context of risk assessment framework

A critical and systematic review will be conducted to gather information on the potential impacts of port activities.

As a result, a classification of the impacts of touristic activities will be developed for both 1) cetacean's habitat and 2) direct impacts on marine mammals.

An impact rating will be adopted following a qualitative model approach (as adopted in similar context by Lewin et al., 2019; Carreno & Loret, 2021) for assessing the level of impact of both 1) and 2), by developing risk assessment matrices (Leopold et al., 1971, Burgman, 2005).

The following impact assessments' criteria will be considered:

- (i) severity of the potential impact;
- (ii) scale of the potential impact;
- (iii) impact probability;
- (iv) reversibility of the effects;
- (v) complexity or difficulty to mitigate the impact.

Each considered criterion is assigned a rank (high, moderate and low); finally, an overall rank is estimated as a result of all the different ranks.

The risk assessment matrices will also be used to classify and rank different activities carried out by the ports of the Pelagos Sanctuary, following the four macro-categories reported in the IoPs, *ie.* Tourist, Commercial (Cargo or Passengers).

The work will be primarily carried out by considering the scientific literature on the topic through the consultation of databases (such as ScienceDirect, SCOPUS, ISI Web of Knowledge, PubMed, Research Gate, and Google Scholar).

General keywords will be selected alone or in combination with others (*i.e.*, "boating impacts", "coastal tourism", "marine water quality", "marine mammals", "mpa").

More specific terms will be used to research for impacts (i.e., “black waters”, “noise”, “anchoring impacts”, etc.).

EU Reports on Blue Economy and Tourism, deliverables from European funded Territorial Cooperation Programmes (i.e., MED INTERREG or LIFE programs), other “gray literature” (technical reports, conference proceedings) and any documentation made available from port authorities, will be also considered and included in the review.

Although the consultancy mainly focuses on the Pelagos Sanctuary area, the review will consider the knowledge from studies carried out both in the Mediterranean and extra-Mediterranean areas.

In addition, meetings with the experts of Calls 2 and 3 will be arranged in order to share views and information.

List of references reported in the text:

Burgman, M. (2005). Risks and decisions for conservation and environmental management. Cambridge University Press.

Carreño, A., & Lloret, J. (2021). Environmental impacts of increasing leisure boating activity in Mediterranean coastal waters. *Ocean & Coastal Management*, 209, 105693.

Leopold LB, Clarke FE, Henshaw BB, Balsley JR (1971) A procedure for evaluating environmental impact. U.S. Geological Survey, Circular, Washington D. C, p. 645

Lewin, W.C., Weltersbach, M.S., Ferter, K., Hyder, K., Mugerza, E., Prellezo, R., Radford, Z., Zarauz, L., Strehlow, H.V., (2019). Potential environmental impacts of recreational fishing on marine fish stocks and ecosystems. *Reviews in Fisheries Science & Aquaculture*, 27 (3), 287–330

Deliverable 7 - Develop priority recommendations with a view to facilitate the adoption by the Pelagos Agreement of tailored guidelines/Charters for sustainable ports and marinas and

Deliverable 8 - Draft of advisory material (to be agreed with the Permanent Secretariat) to raise awareness among port authorities, shipping companies, tourism organisations and recreational boaters on good practices in sustainable port activities

The results obtained from the IoPs (Deliverable 1), Assessment of impacts (Deliverable 2), Classify types of ports/marinas in a context of risk assessment framework (Deliverable 3) and Review of existing guidelines, good practices, charters for sustainable ports (Deliverable 6) will guide the actions of Deliverable 7 and 8.

Our team will work jointly in order to prepare a detailed opinion providing the legal and scientific ground for future actions, bearing in mind that we should balance multiple priorities and interests through meaningful dialogue, shared aspirations and collective accountability.

These guidelines will also take into account the Maritime Spatial Management Plan (in compliance with EU Directive no. 89/2014).

On the basis of selected best practices (such as, but not limited to the aforementioned Fishing for litter project), a single, harmonized programme could be launched for all the Sanctuary's ports.

Therefore, drawing also inspiration from already existing initiatives, we will submit possible guidelines and best practices for sustainable port activities that could

result in a quantifiable and meaningful reduction of impacts on cetaceans and their habitat, based on the impact assessment outcomes, also evaluating their feasibility in the Sanctuary's jurisdictions.

The ultimate goal is to jointly identify possible areas of intervention and bring together all relevant stakeholders, combining multiple efforts and leveraging shared resources to achieve tangible results.