WORKING
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FOR KAŞ-
KEKOVA MARINE
PROTECTED AREA

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KAŞ-KEKOVA MARINE PROTECTED AREA

PROJECT REPORT

Kaş-Kekova Specially Protected Area Marine Management Plan and Its Implementation - MedPAN South Pilot Project Turkey, September 2012

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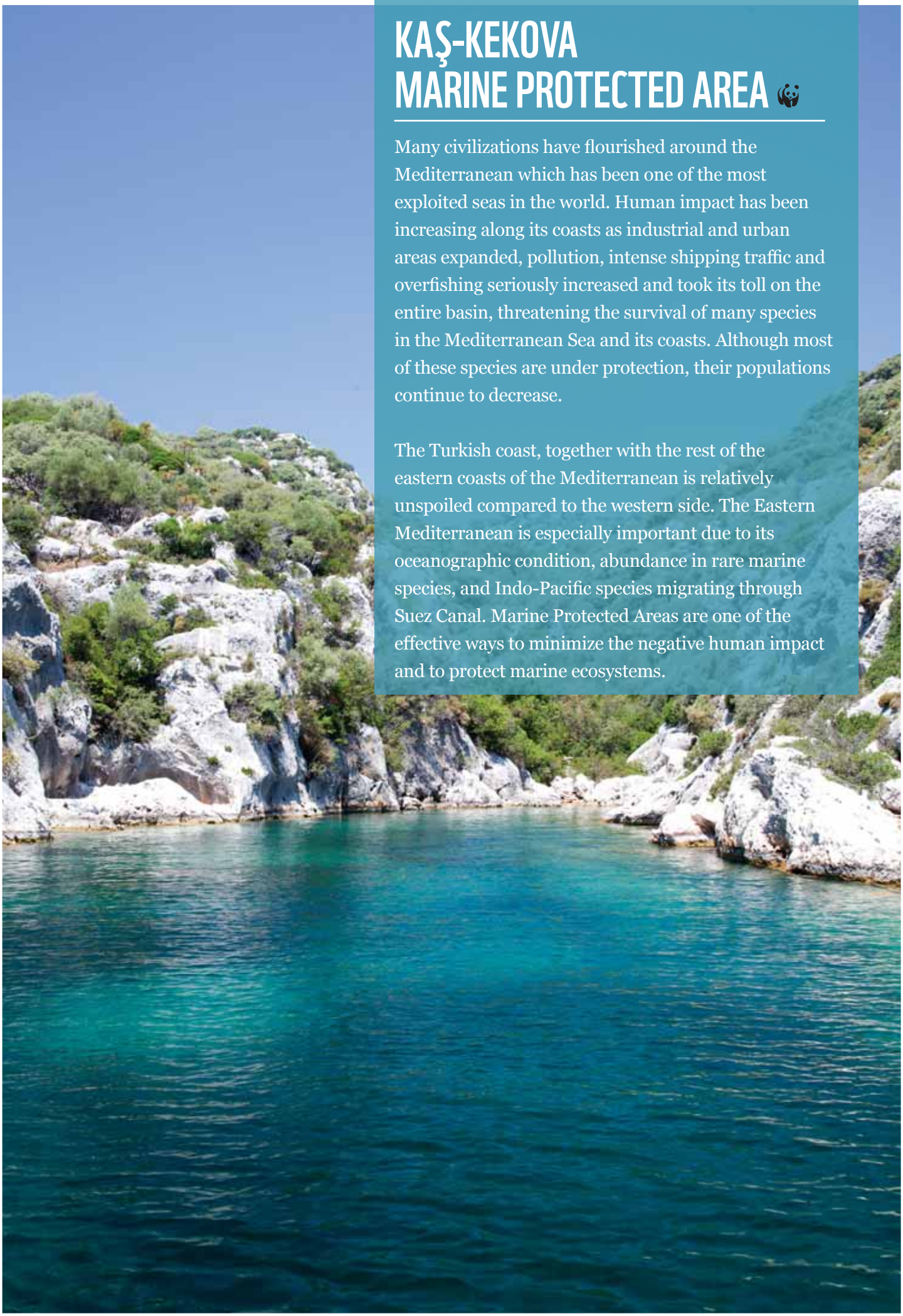
KAŞ-KEKOVA MARINE PROTECTED AREA

Many civilizations have flourished around the Mediterranean which has been one of the most exploited seas in the world. Human impact has been increasing along its coasts as industrial and urban areas expanded, pollution, intense shipping traffic and overfishing seriously increased and took its toll on the entire basin, threatening the survival of many species in the Mediterranean Sea and its coasts. Although most of these species are under protection, their populations continue to decrease.

The Turkish coast, together with the rest of the eastern coasts of the Mediterranean is relatively unspoiled compared to the western side. The Eastern Mediterranean is especially important due to its oceanographic condition, abundance in rare marine species, and Indo-Pacific species migrating through Suez Canal. Marine Protected Areas are one of the effective ways to minimize the negative human impact and to protect marine ecosystems.



WHAT IS A MARINE PROTECTED AREA?

A Marine Protected Area (MPA) is a marine space, officially designated for protection of biological diversity as well as other natural and cultural assets, and managed by legal mechanisms and/or other effective means.

Protected Areas are crucial for sustaining natural resources and the services provided by ecosystems. MPAs therefore could be regarded as safe havens for marine and human lives. Creation of new protected areas and better management of the existing ones are of vital importance for effective protection of species, ecosystems and ecological processes.

One of the fundamental problems in the management of MPAs is lack of resources needed for governance and surveillance. The best way to overcome these challenges is to share the responsibilities of implementation, monitoring and auditing with local stakeholders. This approach would not only help increase business opportunities but also lead to better protection of the site.

Photography: ©Nilüfer Araç / WWF-Turkey

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Why Do We Need Marine Protected Areas?

The future of Kaş-Kekova Specially Protected Area (SPA) is being shaped up together with local fishermen, representatives of diving clubs and boat owners and it is envisioned to become an effectively managed marine protected area with a strong local monitoring mechanism.

Advancement of technology has been changing the ways that people utilize marine and coastal areas and resources as well as the other sectors which are nested in them, such as fishing, tourism, agriculture. This transformation process affects marine biodiversity dramatically. The rapid decline in fish stocks and the destruction of marine ecosystems continue due to terrestrial pollutants. MPAs contribute to the solution of these problems and support sustainability of marine resources.

MPAs provide a number of benefits for fishing, local economies and marine ecosystems. They;

- Help to protect biological diversity and ecosystems.
- Contribute to the prevention of decline in local and global fish populations by protecting their breeding, feeding and migration grounds.
- Serve preservation and promotion of cultural heritage.
- As they protect all these values, they pose new opportunities for sustainable fishing and tourism practices, and support local economical growth.

Photography: © Burak Karacık / WWF Turkey

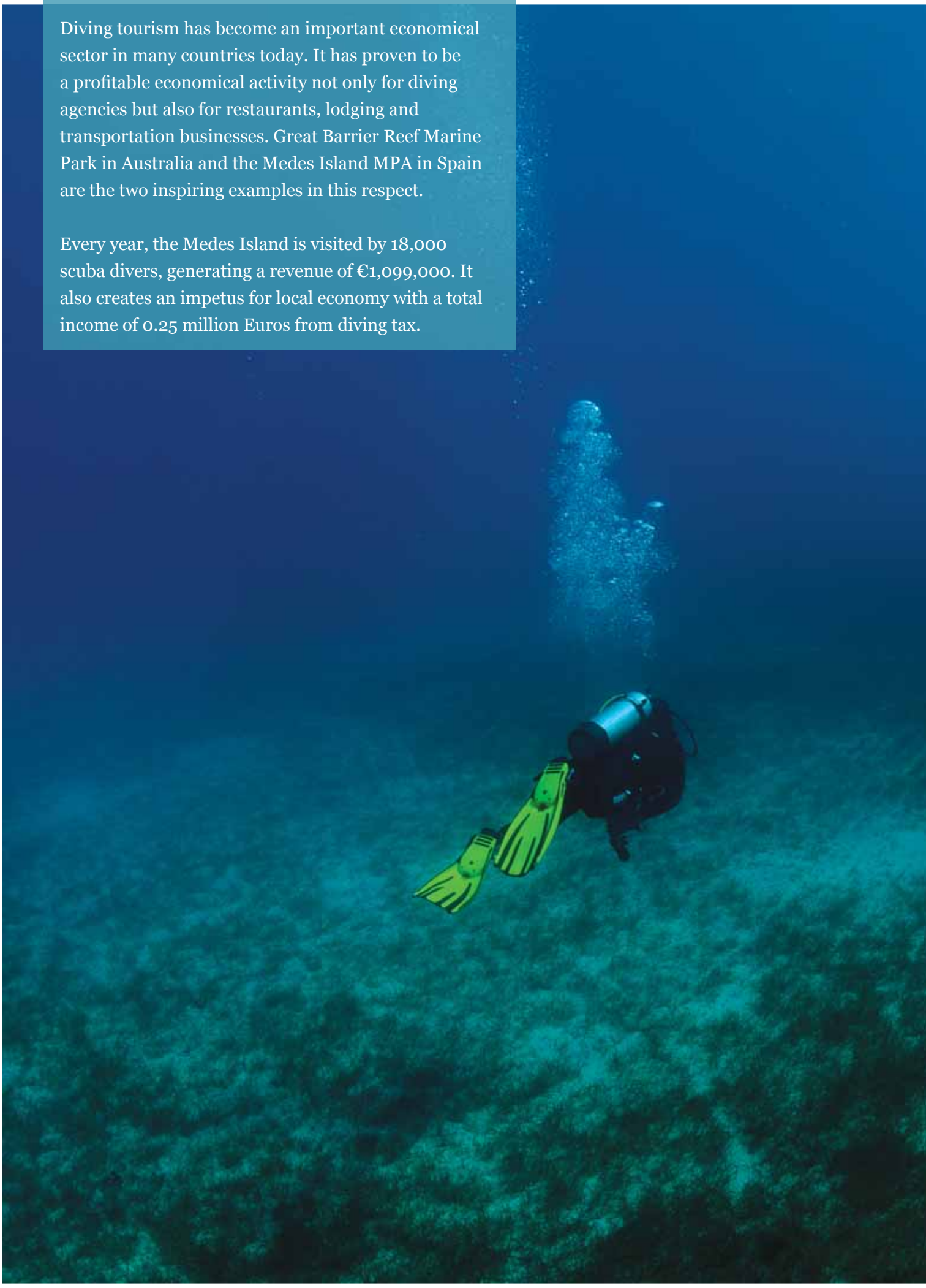
Tourism in Marine Protected Areas

Marine Protected Areas support creation of tourism centers with their clean waters, unexploited marine and coastal habitats, and rich biodiversity. They provide various job opportunities such as rangers and guides. They also support local tourism facilities such as restaurants, hotels and transportation services.

Photography: © Tolga Ünsün / WWF Turkey

Diving tourism has become an important economical sector in many countries today. It has proven to be a profitable economical activity not only for diving agencies but also for restaurants, lodging and transportation businesses. Great Barrier Reef Marine Park in Australia and the Medes Island MPA in Spain are the two inspiring examples in this respect.

Every year, the Medes Island is visited by 18,000 scuba divers, generating a revenue of €1,099,000. It also creates an impetus for local economy with a total income of 0.25 million Euros from diving tax.



Photography: © Hasan Yokeş / WWF-Turkey

Fishing in Marine Protected Areas

The no-fishing zones established in MPAs eventually prove increases in fish populations as well as diversity and economical value. The increased number of fish juveniles and adults enrich reserves around the protected area. Consequently, the future of fish stocks could be secured in the region.

Fishing is the second largest economical activity in the Great Barrier Reef Marine Park of Australia, which hosts 1,6 million divers and tourists every year. **Commercial fishing brings in an annual revenue of 359 million.** All commercial fishermen are liable to certain permits, access limitations and other regulations that are defined with respect to the target species and fishing tools. Amateur fishermen too are obliged to respect regulations concerning minimum and maximum sizes, fishing limits and other rules.

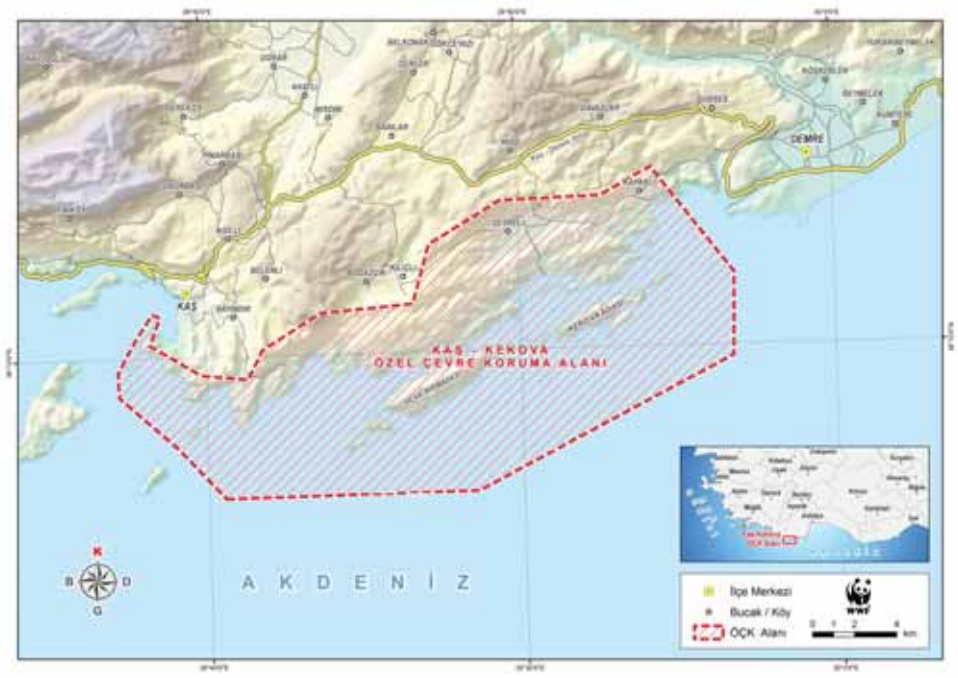
Photography: © Tolga Ünsün / WWF Turkey

WWF-TURKEY ON LYCIAN COAST SINCE 2002...

As part of WWF-Turkey's marine biodiversity survey which initiated in 2002 in the SW territories of Antalya province, the coastline between Patara and Tekirova was investigated and the distribution of marine species protected by national legislation and international conventions was mapped out.

The studies revealed that the coastline between Kaş and Kekova was exceptionally rich in terms of species of conservation importance in accordance with IUCN criteria. As a result of the analyses of the data collected, extension of the Kekova Specially Protected Area was proposed to the Repealed Institute for the Protection of Specially Protected Areas as to include the important marine areas around Kaş.

As a result of field studies carried out between 2002 and 2006, and with the decision of the Council of Ministers , the boundaries of Kekova Specially Protected Area has been extended as to include the coastline and the islands in the west up to Inceburun of Kaş. The protected area has been renamed as **Kaş-Kekova Specially Protected Area** (decision no. 2006/11266, Official Gazette dated 8/11/2006).

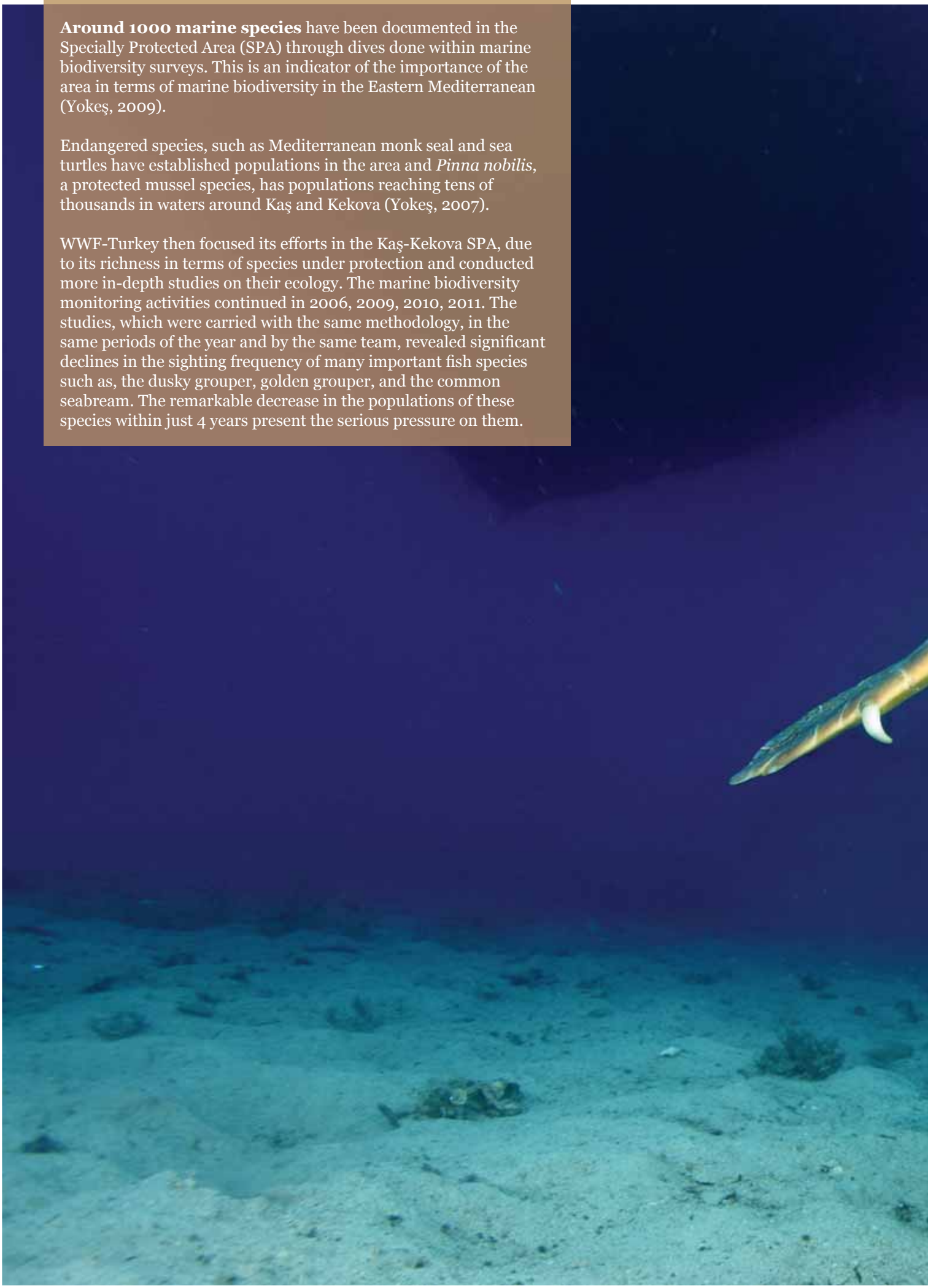


Map: © Cem Güllüoğlu / WWF-Turkey

Around 1000 marine species have been documented in the Specially Protected Area (SPA) through dives done within marine biodiversity surveys. This is an indicator of the importance of the area in terms of marine biodiversity in the Eastern Mediterranean (Yokeş, 2009).

Endangered species, such as Mediterranean monk seal and sea turtles have established populations in the area and *Pinna nobilis*, a protected mussel species, has populations reaching tens of thousands in waters around Kaş and Kekova (Yokeş, 2007).

WWF-Turkey then focused its efforts in the Kaş-Kekova SPA, due to its richness in terms of species under protection and conducted more in-depth studies on their ecology. The marine biodiversity monitoring activities continued in 2006, 2009, 2010, 2011. The studies, which were carried with the same methodology, in the same periods of the year and by the same team, revealed significant declines in the sighting frequency of many important fish species such as, the dusky grouper, golden grouper, and the common seabream. The remarkable decrease in the populations of these species within just 4 years present the serious pressure on them.



Photography: © Hasan Yokeş / WWF-Turkey

THE ASSETS OF KAŞ-KEKOVA

Time is ticking for Groupers

The presence of groupers (dusky grouper and golden grouper), which are on top of the food chain, is an indicator of the health of marine ecosystem. These flagship species, which are categorized as "endangered" by IUCN are also important for their economic value.

The dusky grouper and the golden grouper, top predators of food chain of rocky habitats, are under risk in the seas worldwide due to their large size, long life cycle and the long period for reaching reproduction maturity.

THE DUSKY GROUPER AND THE GOLDEN GROUPER ARE UNDER RISK WORLDWIDE

The recent studies conducted in Kaş-Kekova area suggest dramatic decline in the populations of both dusky grouper and golden grouper. Even if their wide geographical range, abundance of juveniles and dispersal of individuals are considered to be the limiting factors of their extinction, over-fishing, easycatch and habitat loss pose serious threats over these species.

Things Widely Unknown About Groupers...

Groupers have hermaphroditic life cycles, which can be seen in some marine fish species only.

A young grouper needs to live at least 5-8 years to become a female and 12-18 years to become a male (Djabali, 1993; Bertoncini et. al., 2003; Allson and West, 2003). Hence, the number of male individuals are far too less in a grouper population.

FEMALE / MALE RATIO FOR A HEALTHY AND SUSTAINABLE GROUPER POPULATION IS 3.5/1 (MARINO ET. AL., 2001).

According to the results of WWF-Turkey surveys in Kaş-Kekova SPA, the observation frequency has declined by 40% for dusky grouper and by 10% for golden grouper, when the 2002 and 2006 figures are compared (Yokeş, 2007).

The populations of these species, which are protected by national legislation and international conventions, need to be large enough with individuals of various ages in order to sustain healthy and reproducing populations. The current species based protection measures is not sufficient and it needs to be complemented with habitat protection. Suitable zones within MPAs for young individuals to flourish and effective protection of these spaces would ensure sustainability of the populations. The presence of healthy populations demonstrates the prosperity of conservation efforts within a marine protected area.

Have You Seen Any Seabreams in Kaş?

The Common Seabream (*Pagrus pagrus*) is recorded as "threatened" in the IUCN Red List, but is not included in the communiqué of the Ministry of Food Agriculture and Livestock which regulates fishing in Turkey. Its population in Kaş-Kekova SPA has declined by 95% since 2002. The observation frequency has dropped from 15 to 1 (Yokeş, 2007).

Compared to the other parts of Antalya province, the pressure from industrial and touristic development as well as agricultural pollution is relatively low. Therefore this decline in the population should be due to illegal fishing and/or structural changes in the ecosystem.

95%
THE RATE OF COMMON SEABREAM'S POPULATION DECLINE IN KAŞ

Photography: ©Hasan Yokeş / WWF-Turkey

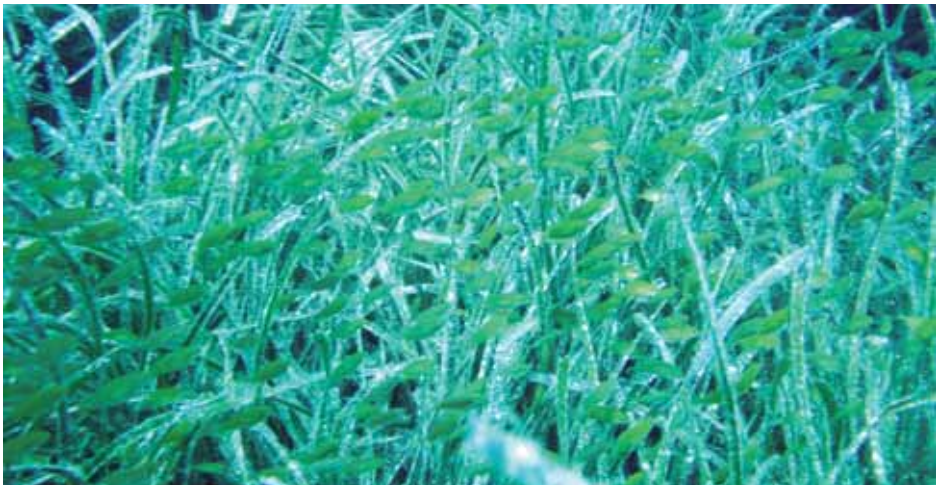
Forests of Our Seas: Sea grass

Sea grass (*Posidonia oceanica*) provides oxygen for marine ecosystems and is an important source of food for herbivorous organisms. The dense carpet of sea grass on the bottom also serves as a nursery for various marine species. Sea grass beds in sheltered spots host a wider variety of species than those in the open sea.

Photography : © Hasan Yokeş / WWF-Turkey

SEA GRASS SERVES AS A NURSERY FOR MANY MARINE SPECIES

Posidonia oceanica grows within the depths of 0-40 meters and is estimated to cover an area of 2.5 to 5 million hectares in Mediterranean Basin. It is the most productive of all sea grass species with respect to oxygen production. Sea grass grows very slowly and up to the age of 30 but is continuously damaged by human activities such as anchoring, pollution and coastal development. *P. oceanica* is protected in entire Mediterranean by international treaties (Bern and Barcelona Conventions).



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FOR A SUSTAINABLE FUTURE:

The protection of Kaş-Kekova SPA, which is one of the most biologically rich marine ecosystems in Turkey, and the sustainable management of its natural resources is of critical importance for the future of the area.

The regional MedPAN South Project - coordinated by WWF-Mediterranean - aims at improving the management effectiveness of Marine Protected Areas in the south and east of the Mediterranean and supporting the creation of new ones. Pilot projects in five countries (Algeria, Tunisia, Libya, Turkey and Croatia) are being implemented to showcase solutions to some of the main problems affecting Marine Protected Areas in the Mediterranean.
The development and implementation of Marine Protected Area management plan for Kaş-Kekova SPA is one of these pilot projects. The project has been implemented by WWF-Turkey in partnership with WWF-Mediterranean Programme Office (WWF MedPO) and the Repealed Environmental Agency for the Protection of Specially Protected Areas (EPASA) between 2009 and 2012. While the fundamental principles for protection of marine ecosystems, archaeological sites and cultural assets are being negotiated with local and national decision-makers, the establishment of an ecologically appropriate and economically viable future for local communities is being sought. The Kaş-Kekova SPA Marine Management Plan, which is an important tool in this respect, is being drafted by WWF-Turkey through a participatory process. Some of the activities carried out in this process are :

2009-2011 Biodiversity Survey was carried out by WWF-Turkey, while the Socio-economical Structure Survey and Kekova-Ölüdeniz Carrying Capacity Research were realized by the Repealed Environmental Agency for the Protection of Specially Protected Areas (EPASA).

- Training seminars on “Marine Protected Areas” at local and national levels.
- Approximately 40 consultation meetings with local and higher level decision makers for gathering their views on the management plan.
- A visit to Bouche de Bonifacio Marine Protected Area in France with local stakeholders to exchange knowledge and experience.
- Awareness raising activities for local communities and tourists carried out in collaboration with local NGOs, within a local festival called “There is no Other Kaş in the Mediterranean”, organized by the Coast Guard.
- A feasibility study of a mooring system conducted for the protection sea grass, revealed threatened for a total of 160 buoys and 5 buoys installed as a pilot implementation at certain spots which are intensively used by boats in order to demonstrate the importance and functioning of such a system.

The marine protected areas, which are gaining importance around the world day by day, give nature a chance to recover. However, the key to success lies in the participatory approach at every stage from announcement to management.

Thanks to the joint implementation of Management Plan with all stakeholders beyond 2012, the Kaş-Kekova SPA is expected to be one of the most important areas contributing to the conservation of marine biodiversity of the Mediterranean in the wider context.

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KAŞ-KEKOVA MARINE PROTECTED AREA

100% RECYCLED

1.000

Approximate number of marine species recorded at the Kaş-Kekova Specially Protected Area by scuba diving.

95%

The reduction rate of sighting Common Seabream population in the field.

40%

The reduction of observation frequency in groupers.

160

The number of buoys needed to protect Kaş – Kekova underwater life.

MARİNE PROTECTED AREA

One of the best tools for responsible sea tourism and an alternative source of income for local communities while saving the biodiversity.

Why we are here.
WWF-Turkey's mission is to stop the degradation of planet's natural environment and to build a future in which humans live in harmony with nature by conserving biological diversity, ensuring that the use of renewable natural resources is sustainable and promoting the reduction of pollution and wasteful consumption.

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