



PHAROS4MPAs

SAFEGUARDING MARINE PROTECTED AREAS IN THE GROWING MEDITERRANEAN BLUE ECONOMY: MARITIME TRANSPORT

**POLICY
BRIEF**
APRIL 2019



MARITIME TRANSPORT SECTOR & MEDITERRANEAN MPAs: INCREASING INTERACTIONS

Maritime transport is the backbone of the global economy. The sector is particularly important for the Mediterranean region – **despite covering less than 1% of the world's oceans, the Mediterranean carries about 15% of global shipping.**

The maritime transport sector is expected to grow at a rate of 4% per annum for the next decade; shipping activity in the region is growing in terms of the number of routes, traffic intensity and size of ships.

And with this growth will come increasing environmental impacts, such as chemical pollution, noise pollution and collisions with marine mammals.

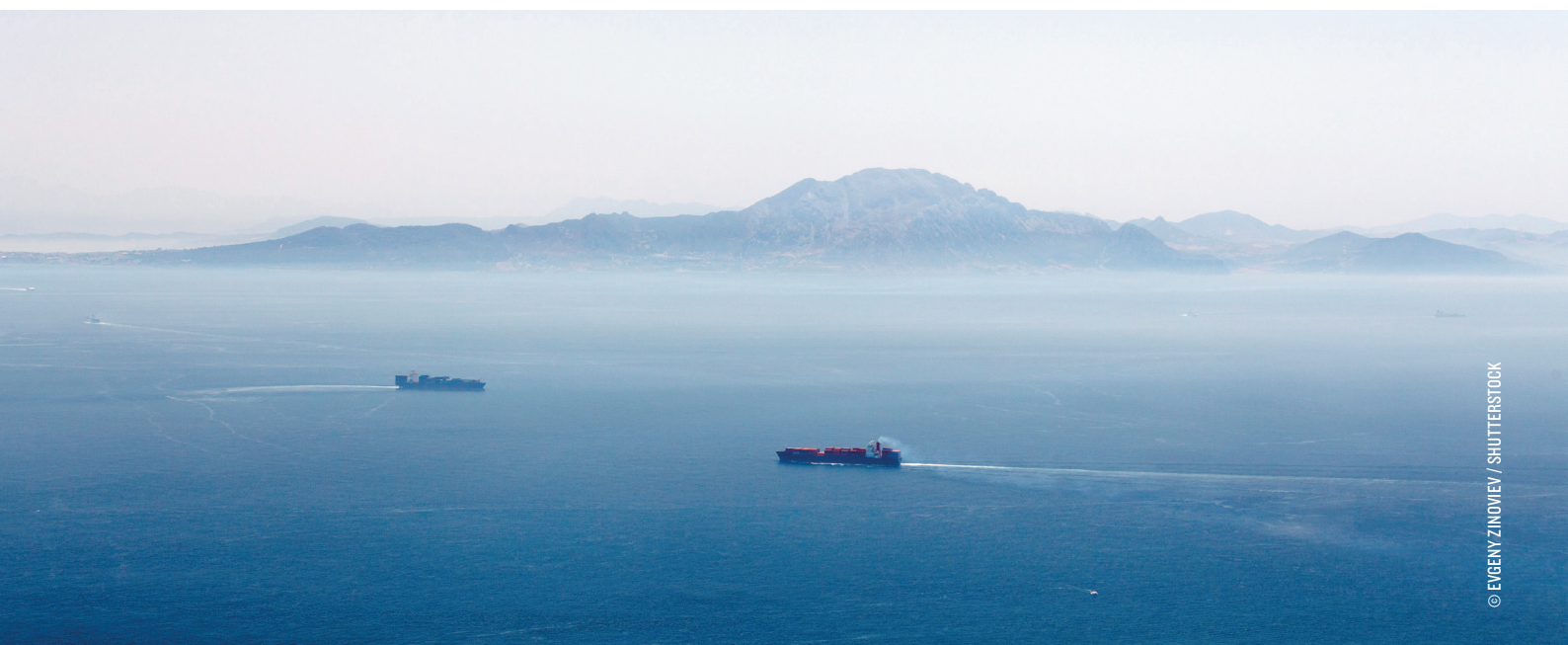
These **environmental impacts are an issue for the whole of the Mediterranean, but it's critical that they're prevented – or at least minimized – in Marine Protected Areas (MPAs)**, which by definition are areas of great importance for marine biodiversity and ecosystems.

Considering the growth of the sector, it's inevitable that major commercial traffic routes will increasingly interact with MPAs and other area-based conservation measures in some Mediterranean locations, especially where vessels are approaching ports or passing through straits.

In all MPAs, shipping activities with the most serious potential environmental impacts – such as the transport of dangerous goods or hydrocarbons – should be avoided altogether. Public authorities – from state transport agencies to port authorities – should impose a range of measures to prevent accidents and protect ecosystems.

Cross-border, sub-regional and regional cooperation are particularly important given the scales over which the sector operates. Where there are unavoidable interactions between maritime traffic and protected areas – such as in MPAs near ports and straits, or in larger MPAs like the Pelagos Sanctuary – solutions to avoid or mitigate impacts do exist, and they should be implemented to protect the precious marine resources of the Mediterranean region.

This paper illustrates the main trends shaping the maritime transport sector, identifies the impacts it has on Mediterranean MPAs, and proposes priority policy responses.



MARITIME TRANSPORT: KEY IMPACTS ON THE MARINE ENVIRONMENT

Maritime transport affects the marine environment, both in the course of routine operations and through accidental events. Its impacts can be localized (e.g. the effects of anchoring or mooring) or far-reaching (e.g. underwater noise from ship engines); and they occur during offshore navigation as well as in coastal areas.

UNDERWATER NOISE



Chronic exposure and cumulative effects of underwater noise can have long-term consequences for the conservation status of cetaceans, sea turtles, fish, aquatic birds and marine invertebrates.

Underwater noise hotspots in the Mediterranean – particularly acute on busy maritime routes – overlap with several protected areas and/or with areas of importance to noise-sensitive marine mammal species.

COLLISIONS WITH MARINE FAUNA



Collisions with large vessels represent the main fatal threat for whales in the region. Ship strikes are made more likely by underwater noise, which can interfere with cetacean communication and prevent animals from detecting and reacting to threats.

POLLUTION FROM OIL AND OTHER CHEMICALS



Oil spills are one of the most serious causes of marine pollution; the Regional Marine Pollution Emergency Response Centre (REMPEC) estimated that the total input of oil from ships into the Mediterranean is between 100,000-150,000 tonnes per year.

While major sea routes and the areas around key oil terminals are clearly most at risk, serious accidental oil spills could occur anywhere in the Mediterranean.

AIR POLLUTION



Gaseous emissions from ships seriously affect marine ecosystems, as well as human health. In particular, emissions are known to exacerbate ocean acidification, and they are also a major contributor to climate change.

SEABED DISTURBANCE



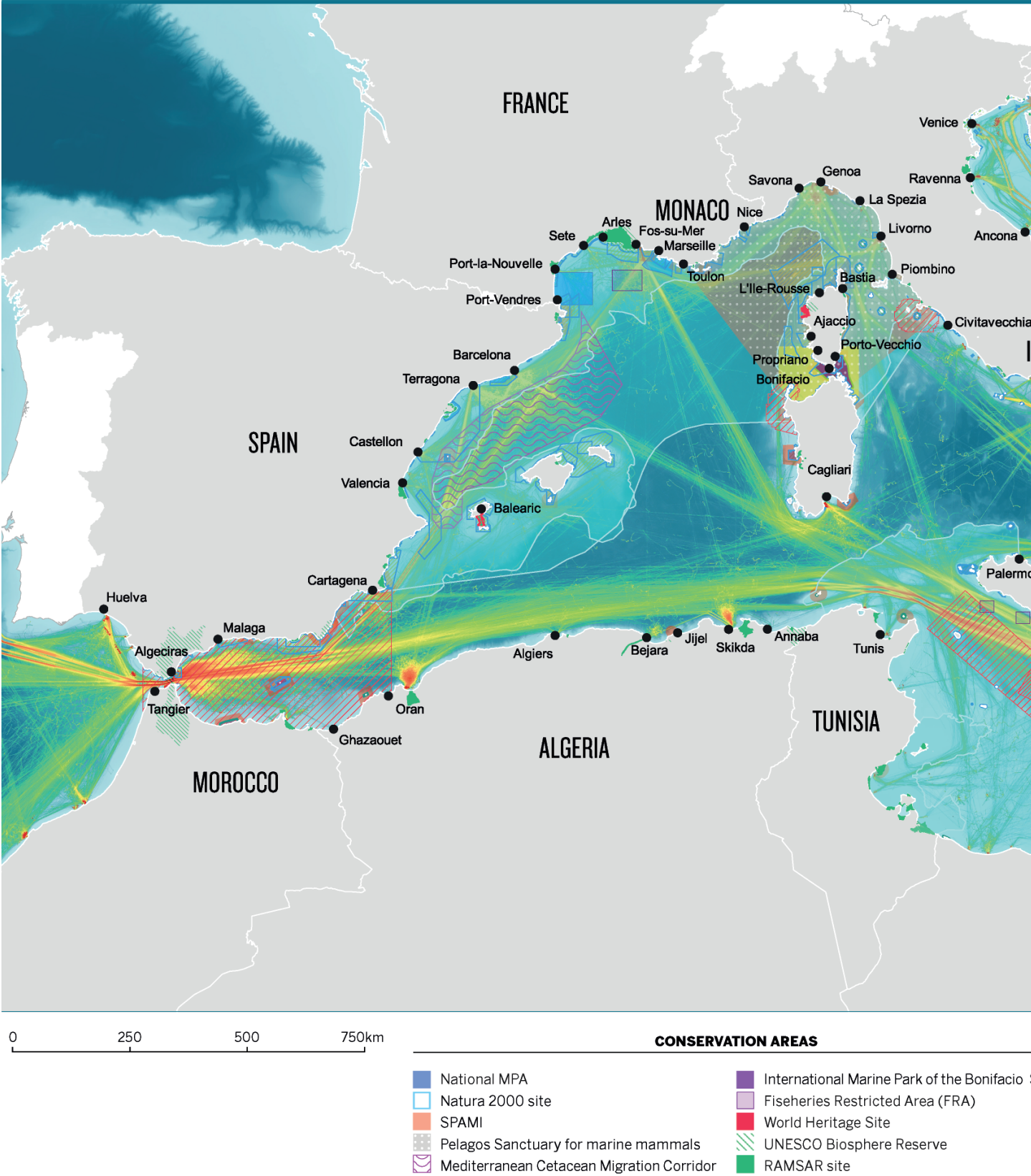
The anchoring and mooring of large vessels leads to abrasion and disturbance of bottom sediments, which damages benthic habitats and species. In addition, when bottom sediments are physically disturbed, water turbidity may increase: this can harm habitat types of important conservation value, including the seagrass *Posidonia oceanica*.

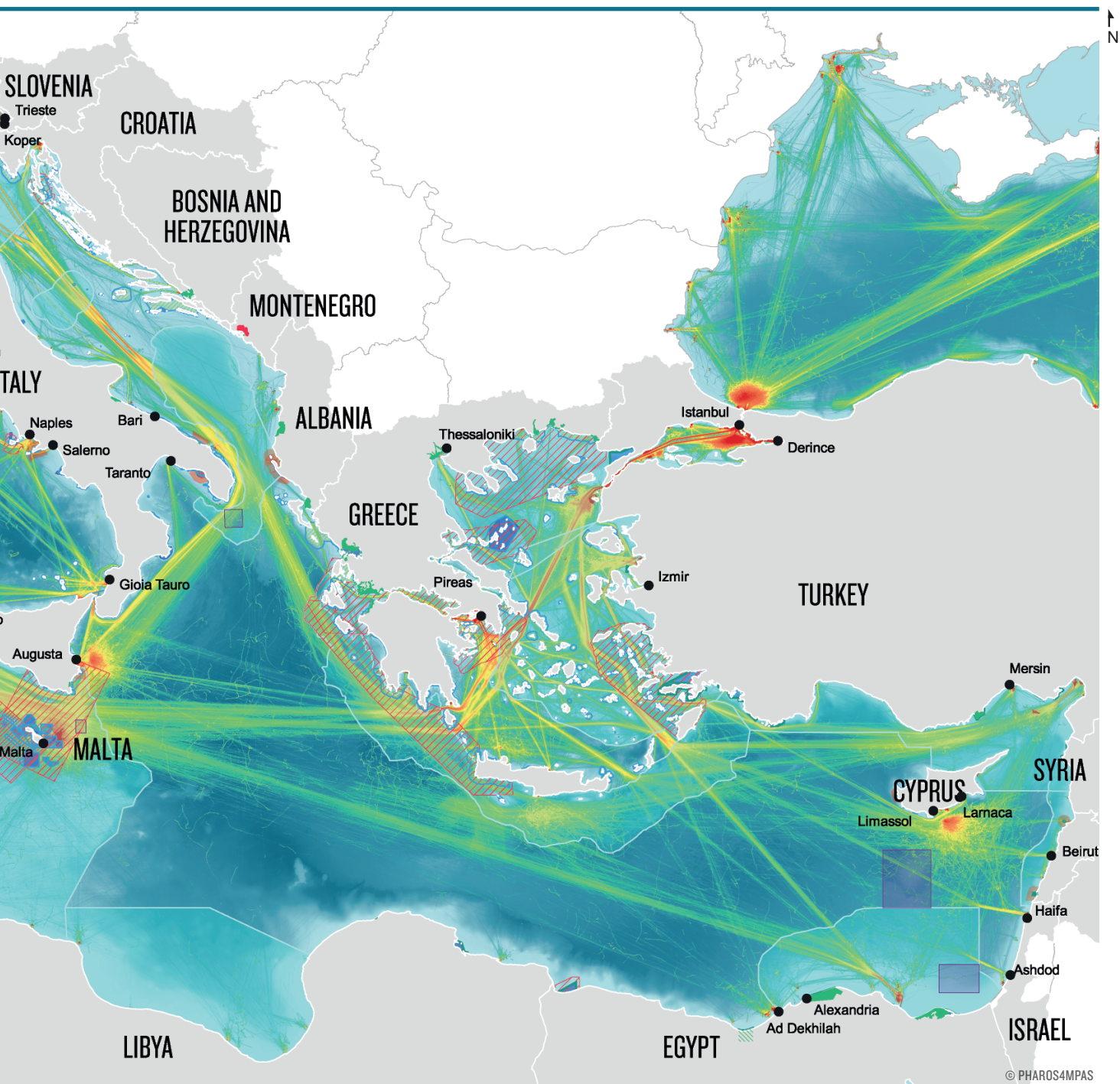
INTRODUCTION OF ALIEN SPECIES



A steady rise in numbers of non-indigenous species introduced via shipping has been detected across the Mediterranean basin, with a current rate (based on the last decade) of about one new species every six weeks. According to the European Environmental Agency, shipping accounts for 51% of the introductions of non-indigenous marine species. Some of those species are invasive and could pose a serious threat to Mediterranean ecosystems.

ANNUAL DENSITY OF CARGO VESSELS, MPAs AND OTHER CONSERVATION AREAS





PUBLIC AUTHORITIES CAN PLAY A MAJOR ROLE IN MINIMIZING THE MARITIME TRANSPORT SECTOR'S IMPACTS ON MPAs

NATIONAL PLANNING AUTHORITIES

National authorities planning and managing the use of sea space, including marine spatial planners, are key actors in identifying and implementing measures to avoid maritime sector impacts on ecosystems, particularly in relation to traffic accidents. National maritime authorities and conservation authorities can significantly contribute by defining ecosystem protection measures.

- Through **Maritime Spatial Planning (MSP)**, authorities should make use of tools such as Particularly Sensitive Sea Areas (PSSAs), Areas To Be Avoided (ATBAs) and Traffic Separation Schemes (TSSs) to **protect MPAs from the risks of maritime traffic accidents and reduce the chances of collisions with cetaceans**. National authorities should coordinate monitoring programmes on marine mammal range and routes, to support MSP processes. In the case of transboundary MPAs, states should participate actively in the IMO and coordinate joint proposals at IMO level for routeing systems and PSSAs.
- MSP processes can prevent anchoring impacts by introducing **voluntary no-anchoring zones**, adopting zoning plans indicating sensitive areas as well as suitable anchoring areas, and by including MPA boundaries and anchor-sensitive areas on nautical charts.
- Authorities should also introduce **area-based regulations**, such as banning the transit of dangerous goods in important marine areas to prevent severe accidents, or mandating the use of technical solutions to prevent collisions with cetaceans (e.g. real-time positioning systems). In addition, authorities should ensure the implementation of the Ballast Water Management Convention, particularly through inspections and monitoring activities.

- Joint **cross-border actions** need to be implemented for navigation monitoring and safety to ensure environmental impacts are avoided or minimized. These may include coordinated governance systems (a joint action plan) and innovative surveillance methods (e.g. new high-frequency radar antennae, data sharing, interoperability). Participation in coordinated response and contingency plans for oil spills and other pollution events at cross-border, sub-regional and regional levels is essential.
- Neighbouring states need to collaborate to **establish MPAs on the high seas** (e.g. under the Specially Protected Areas and Biological Diversity Protocol to the Barcelona Convention). These are necessary to protect sensitive marine areas that are not currently under the jurisdiction of national states, either due to the lack of an official EEZ or to uncertain navigational rights.





LOCAL AUTHORITIES

Local authorities (regions, provinces, municipalities etc, depending on national governance frameworks), local coastguards and port authorities can play a significant role in reducing the impact of maritime traffic. By running initiatives that complement actions put in place at state level, they can ensure that measures in force are implemented.

- Local authorities should **collaborate with local maritime companies, identify and implement piloting solutions** to avoid accidents in particularly sensitive areas. They should promote innovative procedures and technologies, such as collision avoidance devices.
- Port authorities should **enforce international and national standards** and requirements, for example through ship inspections. Coordination mechanisms involving port authorities and port states such as the Mediterranean MoU are particularly useful in order to avoid 'ports of convenience' in the region¹.
- Coastguards should **use innovative procedures, tools and technologies, such as risk assessment and spills modelling**, to reduce the risks and mitigate the impacts of oil spills. In addition, they should support and promote the establishment of volunteer rescue and cleaning patrols and rescue centres. Coastguards should also patrol MPAs regularly and ensure the compliance of ships through enforcement actions such as board-and-search and even arrest.
- Local authorities need to collaborate with MPA management bodies to **develop joint solutions** – including monitoring, modelling and vulnerability assessments – to monitor the impact of maritime traffic and mitigate the impact of pollution from port operations.

¹Ports of convenience are those ports deliberately chosen by ship owners to circumvent shipping regulations, because these ports or states are unwilling to take adequate enforcement actions to support conservation and management measures.

REGIONAL GOVERNANCE

Regional ocean governance mechanisms such as the Barcelona Convention can contribute to safeguarding MPAs from the impacts of navigation. They do this through a variety of tools including regional protocols and action plans; while also providing guidance to the contracting parties on the impacts of maritime transport and potential mitigation strategies.

- From the regulatory perspective, **stronger enforcement and compliance mechanisms** should be established for relevant legal frameworks. These include the Protocol Concerning Co-operation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea and the Protocol on the Prevention of Pollution in the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal.
- Regional governance mechanisms should also be used to further support the designation of the Mediterranean as an **Emission Control Area**, particularly for nitrogen and sulphur oxides, to the benefit of all marine ecosystems in the region. They can facilitate increased engagement by regional states, and underpin the development of proposals to the IMO as part of MARPOL Annex VI.
- **The implementation of ecosystem-based marine and coastal planning tools, such as MSP and ICZM**, should be prioritized across the whole region. All Mediterranean countries should ratify and implement the ICZM Protocol, as this will support ecosystem-based planning processes which consider all possible interactions within an ecosystem, including the potential environmental risks related to maritime traffic activities. The ICZM Protocol should integrate a regional framework for ecosystem-based MSP.
- Regional governance mechanisms in collaboration with national authorities should promote the further development of **transboundary oil spill contingency plans, early warning systems and decision support systems**. These tools are much needed in the region, particularly in maritime transportation hotspots such as the Aegean Sea, the Adriatic and the Sicily Channel/Tunisian Plateau. Regional governance mechanisms can foster collaboration among countries to develop such tools.
- Coordinated regional **initiatives aiming to increase surveillance at sea**, using aerial surveys and radar satellite imagery, also represent important means of avoiding and controlling spills in the Mediterranean region.



The PHAROS4MPAs project explores how Mediterranean MPAs are affected by activities in the growing Blue Economy, and provides a set of practical recommendations for regional stakeholders on how the environmental impacts of key sectors can be prevented or minimized. Encouraging international collaboration across MPA networks and cooperation between state, industry and other actors, PHAROS4MPAs aims to enhance MPA management effectiveness and improve the conservation of marine ecosystems across the whole of the Mediterranean.



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FOR NATURE CONSERVATION

Further details, see full report at <https://pharos4mpas.interreg-med.eu>

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FRONT COVER: Bottlenose dolphins (*Tursiops truncatus*) in the Straits of Gibraltar

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BACK COVER: Spilled oil spreads to the Athens Riviera following the sinking of a tanker in the Saronic Gulf (Greece, September 14 2017)

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