

Mediterranean Basin ecosystem profile overview



CRITICAL | **ECOSYSTEM**
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about CEPF

Established in 2000, the Critical Ecosystem Partnership Fund (CEPF) is a global leader in enabling civil society to participate in and influence the conservation of some of the world's most critical ecosystems. CEPF is a joint initiative of l'Agence Française de Développement (AFD), Conservation International, the Global Environment Facility (GEF), the Government of Japan, the John D. and Catherine T. MacArthur Foundation, and the World Bank. CEPF is unique among funding mechanisms in that it focuses on high-priority biological areas rather than political boundaries and examines conservation threats on a landscape scale. From this perspective, CEPF seeks to identify and support a regional, rather than a national, approach to achieving conservation outcomes and engages a wide range of public and private institutions to address conservation needs through coordinated regional efforts.

introduction

The Mediterranean Basin—which stretches across 2 million square kilometers and 34 countries, east from Portugal to Jordan, and south from northern Italy to Cape Verde—is one of 34 biodiversity hotspots identified around the globe, Earth’s most biologically rich yet threatened areas.

Its status as a hotspot, as well as the unique biological, economic and cultural importance of the Mediterranean Basin, led CEPF to create a conservation strategy for the entire region. The strategy, known as the Mediterranean Basin Ecosystem Profile, will guide CEPF’s highly targeted investment in the region—\$10 million, to be disbursed via grants to civil society. But the profile, which was developed through the input of more than 90 organizations based or working in the region, is much more than CEPF’s strategy. It offers a blueprint for future conservation efforts in the Mediterranean Basin and cooperation within the donor community.



A woman mills grain by hand in Buoficha, Tunisia.
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Development of the Ecosystem Profile

CEPF uses a process of developing ecosystem profiles to identify and articulate an investment strategy for each region to be funded. Each profile reflects a rapid assessment of biological priorities and the underlying causes of biodiversity loss within particular ecosystems.

The Mediterranean Basin Ecosystem Profile was developed with broad stakeholder consultation between December 2008 and July 2010 under the leadership of Doğa Derneği (a BirdLife partner based in Turkey). The profiling team comprised 12 core nongovernmental organizations including BirdLife International and its partners in the region, Conservation International, IUCN, Plantlife International and Tour du Valat. All worked collaboratively to develop the profile and engaged more than 80 additional organizations. CEPF's investment in the profile was complemented by the generous financial and technical support of the Prince Albert II of Monaco Foundation and MAVA Fondation pour la Nature.

The ecosystem profile presents an overview of the hotspot, including its biological importance in a global and regional context, potential climate change impacts, major threats to and root causes of biodiversity loss, socioeconomic context and current conservation investments. It provides a suite of measurable conservation outcomes, identifies funding gaps and opportunities for investment, and thus identifies the niche where CEPF investment can provide the greatest incremental value.

It also contains a five-year investment strategy for CEPF in the region. This investment strategy comprises a series of strategic funding opportunities, called strategic directions, broken down into a number of investment priorities outlining the types of activities that will be eligible for CEPF funding. The ecosystem profile does not include specific project concepts. Civil society groups will develop these for their applications to CEPF for grant funding.



Soybean crop. © istockphoto

Biological Importance of the Mediterranean Basin

The Mediterranean Basin Hotspot is one of the most extraordinary places on Earth and is remarkable for both its high level of biological diversity and its spectacular scenery. Its location at the intersection of two major landmasses, Eurasia and Africa, and the huge topographical variety and altitudinal differences—from sea level to 4,165 meters in the west (Morocco) and 3,756 meters in the east (Turkey)—are major contributing factors to its biodiversity. The basin's climate is unique, characterized by cool, wet winters and hot, dry summers. Nevertheless, rainfall ranges between 100 millimeters and 3,000 millimeters, making the region suitable for a wide range of vegetation types, and it is ranked as the third richest hotspot in the world in terms of its plant diversity. Approximately 13,000 of its 30,000 plant species are endemic, or unique, to the hotspot, and many more are being discovered every year.

The mammal fauna of the Mediterranean Basin includes more than 330 species. Of these, 87 are terrestrial mammals endemic to the hotspot, with rodents, shrews, moles and hedgehogs being the most numerous. The avifauna of the hotspot consists of 600 species, including 16 endemics. There are a significant number of species that migrate from Europe to Africa crossing the Mediterranean Basin at various points. There are 357 species of reptiles (including two species of marine turtle) of which 170 species are endemic. A total of 115 amphibian species occur in the basin, including 71 endemics. The freshwater fish in the region are derived from the rich faunas of Eurasia and Africa. Of the 400 species of freshwater fish in the hotspot, 253 are endemic.

The name of the region is derived from *Mediterraneum*, meaning “sea in the middle of land.” The marine portion of the Mediterranean Basin Hotspot includes 2.5 million square kilometers of sea. It has been influenced by the unique connections with the nearby waters, in the west through the narrow Strait of Gibraltar to the Atlantic Ocean, in the east to the Black Sea through the Dardanelles, as well as through the artificial Suez Canal to the Red Sea. Within the basin, the Straits of Sicily divide the sea into two main bodies of water: the western Mediterranean Basin, which has a more Atlantic influence, and the eastern Mediterranean Basin. The limited water circulation patterns within the basin result in these bodies remaining to some extent disconnected.

In addition to its biological and geographic wonders, the region is a treasure trove of human history and culture. It is home to some of the world's earliest civilizations and the world's oldest sovereign state and first constitutional republic, San Marino, which dates back to 301 A.D. The first human civilizations (the ancient civilizations of Mesopotamia and the Nile Valley) occupied parts of the eastern Mediterranean Basin from around the fourth millennium B.C. The Mediterranean Sea gradually became both the central sea of Western civilization and the trade link to the riches of the East through the first millennium A.D. and the second half of the second millennium A.D. The residents of the region speak a multitude of languages, with the most common official language being Arabic.



Mediterranean monk seal (*Monachus monachus*)
© Cem Orkun Kiraç

Conservation Outcomes

The Mediterranean Basin Ecosystem Profile reflects CEPF's commitment to and emphasis on using conservation outcomes—targets against which the success of investments can be measured—as the scientific underpinning for determining geographic and thematic focus for investment. Conservation outcomes are the full set of quantitative conservation targets in a hotspot that need to be achieved in order to prevent biodiversity loss. They can be defined at three scales—species, site and landscape—that interlock geographically through the presence of species in sites and the presence of sites in landscapes. They are also logically connected. If species are to be conserved, the sites in which they live must be protected, and the landscapes or seascapes must continue to sustain ecological services, such as provision of fresh water and shelter from floods and storms, on which the sites and the species depend.

Defining conservation outcomes is a bottom-up process, with a definition of species-level targets first, from which the definition of site-level targets is developed. The process requires detailed knowledge of the conservation status of individual species. The Mediterranean Basin profile identifies 555 globally threatened species, as defined by the IUCN Red List (2008). The profile then narrows its focus to 219 globally threatened species that are endemics occurring in countries eligible to receive CEPF support.

Recognizing that most species are best conserved through the protection of sites where they occur, the profile's creators next pinpointed key biodiversity areas—sites important for the conservation of globally threatened species, restricted-range species, biome-restricted assemblages, or congregatory species—as targets for achieving site-level conservation outcomes. A total of 1,110 key biodiversity areas are identified in the profile, covering more than 40.7 million hectares, or approximately 19.5 percent of the land area of the hotspot (see map on p. 10). Of the total, 512 contain coastal or marine habitat, highlighting the importance of these sites for both terrestrial and marine conservation. In addition, 17 biodiversity conservation corridors were identified containing 435 of the key biodiversity areas. These corridors are essential for protecting the processes and links required to support threatened species, particularly in terms of long-term adaptation to climate change. The corridors are key to ensuring resilience of ecosystems so they can continue to provide essential services to natural and human communities, and they are considered most important for achieving long-term conservation results.



A Barbary macaque (*Macaca sylvanus*) grooms another. This is the only primate found in the Mediterranean Basin, where it is restricted to relict patches of forest and scrub in Morocco and Algeria. © Ingo Arndt/Minden Pictures

Threats

Despite the considerable, yet unevenly distributed investments in conservation in the Mediterranean Basin, many immediate and long-term threats to biodiversity persist, primarily because of the region's reliance on revenue from tourism. This will be exacerbated as tourism increases and as populations grow, causing further strain on the limited water, land and energy resources. Coastal and urban development for tourism, overexploitation of natural resources including water for commercial and subsistence purposes, and habitat degradation and loss from agriculture continue to degrade and destroy habitats at alarming rates, making the entire region and its biodiversity more susceptible to negative impacts from anticipated climatic changes.

Underlying these direct threats are high population density, lack of a coordinated basin-wide response, poverty, lack of capacity and changes in global climatic conditions. Improved management of the hotspot's landscapes and seascapes is essential for sustainable growth and development in the region. Government and nongovernmental capacity must be increased if conservation is to succeed in this hotspot in the long term.

Human-caused climate change is directly affecting the ecosystems across the Mediterranean. Research suggests that climate change will lead to an increase in mean annual temperatures, with more frequent hot summer days and high temperatures especially in the southern and eastern parts of the basin. The change in temperature will be associated with a predicted shift in annual precipitation. Annual rainfall is expected to decrease by 20 to 30 percent over the next 50 years, and long-term predictions of 70 to 100 years indicate a general drying for the entire Mediterranean Basin.

These predicted warming and drying trends have important implications for the conservation of the region's biota. The frequency of dry, hot days is conducive to fires, especially in the southern and eastern component of the Mediterranean Basin. Climate change is also a major concern because increased water demand together with a lower level of precipitation will result in the desiccation of streams, a habitat on which many of the endemic species are dependent.



Meeting the demands of tourism, as shown in this image from Tuscany, and other industries place a significant burden on the region's natural resources, especially freshwater. © Angelo Giampiccolo/bluegreenpictures.com

Current Investments

The most important multilateral donors in the Mediterranean are the European Union (EU) and Global Environmental Facility (GEF). Between 1992 and 2009 they each invested an average of \$14 million annually in biodiversity conservation projects. Working through the United Nations Development and Environment Programmes (UNDP and UNEP) and the World Bank as implementing agencies, GEF has provided more than \$447 million for the Mediterranean Basin. Of that amount, \$175.2 million (26.3 percent) has been devoted to biodiversity projects. The EU makes its contribution to the environment in the Mediterranean Basin through a number of funding mechanisms and instruments, with funding through LIFE, the EU's financial instrument supporting environmental conservation, being the most clearly focused on biodiversity.

In addition, international conventions and NGOs are active fund-raisers for conservation, and some are donors also, such as the Frankfurt Zoological Society and the Royal Society for the Protection of Birds. Private foundations and trusts as well as corporate and individual donors support biodiversity conservation in the hotspot. They include MAVA Foundation, Arcadia Fund, Milieucontact International, Rufford Foundation, Fondazione Cariplo and the Pew Charitable Trusts.

However, the geographical distribution of funds is not equitable. The EU funds target countries in the northern Mediterranean Basin, including the EU Macaronesian territories (Canary Islands, Madeira and the Azores). The other subregions—the Middle East, North Africa, the Balkan states and Cape Verde—receive support mostly from GEF and other multilateral and bilateral agencies focused on less-developed countries. They are also priority areas for some foundations and NGO investments.



Irrigation-intensive activities, such as cotton farming, drain the basin's freshwater systems.
© Bill Baston/FLPA/Minden Pictures

CEPF Niche and Investment Strategy

CEPF investments in the Mediterranean Basin will focus on six priority biodiversity conservation corridors with 50 of the highest priority key biodiversity areas. Twenty more key biodiversity areas that represent highly irreplaceable and vulnerable sites in five other corridors will be the focus of site-level investments. A number of these sites contain some of the last remaining pristine coastlines in the Mediterranean Basin. In total, 15 countries will be eligible to receive CEPF funds.

CEPF's niche will be to work with all actors engaged in conservation and development activities in Mediterranean Basin countries to foster partnerships in priority corridors and sites. Such partnerships will seek to reduce impacts of development on natural resources and systems that large communities are dependent on. In addition, opportunities to increase the benefits and reduce upland shifts in land use by the communities within these landscapes will be explored. These approaches will be based on applying the experiences of unsustainable development in other parts of the Mediterranean Basin, as well as introducing new approaches. The ecological footprint in the northern part of the Mediterranean is significantly larger than in the south; therefore investment in the south presents an important opportunity to ensure that areas with high biodiversity and high levels of threat, yet not as large of an ecological footprint, can be effectively protected.

Currently, few funding organizations support civil society to play a vital role in the conservation of priority key biodiversity areas and the water basins where these areas are located. Most key biodiversity areas are inhabited by large numbers of people who rely on water and other natural resources. Civil society in the hotspot is positioned to take the lead in sustainable conservation within these sites, and it can effectively stimulate partnership between governments and the corporate sector toward conservation of biodiversity



The High Atlas Mountains of Morocco
© David Cottridge/npl/Minden Pictures

CEPF strategic directions and investment priorities

1

STRATEGIC DIRECTION

Promote civil society involvement in Integrated Coastal Zone Management to minimize the negative effects of coastal development in three priority corridors (Southwest Balkans; Cyrenaican Peninsula; and Mountains, Plateaus and Wetlands of Algerian Tell and Tunisia), and 20 coastal and marine priority key biodiversity areas in other corridors.



INVESTMENT PRIORITIES

- Support civil society involvement in the development and implementation of integrated coastal zone management (ICZM) and the advancement of best practices in integrating nature conservation with the tourism sector.
- Raise awareness and influence the choices of the European tourist market and tourism businesses in favor of tourism practices appropriate for nature.
- Support local stakeholders to advance and benefit from nature-based tourism through the diversification of tourism-related activities and generation of alternative livelihoods.

2

STRATEGIC DIRECTION

Establish the sustainable management of water catchments and the wise use of water resources with a focus on the priority corridors of the Atlas Mountains, Taurus Mountains, Orontes Valley and Lebanon Mountains and Southwest Balkans.

INVESTMENT PRIORITIES

- Contribute to and establish integrated river basin management initiatives for pilot basins and replicate best practices to reduce the negative impacts of insufficiently planned water infrastructures.



- Support IRBM policy and legislation development and implementation through capacity building and advocacy at all appropriate levels.
- Support innovative financing mechanisms for conserving and restoring freshwater ecosystems and traditional water catchments.
- Facilitate and support adaptation to climate change via improving water use efficiency in agricultural landscapes and allowing environmental flows for key biodiversity areas.
- Share and replicate the lessons learned and best practices from and with other river basin management experiences elsewhere in the Mediterranean.

The ecosystem profiling process resulted in defining four strategic directions. Through these strategic directions, CEPF will help reduce the negative impacts of the tourism industry before it becomes as problematic for the southern and eastern Mediterranean as it has been for the north. This will be complemented by supporting the wise use of one of the scarcest resources in the hotspot: water. CEPF will address the ecological and economic aspects of water consumption primarily at the river basin scale, but also at local and national scales, if appropriate. Some key biodiversity areas within the hotspot will certainly require more in-depth attention due to their high irreplaceability and vulnerability. CEPF will address this via supporting the enhancement of the existing protected areas network. Most of the actions will be targeted at six priority corridors and 70 key biodiversity areas.

3

STRATEGIC DIRECTION

Improve the conservation and protection status of 44 priority key biodiversity areas.



INVESTMENT PRIORITIES

- Establish new protected areas and promote improved management of existing protected areas by developing and implementing sustainable management plans .
- Develop financial mechanisms that support protected areas while enhancing sustainable livelihood and promoting community management of priority key biodiversity areas.
- Raise awareness of the importance of priority key biodiversity areas, including those that have irreplaceable plant and marine biodiversity.

4

STRATEGIC DIRECTION

Provide strategic leadership and effective coordination of CEPF investment through a regional implementation team.



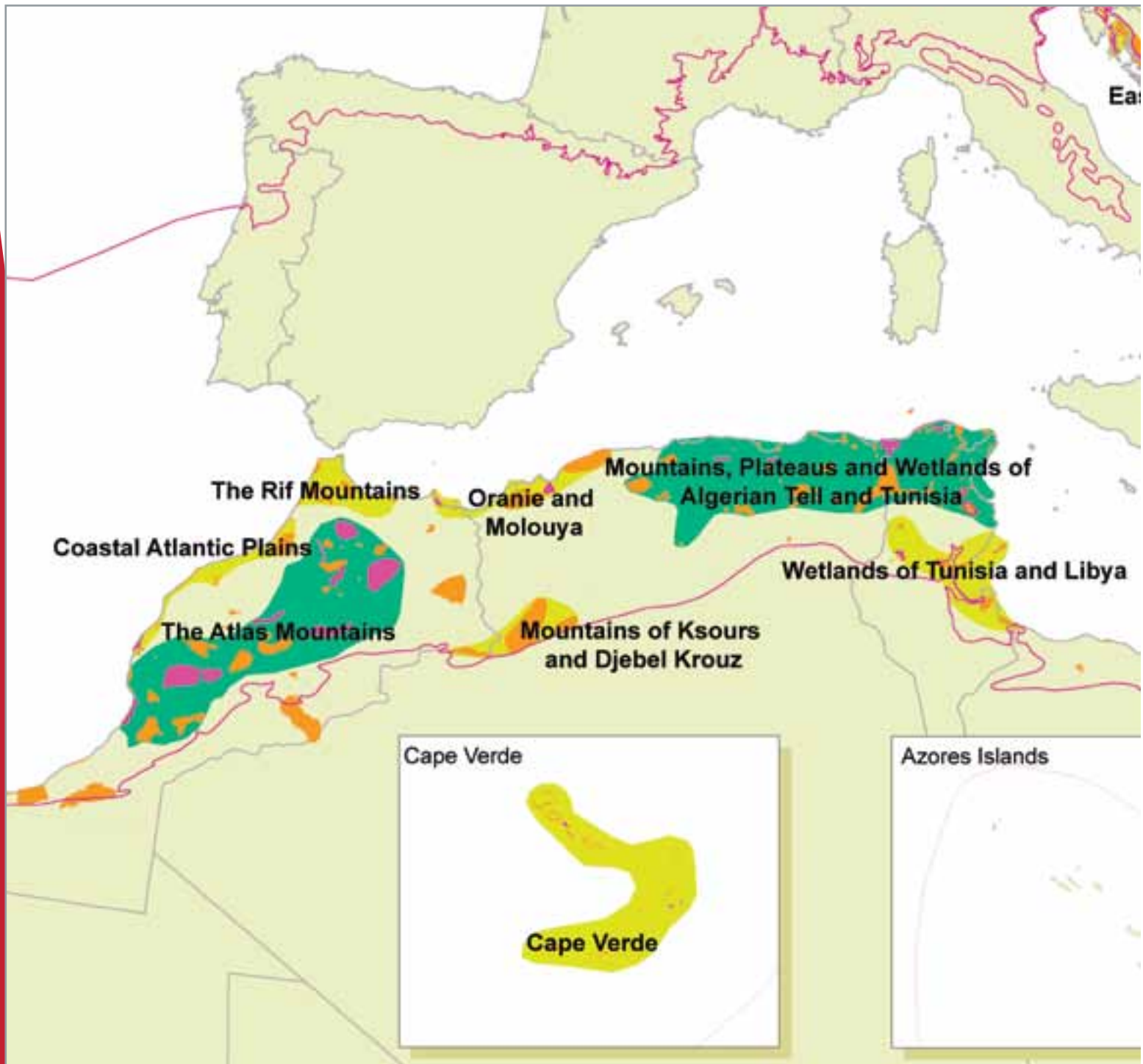
INVESTMENT PRIORITIES

- Build a broad constituency of civil society groups working across institutional and political boundaries toward achieving the shared conservation goals described in the ecosystem profile.
- Act as a liaison unit for relevant networks throughout the Mediterranean, harmonizing comparable investments and channeling funding opportunities to priority areas that require support.

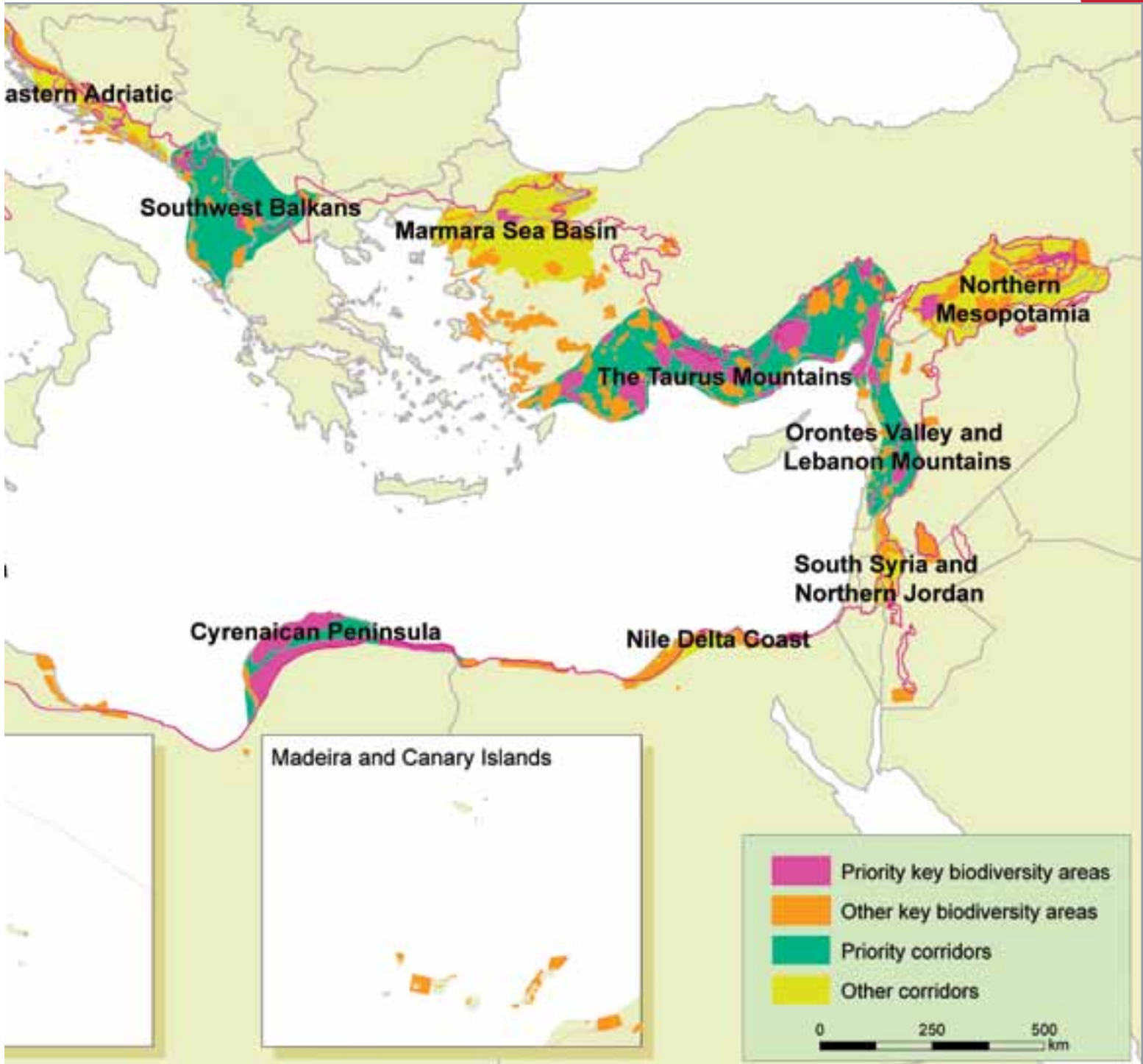
CEPF Investments

The CEPF investment will focus on six biodiversity conservation corridors with 50 of the highest-priority key biodiversity areas. The six corridors are:

- Southwest Balkans
- Mountains, Plateaus and Wetlands of Algerian Tell and Tunisia
- Atlas Mountains
- Taurus Mountains
- Cyrenaican Peninsula
- Orontes Valley and Lebanon Mountains



An additional 20 key biodiversity areas that contain vitally important threatened species and provide essential ecosystem services will also be a focus for investment. Seven of these sites contain some of the last remaining pristine coastline in the Mediterranean Basin. In total, 15 countries will benefit from the investment. (In order to be eligible to receive CEPF funds, countries must be signatories to the Convention on Biological Diversity and be client members of the World Bank.)



conclusion

The Mediterranean Basin Hotspot is one of the biological wonders of the world. CEPF will provide a source of funding there that is designed to reach civil society in a way that complements funding from government agencies and other donors and inspires innovative conservation activities.

The development of this comprehensive ecosystem profile and the CEPF investment strategy was made possible by extensive consultation with stakeholders. It marks an important point in conservation of the region. Through this process, for the first time, there has been an attempt to assess threats throughout the Mediterranean Basin and to develop a regional strategy to address these—a critical step toward ensuring the future vitality of this natural treasure. It also provides a new opportunity for donors to deliver coordinated support to conservation groups working in the region.



Turkish frog (*Rana holtzi*)
© Ali Ihsan Gokcen



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A male Palestine sunbird (*Nectarinia osea*) feeds from flowers. © Hanne & Jens Eriksen/naturepl.com



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