



PHAROS4MPAs

SAFEGUARDING MARINE PROTECTED AREAS IN THE GROWING MEDITERRANEAN BLUE ECONOMY: LEISURE BOATING

**POLICY
BRIEF**
SEPTEMBER 2019



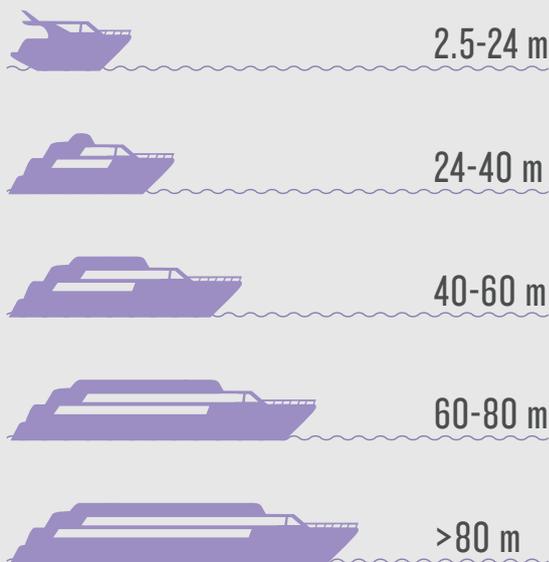
LEISURE BOATING AND MEDITERRANEAN MARINE PROTECTED AREAS:

INCREASING INTERACTIONS

Leisure boating in the Mediterranean region is a key component of coastal tourism, and it has significantly developed over the last decades.

In the Mediterranean, around 95% of leisure boats measure less than 24 metres. However, the region is also a leading global destination for large to very large yachts. Studies show that 50% of the global fleet of large yachts spends 8 of every 12 months in Mediterranean waters, with the Côte d'Azur being the most popular destination. 70% of worldwide charter contracts are for the Mediterranean, and 56% of these are for the western part of the region.

LEISURE BOATS DIFFERENT SIZE CLASSES



The EU definition (Art.3, European Directive 2013/53/EU) identifies leisure boats as recreational craft up to 24 metres. In general, vessels above 24 metres are called large yachts.



LARGE YACHTS IN MYKONOS HARBOR WITHOUT FACILITIES FOR WASTEWATER RELEASE, GREECE

© NEIL COOPER / FLICKR

Leisure boating is economically important in many countries on the northern shore of the Mediterranean. Nautical tourism in Europe generates annual revenues from €20 to €28 billion and employs between 200,000 and 234,000 people. European countries account for 20% of the sector's total global turnover.

Marinas and recreational ports are widespread along the Mediterranean coast. There were around 940 marinas in the Mediterranean Sea in 2010, of which 253 were located in Italy, 191 in Spain and 124 in France.

There is little data available on future trends for marinas. In 2015, many new marina projects were underway: 17 in Greece, 10 in Spain, 1 in Malta and several (exact number unknown) in Italy and the Adriatic. However, in some countries such as France which already have a high density of marinas (on average one every 14 km), the potential for their spatial expansion is now very limited due to current environmental protection legislation.

Coastal Marine Protected Areas (MPA) and marine Natura 2000 sites are very attractive for leisure boating, and in recent years they've been attracting increasing numbers of visitors.

The increase in leisure boating is creating significant environmental and socio-economic challenges, since leisure boats and their associated infrastructure (ports, marinas, etc.) can threaten marine fauna and habitats, as well as cause conflicts with other sectors from recreational users to professional fishers. **Increasing attention is being paid to the environmental impacts of recreational boating, raising the question of whether and to what extent it should be allowed in such vulnerable locations, and how best to manage it.**

This PHAROS4MPAs policy brief illustrates the main trends shaping the recreational boating sector, identifies its projected impacts on Mediterranean MPAs and Natura 2000 sites, and proposes priority policy responses.

LEISURE BOATING: KEY IMPACTS ON THE MARINE ENVIRONMENT

As with all human activities, leisure boating inevitably generates environmental and social impacts: the extent to which it is compatible with a healthy marine environment is one of the main questions concerning its sustainability.

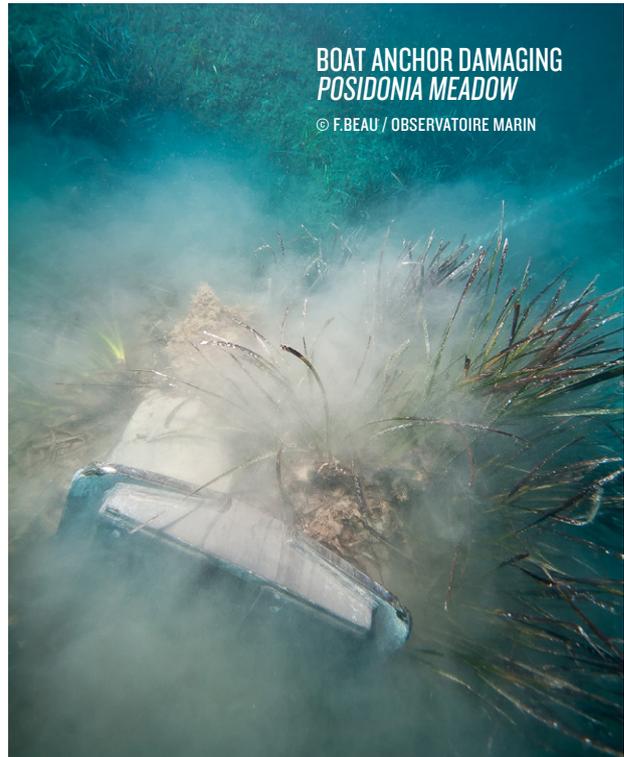
Impacts vary greatly according to the type and size of boat.

Main pressures include:

- **Anchorage on sensitive habitats such as *Posidonia* meadows.** Large yachts with large anchors cause the most damage to the sea bed. Inexperienced boaters, such as those who usually rent small boats without a navigation licence, also cause more damage than their experienced peers
- **Air pollution** from hydrocarbon releases by motor engines, particularly from old 2-stroke engines and high-speed boats
- **Fuel and oil leaks**, including those from bilge waters
- **Sediment suspension** from motorboats passing over sandy or muddy bottoms, contributing to the turbidity of the water
- **Motor noise disturbance**, particularly from high-speed boats
- **Impact from human waste:**¹ black (sewage) and grey (washing) waters which contain a wide range of toxic chemicals and fats
- **Toxic antifouling paints** that are used to prevent marine organisms developing on the surface of the hull, as well as harmful cleaning products
- **Invasive species dissemination** through involuntary transport
- **Artificial light emissions**

Other impacts include boat strikes on marine mammals and turtles, and harmful actions like fish feeding, collecting sea animals and dropping marine litter.

¹ Each passenger of larger crafts can use up to 40 litres of sewage and 300 to 340 litres of 'grey water' from sinks, showers, laundry facilities.



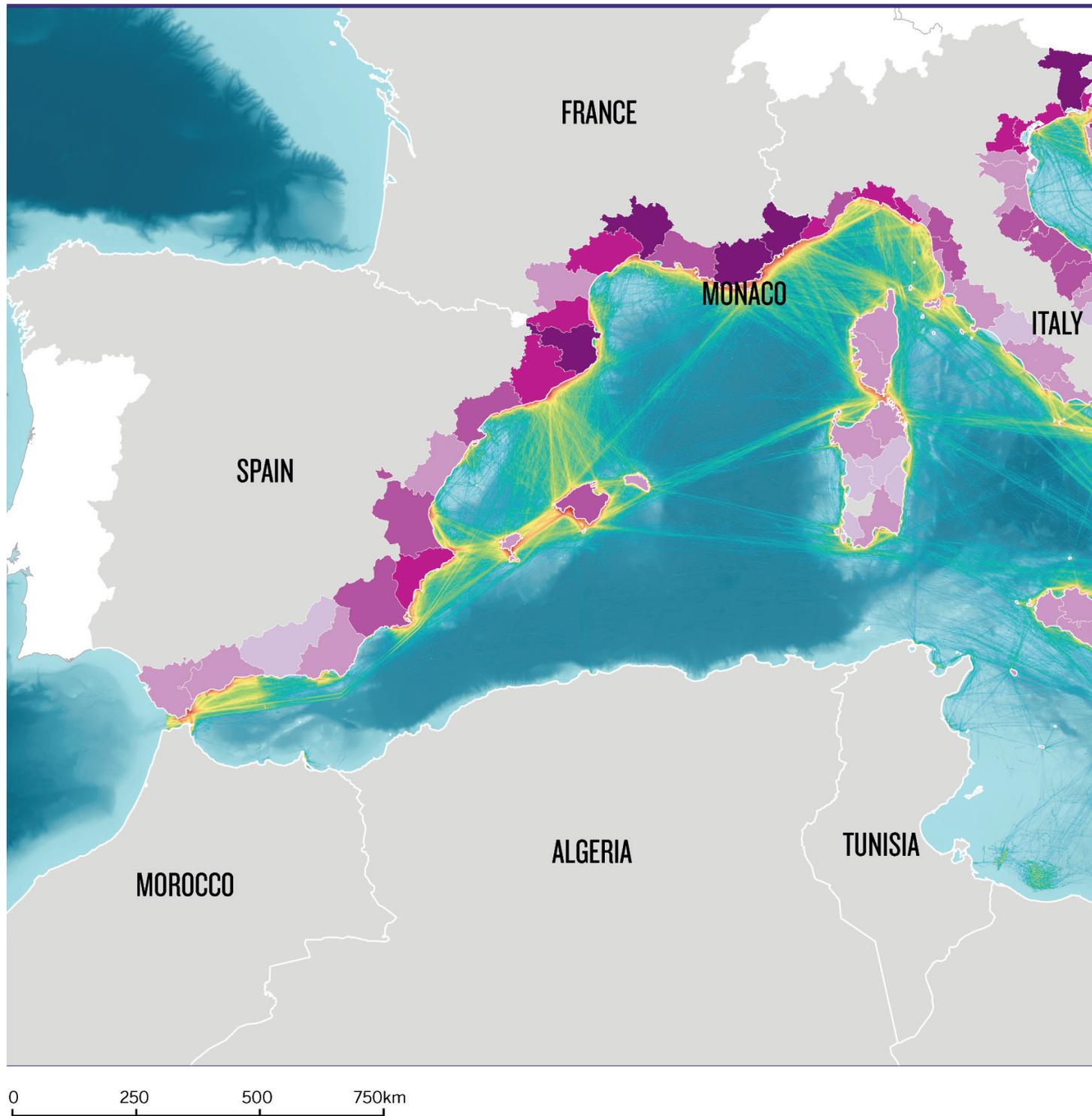
ANCHORING: THE MAIN IMPACT

The largest impact that leisure boating has on MPAs comes from anchoring. Damage to *Posidonia* meadows, coralligenous assemblages and maërl bottoms tends to be proportional to the size of the ship: the larger boats do more damage because they have bigger anchors and heavier chains. Among other local stressors, **leisure boating has had a major influence on the estimated 34% reduction in Mediterranean *Posidonia* meadows over the last 50 years.**

THE PROBLEM OF OLD TWO-STROKE ENGINES

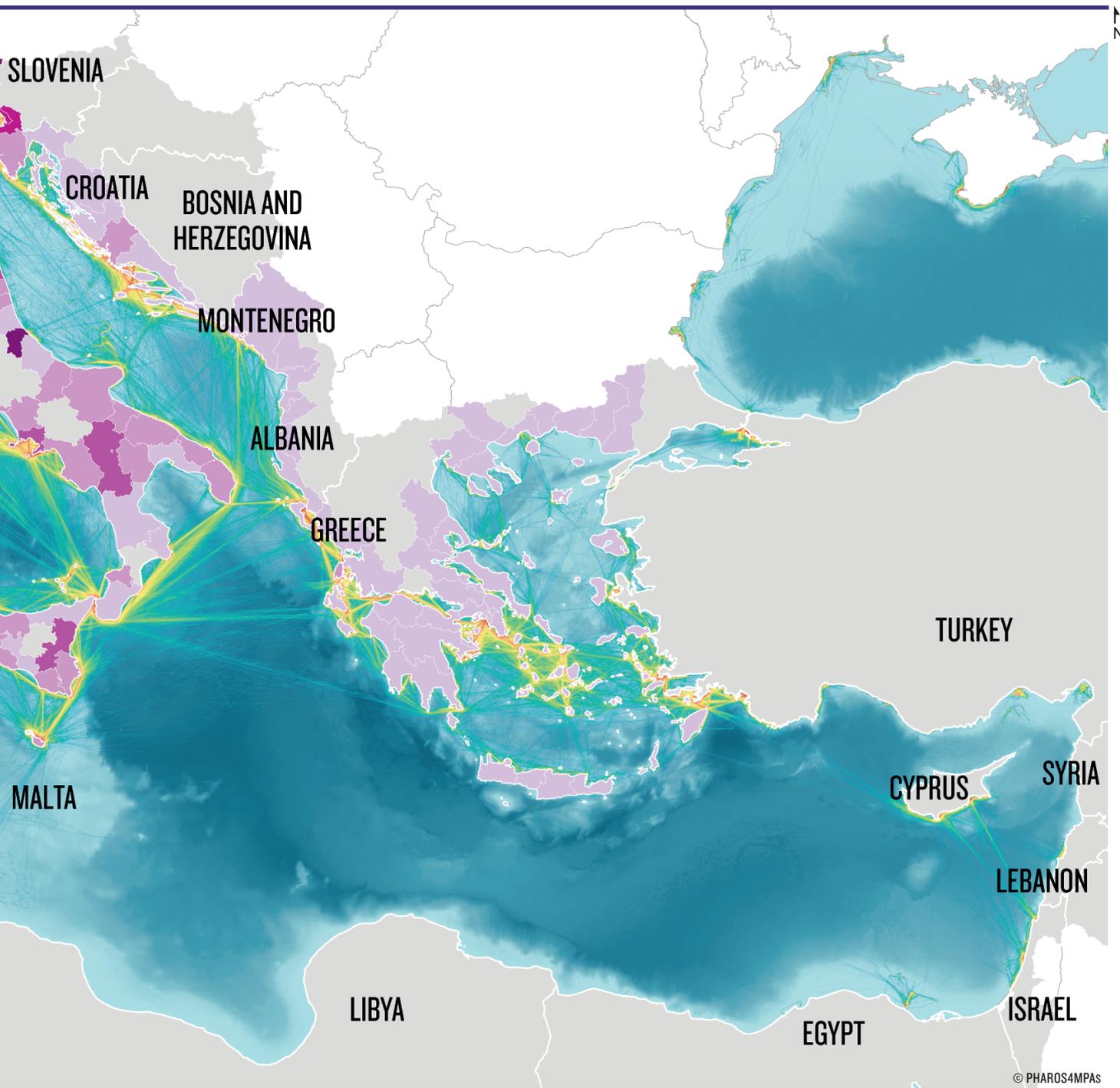
The old highly polluting two-stroke engines still used by many leisure craft are one of the major sources of air and water pollution in coastal areas. **It is estimated that 20-30% of the fuel and the added oil that these engines use is emitted unburned directly into the water.** At low speeds, up to 40% of the fuel entering a cylinder might escape unburned while at the most efficient operating range 8% of the fuel is expelled as exhaust.

MARINA PORT CAPACITY IN NUMBER OF MOORINGS PER KM OF COASTLINE IN EU COUNTRIES (EXCEPT CYPRUS) AND ROU



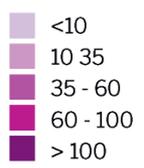
NUMBER OF MOORING PER KM OF COASTLINE
SOURCE: European Environment Agency (2017)
DENSITY OF VESSELS TRACKS
SOURCE: EMODNET (2019)

MAP OF SAILING AND PLEASURE CRAFTS USING AUTOMATIC IDENTIFICATION SYSTEM (AIS) SIGNALS (CRAFTS > 24M)

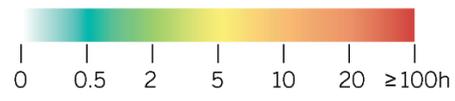


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MARINA PORT CAPACITY IN MOORINGS PER KM OF COASTLINE



DENSITY OF VESSEL TRACKS BY AIS SIGNALS (IN TOTAL HOUR OF LEISURE BOAT PRESENCE PER SQUARE KM PER YEAR)



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

Along with the leisure boating sector itself, local and national public authorities are the actors who can do most to minimize the impacts of further sector development on the marine environment.

KEY RECOMMENDATIONS FOR PUBLIC AUTHORITIES FOR RECREATIONAL BOATING IN MPAs

1. Put in place environmental monitoring programmes for recreational boating to track its ecological and socio-economic impacts along the national coastline

Main parameters to be analysed include:

- Numbers and types of recreational boats berthing in marinas and use patterns
- Visiting patterns in nearby MPAs
- Anchoring patterns and impacts on fragile habitats such as *Posidonia* meadows
- Presence of water and air pollutants in marinas and at sea
- Invasive species coming from biofouling, anchors, etc.
- Any other significant factors, such as the presence of marine fauna, especially cetaceans, and reported collisions.

2. Define a recreational boating spatial strategy at national coastline level

National recreational boating strategies must aim to ensure sustainable use of the sea and avoid potential negative impacts. MSP authorities have a crucial role to play.

Depending on the findings from monitoring activities, proactive management measures can be put in place.

Addressing conflicts between leisure boating and other users

The spatial development of recreational boating should take into account traditional uses such as small-scale fisheries, as well as other sectors which need space, and integrate these in maritime spatial plans.

Defining a strategic vision for marinas

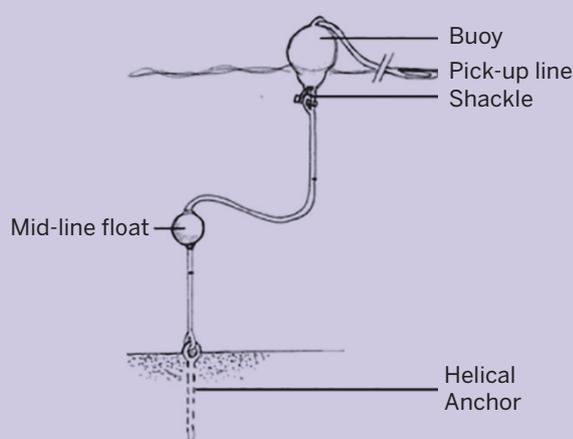
The number of marinas as well as the number of recreational boats should be limited to stay within the carrying capacity of the available coastline, particularly in popular marine areas. Boat-sharing schemes should be explored as ways to reduce the footprint of individual boat ownership.

All marinas should operate with high environmental standards, including developing facilities to collect grey and black waters as well as solid waste from visiting boats, along with dedicated careening areas where waste waters can be collected.

Planning moorings areas

- Define no-mooring zones in sensitive habitats, such as *Posidonia* meadows and coralligenous bottoms.
- Design authorized mooring areas, but not as an answer to a potential lack of berths in marinas - they should not become 'permanent' mooring sites. These can include:
 - Regulated mooring on anchors: authorized mooring location on soft (sandy) bottom only, boat number limitation, mooring duration limitation, strict requirements for boats' equipment.
 - Light equipment (or so-called 'ecological moorings') on mooring areas: these areas enable boats to moor safely without the need to build a harbour which would destroy the coastline. Only ecological mooring systems that avoid impacts on fragile bottoms should be used (see Figure).

EXAMPLE OF ECOLOGICAL MOORINGS



Fees can be charged for the use of the buoys, and these can be used to help fund management of the MPA (as is the case in Portofino, the Egadi Islands and Cabrera).

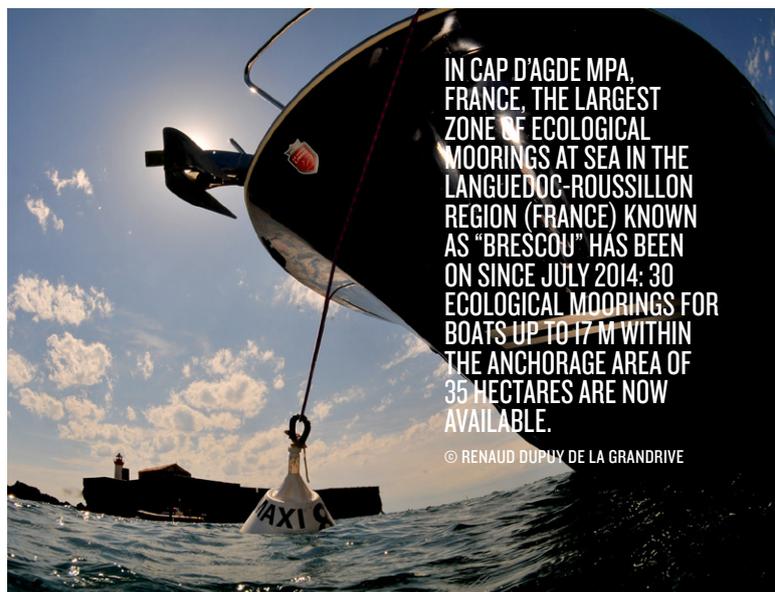
Preventively, large yachts should be forbidden from mooring in waters shallow enough for *Posidonia* meadows (generally to a depth of 30m, but deeper in some pristine areas). This 30m limit could be relaxed for areas with less sensitive habitats, such as sandy bottoms.

Large yachts should be completely forbidden inside most vulnerable MPAs, and should be kept away from their boundaries in particularly vulnerable or busy areas (this is already the case around France's Scandola MPA, for example).

Dealing with pollution and other impacts

National regulations should encourage and ultimately make compulsory the eco-friendly design, construction and maintenance of recreational boats. This includes issues such as:

- Low consumption and clean propulsion and energy systems
- Safe handling of waste waters (grey and black) and solid waste
- Engine noise limitation
- Use of ecological anti-fouling paints and in-board cleaning products
- Recycling vessels when they reach the end of their lives



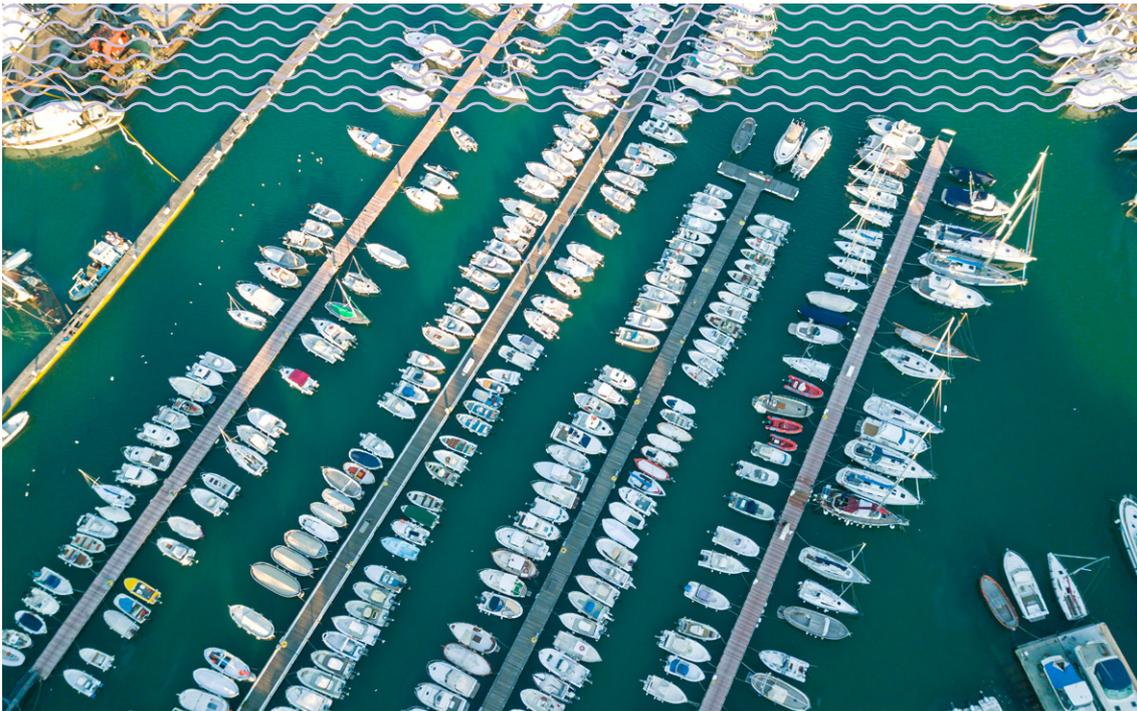
IN CAP D'AGDE MPA, FRANCE, THE LARGEST ZONE OF ECOLOGICAL MOORINGS AT SEA IN THE LANGUEDOC-ROUSSILLON REGION (FRANCE) KNOWN AS "BRESCOU" HAS BEEN ON SINCE JULY 2014: 30 ECOLOGICAL MOORINGS FOR BOATS UP TO 17 M WITHIN THE ANCHORAGE AREA OF 35 HECTARES ARE NOW AVAILABLE.

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In MPAs, a step-by-step approach is the best way to develop regulatory frameworks to promote eco-friendly boating. This may include for instance:

- Only accepting the entry of recreational boats that are fully equipped to avoid all discharge of waste at sea
- Requiring MPA entry permits and issuing a maximum number of permits per day according to the estimated carrying capacity of the site
- Banning navigation and mooring by boats over 24m in length (large yachts)
- Setting up speed restrictions inside the MPA and creating alternative routes to prevent strikes with cetaceans
- Consider a ban on old two-stroke engines. Encourage the use of eco-friendly alternatives
- Consider banning high-speed boats in MPAs
- Consider prohibiting overnight stays if too many boats are present in the area or no mooring areas are available
- Encourage the use of non-toxic (ecological) antifouling paints and eco-friendly in-board cleaning products
- Promote responsible leisure boating courses, particularly for motor boats, to encourage users to follow good environmental practice
- Plan awareness-raising strategies to spread best practice knowledge among all stakeholders (rental boat owners, port facilities, etc)

Surveillance is needed in order to prevent illegal activities (anchoring on *Posidonia* meadows, etc.).



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.



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

Contact: Catherine Piante – WWF-France – cpiante@wwf.fr

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FRONT COVER: Moored boats above a Posidonia meadow in Cap de Creus Marine Park, Spain

© DAMSEA / SHUTTERSTOCK

BACK COVER: The domination of motor boat in the yacht port of Santa Margherita, Genoa, Italy

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