MINISTRY OF THE ENVIRONMENT, ENERGY AND THE SEA,
IN CHARGE OF INTERNATIONAL RELATIONS ON CLIMATE

WHAT SOLUTIONS FOR THE MEDITERRANEAN?

Proposals for joint action for countries around the Mediterranean

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"The Mediterranean Sea is an extraordinary example of a miniature ocean. It possesses a unique non-tidal system, warm temperatures even at depth and ecosystems not found anywhere else in the world, such as sea grass fields and coralline algae colonies. It is our local sea and the cradle of our various civilizations.

Today, the Mediterranean world is threatened by damage to the coastline, pollution, plastic waste and the presence of endocrine disruptors. The sea is also under threat from overfishing, the dissemination of living species via ballast waters, and species migration. It is suffering from the effects of climate change, including increased salinity levels, a lack of oxygen, acidification and rising sea levels. The Mediterranean is also one of the busiest global shipping zones and the world's most popular tourist destination. These factors all point to the immense pressure being felt across a relatively small area.

Along with the Principality of Monaco and the Kingdom of Morocco, we were able to mobilise our partners during the Our Ocean conference held in Washington in September 2016, as well as COP22 in Marrakesh in November, in order to respond to these challenges in the Mediterranean. I propose that we continue this work together as Mediterranean nations, by gathering on 23rd February in Paris to generate concrete solutions for the preservation of ecosystems, the fight against pollution from land and sea, and the sustainability of the small islands in the Mediterranean."

Ségolène Royal

COP21 President

UNDERSTANDING *the approach*

IMPETUS FROM COP21

The work by COP21 has widened the consensus around the **urgency of acting** in favour of the climate. Resilience to climate change must come through **profound changes** in human activities in favour of environmental and social objectives. The **good health of the oceans,** cited in the Paris Agreement, has emerged as being inseparable from climate objectives and requires a change of strategy.

The **Mediterranean region** is in this respect a particularly relevant area of action: the sea and its coastline constitute a **common asset of civilisation, environment and economics** for the local populations. At the same time, they are experiencing a combination of pressures (climate change, pollution, economic development, demographics). They must be protected.

AN ORIGINAL APPROACH

"Solutions for the Mediterranean" constitutes a **pragmatic approach to identify and highlight the initiatives, speed up the projects or launch innovative actions having a lasting and irreversible regional impact with a view to ensuring the good ecological state of the Mediterranean sea.**

The initiative does not only involve States, but also, in a participative way, all of **civil society**: local authorities, professionals, financiers, associations, scientists.

It has been built as a **complement to regional initiatives** such as those supported by the European Union, the Union for the Mediterranean (UpM) and 5+5 Dialogue. The Convention for the protection of the marine environment and the coastal region of the Mediterranean **(Barcelona Convention)** plays a central role, with the seven legally binding **protocols** that flow from it and with the **Mediterranean strategy for sustainable development** approved at the beginning of 2016. The agreements negotiated by the General Fisheries Commission for the Mediterranean (GFCM) under the auspices of the FAO are also important for the entire region. On their side, numerous **Mediterranean networks** have enlisted professionals, scientists, NGOs, managers of marine protected areas, training institutes, etc.

"Solutions for the Mediterranean" is a continuation of the meetings on the Mediterranean held, at the initiative of the Kingdom of Morocco, the Principality of Monaco and France, on the sidelines of the conference "Our Ocean" in Washington in September 2016 and during COP22 in Marrakesh in November 2016.

Two dusky groupers

FIVE OBJECTIVES FOR MOBILISATION *and proposals*

Objective No. 1

MOBILISATION AND COORDINATION OF SCIENTIFIC NETWORKS

Scientific understanding of the ecological crisis being felt across the Mediterranean, and of the impact of pollution and economic activities, is still limited. It is however indispensable for undertaking the most effective actions to save the Mediterranean. Different programmes and networks exist, but could further mobilise the scientific community in the countries of the South.

Taking into account the effects of global warming and foreseeable major economic and demographic changes, scientific analyses must play a central role in a forward-looking approach integrating long-term scenarios, following the example of the MED2050 initiative being carried out by Plan Bleu.

Suggested actions for coastal States and stakeholders

- **Lobby the IPCC to include fine-tuned scenarios for the Mediterranean region within the scope of its Special Report on Oceans and Cryosphere**
- **Encourage exchanges between networks of scientists through a scientific committee.**

Noble pen shell (*Pinna nobilis*), protected in France since 26 November 1992

Objective No. 2

MOBILISATION TO PRESERVE MARINE AND COASTLINE ECOSYSTEMS

Covering 2.5 million km², the Mediterranean is the **world's largest enclosed sea**. Its non-tidal system is exceptional; its salinity levels, its very original currentology and its warm temperature at great depth make it a unique model.

Today it has remarkable habitats (coralligenous beds, coastal lagoons, etc.) and is home to a highly specific biodiversity which includes a remarkable number of endemic species (Posidonia meadows, Lithophyllum ridges, marine mammals,etc.). It is **one of the richest seas in the world**, with over 17,000 recorded species (despite accounting for less than 1% of the world's total ocean surface area).

This wealth is threatened by general overexploitation of some fishing resources, **the spread of invasive species, the migration of species, the economic exploitation of some resources** that has reached its limits, whether it is maritime space for navigation and offshore drilling, or the coastline for urban, industrial and tourist development. To this can be added various **contaminations of land or maritime origin**.

Preservation of Mediterranean ecosystems

The Barcelona Convention and its protocols on specially protected areas and biological diversity and on the integrated management of the coastal zone allowed the adoption of Mediterranean strategies to conserve or manage endangered species and sensitive marine or coastal areas according to an ecological approach similar to that of the European Union. 34 marine protected areas of Mediterranean interest have already been established, while a number of national plans are currently being finalised to provide detailed action priorities for the development of marine protected areas.

The Barcelona Convention has put in place an approach over 3 years to develop uniform monitoring of the ecological status for use by all parties in and around the Mediterranean. **The Mediterranean countries wishing to create marine protected areas are assisted in their approach by the Regional activity centre for specially protected areas (RAC/SPA). Further, the MedPAN network has been created to assist managers of marine protected areas.**

A **Trust fund for marine protected areas** has just been created to bring support to the management of existing marine areas. Already there are five member countries: Albania, France, Morocco, Monaco, Tunisia, to provide projects or financing. Several foundations and institutions envisage joining this fund.

In France, the existing reserves of Port-Cros and Banyuls-Cerbère are among the oldest marine reserves. Recently, the Gulf of Lion marine natural park has come into operation, and the Cap Corse marine natural park has been created. By the beginning of 2017, 22% of water under French jurisdiction will fall within marine protected areas.

Suggested actions for coastal States and stakeholders

- **Continue with the creation of marine protected areas.**
- **Join and reinforce the actions of the Trust fund dedicated to marine protected areas in the Mediterranean.**
- **Develop opportunities for exchange of technical know-how on MPA management.**
- **Develop exemplary anchorage (with less impact on the environment).**

Protection of marine mammals

The Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea, and Contiguous Atlantic Area (ACCOBAMS) extends beyond the Mediterranean, even if it has not yet been signed by all neighbouring countries. The cetacean plan adopted recently by the Barcelona Convention provides for special protection, in particular with regard to maritime transport.

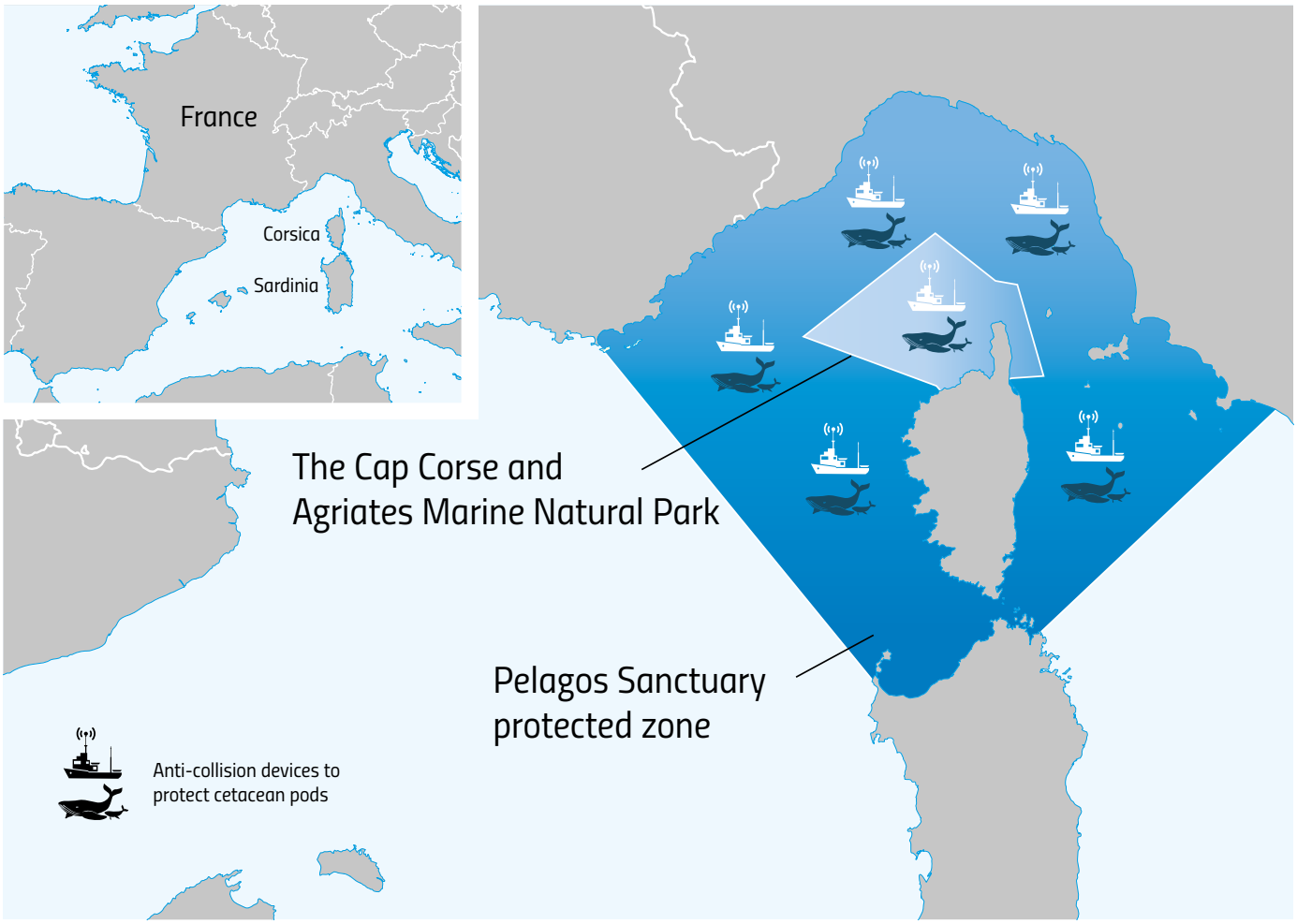
As such, France has implemented a maritime traffic regulation scheme aiming to keep ferries 6 km off the coast in order to protect the resources. Elsewhere, in order to provide advance warning of potential collisions between vessels and marine mammals, the 2016 biodiversity law includes a requirement for real-time sharing of known cetacean positions. This requirement is now obligatory for government vessels and vessels over 24 metres long flying the French flag when navigating in designated marine mammal sanctuaries in the marine protected areas of Pelagos in the Mediterranean and Agoa in the Antilles.

Suggested actions for coastal States and stakeholders

- **Develop sharing of information on cetacean positions between vessels, to prevent collisions.**

Dolphin in the Mediterranean

Map of the Pelagos sanctuary



Limitation of invasive species

The Barcelona Convention has just adopted a specific action plan for the Mediterranean on this subject, while the international convention for the control and management of ships' ballast water and sediments, adopted by the International Maritime Organization (IMO), could be ratified in September 2017 thanks to a sufficient number of signatory countries, but there remain Mediterranean countries that have not ratified it.

Caulerpa racemosa algae, an invasive species giving cause for concern

Suggested actions for coastal States and stakeholders

- **For States that have not yet done so, ratify the ballast water convention in order to prevent the dissemination of invasive species.**

Objective No. 3

MOBILISATION AGAINST POLLUTION OF LAND ORIGIN

The Barcelona Convention on the protection of the Mediterranean against pollution and its Protocol on pollution from land-based sources have led to the adoption of Mediterranean strategies to combat pollution or for sustainable consumption and production. The means implemented since 2000 by neighbouring countries, in particular with the support of the European Union's H2020 programme (dedicated to the elimination of marine pollution for the countries of the South), have eliminated about half of the 127 "black spots" (liquid or solid pollution, of urban or industrial origin) that had been identified. Regional plans to reduce at source or eliminate certain contaminant releases (heavy metals including mercury and persistent organic pollutants) and marine waste have also been adopted.

National plans developed in early 2016 by southern countries provided priority actions, which have now been updated regarding land-based pollution (black spots and related projects). European countries have been carrying out their actions through programmes whose measures are revised every six years within the framework of European directives on water (2013-2018) and the marine environment (2016-2021).

Sanitation in the Mediterranean

The political impetus given in Athens in 2014 at the ministerial conference on the environment of the Union for the Mediterranean made it possible to mobilise funding on a wider scale. Modelled on the integrated project of Lake Bizerte in Tunisia, special efforts have been made to consolidate cases upstream, during preliminary studies and formation of the financial package, so as to encourage commitment from donors.

Drainage water recovery basins, prior to water being pumped to the treatment facility at the renovated Artus storage station

Macro-waste

Suggested actions for coastal States and stakeholders

- **Under the authority of Mediterranean town and city councils, launch partnerships between coastal regions already equipped with full sanitation systems and those which are in the process of establishing or installing said systems.**

Reducing marine waste: the Mediterranean is not a dump!

Due to its densely-populated coastline and popularity with tourists, as well as the passage of 30% of global maritime traffic and the additional entry of waste via rivers and highly urbanised areas, marine waste management in the Mediterranean is a priority.

Hikers on the Vermeille coast

Average production of municipal solid waste has risen to around 270 kg per inhabitant per year for countries outside the EU, and 520kg per inhabitant per year within the EU; around 75% of waste is collected by public authorities -58% is deposited in landfill sites, while 31% ends up in controlled dumps. Recycling and composting accounts for less than 10% of all waste collected.

However, progress remains to be made in:

- **the design and implementation of sanitation projects that take into account the global water cycle, connecting local populations to existing water purification plants, improved management of used water and rainwater, reuse of treated waste water, enhanced use of sewage sludge and sewage disinfection prior to discharge into the sea. This will require greater exchange between local authorities and their counterparts who have improvement projects in the development phase;**
- **maintenance of infrastructures already in place and recovery of service costs.**

The majority of marine waste originates from sources on land:

- waste gathers on beaches as a result of tourism and leisure activity, including plastic (bottles, bags, lids/bottle caps, etc.), aluminium (cans, ring pulls) and glass (bottles);
- plastic makes up 85% of floating marine waste, the same average as in other parts of the world;
- on the sea floor, plastic makes up 45 - 95% of waste. Waste from fishing boats, including ghost nets, is the dominant form of waste in fishery zones.

Invertebrates (polychaetes, ascidians, bryozoa, sponges, etc.), fish, reptiles, cetaceans and birds are all affected by waste in a number of ways including entanglement, ingestion and the artificial transport of species/colonisation. Furthermore, in recent years we have observed forms of secondary pollution from contaminant waste due to the prolonged periods of time necessary for its decomposition.

The objectives having been set by the regional plan for marine waste, approved under the authority of the PNUE / PAM as part of the MEDPOL program, are as follows:

- by 2020: close illegal dumping sites; prevent waste issuing from dredging; implement policing measures to prevent illegal beach dumping and illegal waste release at sea, along coastal zones and on rivers;
- by 2025: in towns and cities with populations of over 20 000, deploy integrated management of solid waste.

Mediterranean countries are implementing the various aspects of this program via national action plans currently in development. Furthermore, civil organisations are active in the fight against plastic waste, notably via scientific campaigns undertaken by MED (Mediterranean in Danger) and Tara Expéditions, as well as the mobilisation campaigns developed by the Méditerranée 2000 association and the "Beyond Plastic Med" initiative.

In France, the law pertaining to energy transition for green growth has introduced a ban on single-use plastic bags as of July 1st 2016. Monaco and Morocco have also introduced the same ban.

Suggested actions for coastal States and stakeholders

- **Join the "plastic bag" coalition launched at the initiative of the president of the COP21, whose aim is to achieve a widespread ban.**
- **Offer skills transfer opportunities pertaining to the banning of single-use plastic bags and, more generally, best practices for waste management.**
- **Promote and support the "Beyond Plastic Med" initiative.**

Turtles, dolphins and birds are the primary victims of disposable plastic bags

Objective No. 4

MOBILISATION AGAINST MARITIME POLLUTION

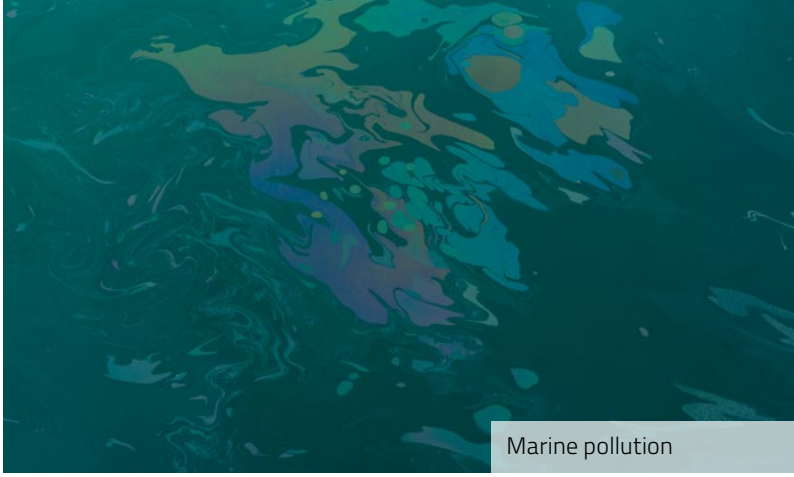
Fighting against deliberate pollution in the Mediterranean

As an inland sea, the Mediterranean is a fragile environment. 95% of global trade occurs via maritime shipping, which involves 50,000 ships passing through the Mediterranean. Waste deliberately released from ships constitutes the main source of pollution caused by maritime transport.

The fight against illicit dumping of waste is becoming a primary concern due to the daily occurrence of this offence, as well as satellite imaging which shows the trend is increasing. The international community has adopted the International Convention for the Prevention of Pollution by Vessels (Marpol), which in its appendices sets out acceptable standards for waste disposal. The Mediterranean has been declared a special zone in which the release of such waste is prohibited.

The European agency for maritime safety provides satellite imagery for Member States (CleanSeaNet). This service also allows users to link a satellite image with the coordinates of vessels in a given zone, while also giving them the option of using detection drones.

Within the Barcelona Convention, several actions have been undertaken to reinforce surveillance and the pursuit of offenders; these measures have been established as part of the regional strategy for the prevention of and fight against marine pollution caused by maritime vessels. A network of prosecuting authorities and inspectors around the Mediterranean, the Ménélas network (created in 2010), allows various stakeholders to exchange information on the state of existing laws, cooperate in judicial proceedings, standardise penalties and definitions of offences, establish a common reporting procedure and encourage best practices.



Marine pollution

France has been cooperating with Monaco for several years in this regard, under the terms of the RAMOGE agreement. In 2003, French authorities used judicial tools and resources backed by the European maritime security agency to establish an ecological protection zone, followed by an Exclusive Economic Zone in 2008, comprising the use of aerial and nautical surveillance (POLMAR aircraft), definition of offences and related penalties, and implementation of specialised jurisdictions.

The fall in the number of pollution reports in French waters, from 321 (of which 139 hydrocarbons) in 2009 to 46 (of which 27 hydrocarbons) in 2015 demonstrates the effectiveness of the measures being employed. The financial penalties involved are a deterrent when judicial proceedings are undertaken (averaging around €800,000), coupled with the re-routing procedure which delays the vessels' return to commercial activity.

Suggested actions for coastal States and stakeholders

- **Strengthen the effectiveness of Barcelona Convention protocols on the reduction of pollution by maritime vessels through deeper cooperation between neighbouring states, notably via the Menelas law enforcement network and a reinforced penalty system.**

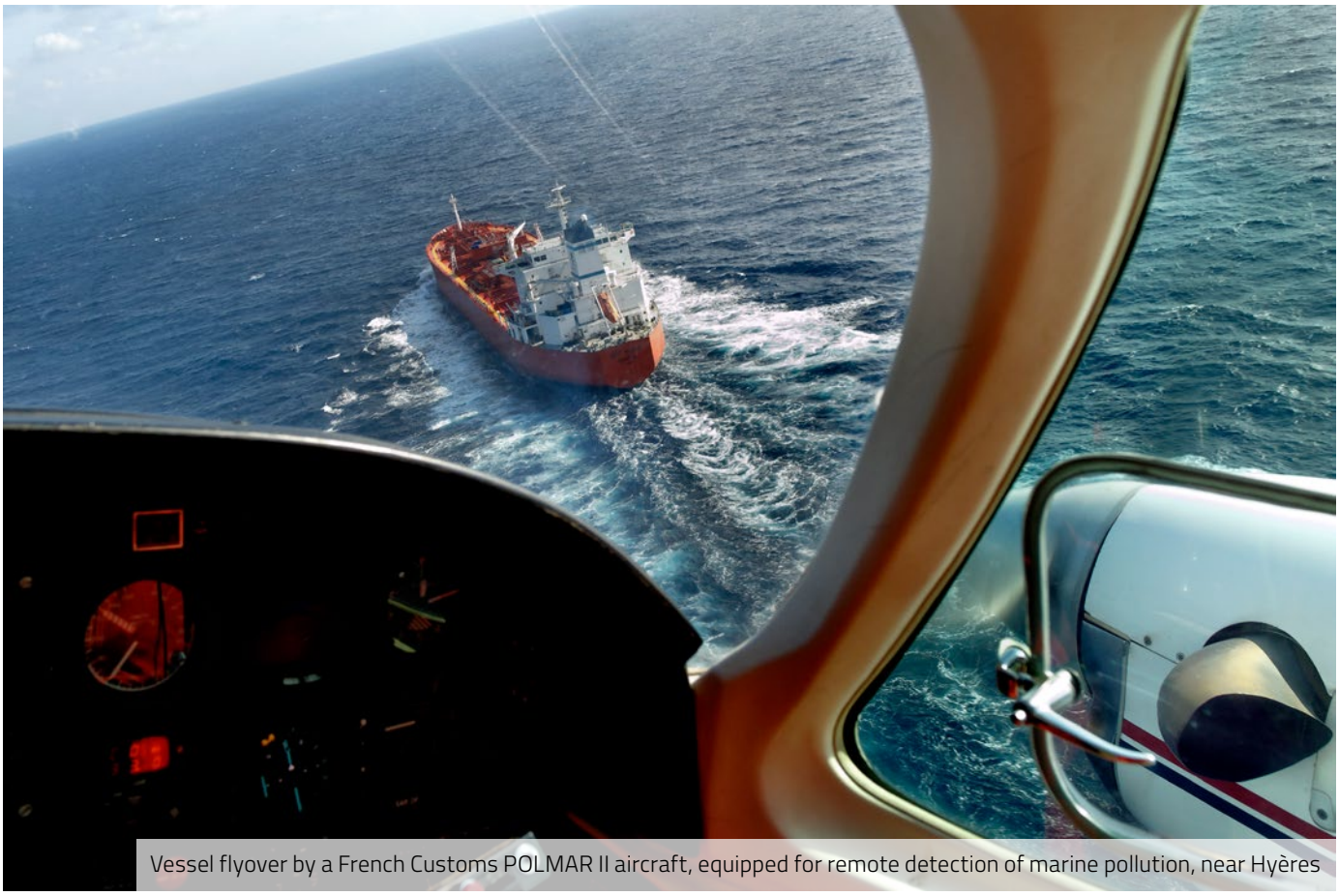
Polluting emissions from maritime vessels

International regulatory authorities for maritime navigation and transport (the International Maritime Organisation - IMO) intervene, in accordance with procedures established in maritime law, to control sea traffic and the commercial use of maritime vessels. The establishment of areas such as "SECA" (reduced sulphur emissions) and "NECA" (reduced nitrogen oxide emissions) limits polluting emissions from the moment an agreement is reached on the delimitation of the areas, as has recently been the case for the Baltic sea, the Channel, and the North sea.

Suggested actions for coastal States and stakeholders

- **Initiate a dialogue between neighbouring states on the possibility of submitting a dossier to the IMO, on behalf of several countries, in order to create "SECA" and "NECA" areas in the Mediterranean.**

The Ailette anti-pollution vessel, on patrol in the Gulf of Lion



Vessel flyover by a French Customs POLMAR II aircraft, equipped for remote detection of marine pollution, near Hyères

Objective No. 5

SUSTAINABILITY OF SMALL ISLANDS IN THE MEDITERRANEAN

Insular areas are recognised on a global scale as unique and fragile spaces. Their natural, cultural, economic and social heritage is under threat from global change, including habitat destruction and weakened resistance to change, impact of global warming, pollution (waste, water), depletion of natural resources, etc.

Islands are home to 20% of terrestrial plant and vertebrate species, and 40% of total species in danger of extinction (80% of species having become extinct since 1850 were island dwellers).

The Mediterranean is a biodiversity hotspot; its 15,000 islands have enormous ecological value and are under significant pressure as outposts of global change.

Since 2005, the French coastline conservation body has piloted an international initiative in the Mediterranean aiming to **promote and support active management of small insular territories** (water, energy, waste, etc.)

Furthermore, Corsica is acting as a pioneer by becoming the first French territory to adopt a multi-annual energy program (French: *programmation pluriannuelle de l'énergie*, or PPE) based around effective management of energy demands, clean transport and development of renewable energy coupled with improved storage options.

This small island project deserves to be extended in two ways: via the participation of new islands in the scheme, and the addition of new programs pertaining specifically to pollution and sustainable activity.

By combining all the issues and solutions outlined above in one relatively isolated area, this creates an experimental laboratory whose results can then be replicated on a wider scale.

Suggested actions for coastal States and stakeholders

- **Launch initiatives to promote the Mediterranean Small Island Project, in order to develop conservation initiatives and promote the islands on a wider scale.**
- **Develop energy-independent islands.**

Genoise tower of Santa Maria in Corsica

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