



The Conservation Status of Breeding Raptors in the Mediterranean



Bonelli's Eagle (*Aquila fasciata*)
is classified as Least Concern in the
Mediterranean region. © J.R. Garrido





Griffon Vultures (*Gyps fulvus*) at Jbel Moussa, Morocco. © Rachid El Khamlichi

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This report comprises a summary of the regional conservation status of breeding raptors (birds of prey) in the Mediterranean region. The IUCN Centre for Mediterranean Cooperation, in collaboration with BirdLife International, the IUCN Biodiversity Assessment and Knowledge Programme and a key group of regional experts, presents the overall results and findings of the regional Red List assessment. The objective of this report is to provide the baseline status of this group of birds in the region. It summarizes information about those species that have been found to be of greatest conservation concern. It is envisaged that the information contained within this report will facilitate the development of priority research, conservation and management actions for the region.

The Mediterranean Region

The geographical scope is the Mediterranean region according to the Mediterranean Basin Biodiversity Hotspot (Mittermeier *et al.*, 2004; CEPF 2017), excluding the Macaronesian islands. The Mediterranean region stretches approximately 3,800 km from the tip of Portugal in the west to the shores of Lebanon in the east, and approximately 1,000 km from Italy in the north to Morocco and Libya in the south. The region covers 25 countries connected by a common sea, spread across three continents.

Environmental conditions in the Mediterranean Basin have a profound influence on the vegetation and wildlife of the region. The climate is characterised by hot, dry summers and cool, wet winters, and the topography is varied and contrasting (DG Environment 2022). The Mediterranean region comprises a diverse landscape of high mountains, rocky shores, scrubland, semi-arid steppes, coastal wetlands, sandy beaches and a myriad of islands of various shapes and sizes. The landscape is a direct result of centuries of human-induced activities, such as forest fires, clearance, livestock grazing and cultivation (Zeder, 2008; Sundseth, 2009). The region is one of the world's richest in terms of animal and plant diversity, with a high level of endemism (Myers *et al.*, 2000).



The Spanish Imperial Eagle (*Aquila adalberti*) is assessed as Vulnerable in the Mediterranean region. © D. Buron

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Mediterranean Raptors

Raptors are birds of prey from several families. Within the Mediterranean region, they are represented by members of the Accipitridae (buzzards, eagles, hawks, harriers, kites and Old World vultures), Falconidae (falcons), Pandionidae (osprey), Strigidae (owls) and Tytonidae (barn-owls). In total, 61 species (34 Accipitridae, 10 Falconidae, 1 Pandionidae, 15 Strigidae and 1 Tytonidae) occur in the Mediterranean region.

The regional IUCN Red List status was assessed for these species at the Mediterranean level. Only the breeding status was assessed, using data and distribution maps from global (BirdLife International 2021a), European (BirdLife International 2021b) and North African (Garrido *et al.*, 2021) level assessments that had previously been compiled, taking into account the proportion of the range that falls within the Mediterranean region.

Of the longlist of 61 species, eight were found to be Not Applicable (NA) for the Mediterranean Red List as they are not thought to occur as regular breeding species within the region (or known to have done so in the past [since 1500]). They include six species from the Accipitridae (Steppe Eagle *Aquila nipalensis*, Rough-legged Buzzard *Buteo lagopus*, Pallid Harrier *Circus macrourus*, Greater Spotted Eagle *Clanga clanga*, Yellow-billed Kite *Milvus aegyptius* and Lappet-faced Vulture *Torgos tracheliotos*), one from the Falconidae (Merlin *Falco columbarius*) and one from the Strigidae (Desert Tawny Owl *Strix hadorami*).

The remaining 53 species were found to have (or are known to have had in the past) regularly occurring breeding subpopulations in the Mediterranean region and were, therefore, assessed using the IUCN regional Red List Guidelines.

The Golden Eagle (*Aquila chrysaetos*) is classified as Least Concern in the Mediterranean region. © J.R. Garrido

“53 species were found to have regularly occurring breeding subpopulations in the Mediterranean”





Transport and service corridors coming from impacts of electrocution or collision with power lines is a major threat for 47% of the species assessed. An electrocuted Bonelli's Eagle (*Aquila fasciata*) in southern Spain. It is classified as Least Concern in the Mediterranean region. © J. Martin



Conservation Status

Of the 53 species assessed, 19 (c. 36%) qualified as regionally threatened (Critically Endangered, Endangered, Vulnerable; Table 1). Another three species were regionally Near Threatened. One species was assessed as Regionally Extinct (Dark Chanting-goshawk *Melierax metabates*), and another as Data Deficient (Verreaux's Eagle *Aquila verreauxii*). Depending on the true status of the Data Deficient species, the percentage of species that are regionally threatened could be as high as 38%. The highest concentration of threatened raptor species is found in the northern part of the Mediterranean, especially in Spain, France and the Taurus Mountains of Turkey (figure 1).

Two species have a regional threat status lower than their global status; Egyptian Vulture *Neophron percnopterus* is Vulnerable in the Mediterranean region but Endangered globally; and Cinereous Vulture *Aegypius monachus* is Least Concern in the Mediterranean region but Near Threatened globally.

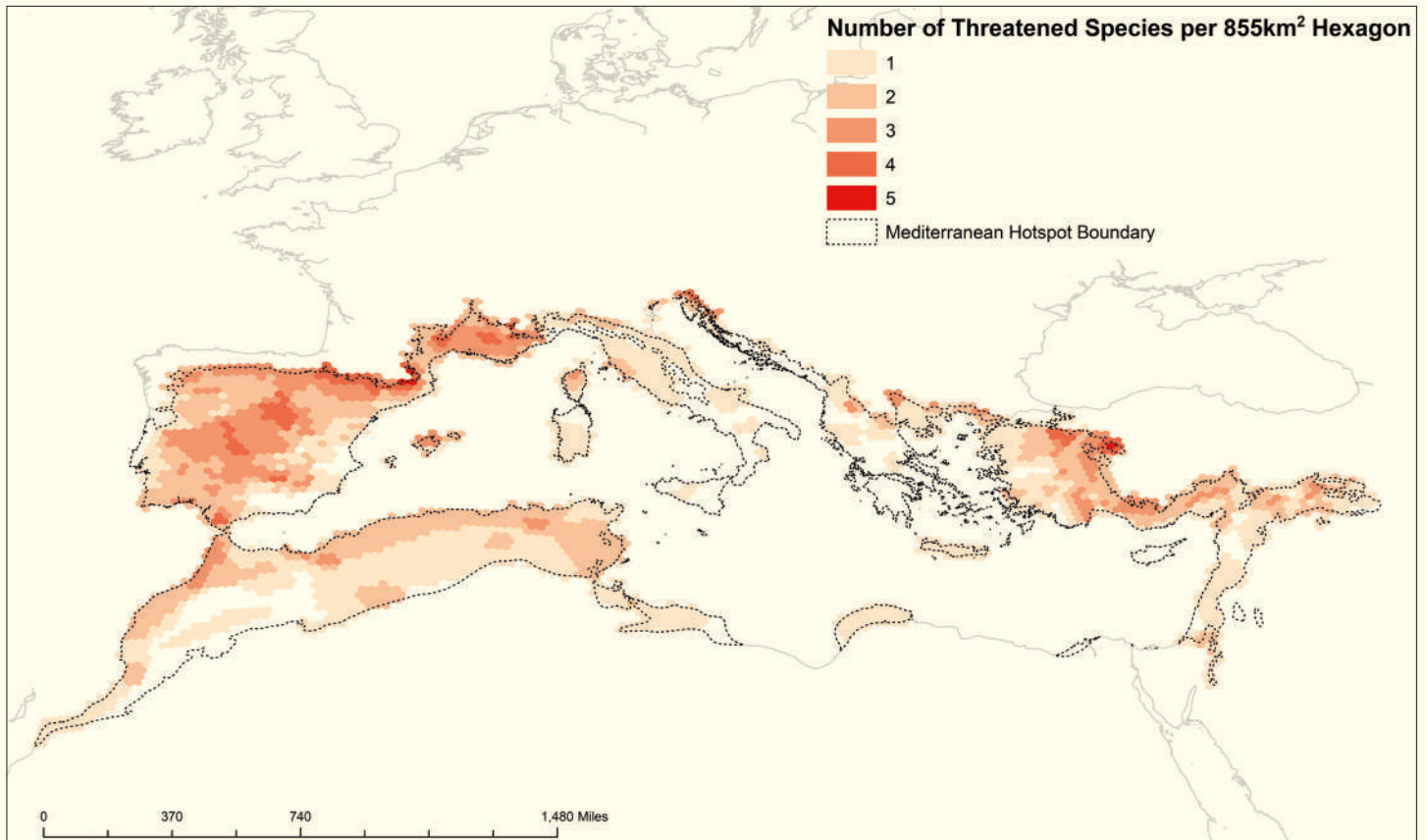


Figure 1: Distribution of regionally threatened (CR, EN, and VU) breeding birds of prey in the Mediterranean region.

Source: map based primarily on global species maps compiled by BirdLife International as well as those from Garrido *et al.* (2021) and data collected by the authors. © IUCN and BirdLife International.

Main Threats

The threat listed for the highest number of raptor species (43 out of 53 assessed; 81%) was 'hunting & trapping terrestrial animals'* (whether intentional, unintentional or persecution), which would also include both intentional and unintentional poisoning events (bait laid out for other target species). The second most prevalent was pollution (40 species; 75%), including the impacts of pesticides, which in some cases may no longer be active in parts of the range, and the impacts of veterinary non-steroidal anti-inflammatory drugs (NSAIDs) that are used to treat livestock, but are subsequently ingested by scavenging raptors. Other threats listed for many species were agriculture and aquaculture (36 species; 68%), predominantly causing habitat loss and degradation; energy production and mining, which includes the impacts of wind farm development (27 species; 51%); and transport and service corridors (25 species; 47%), where the most pertinent impact will likely come from impacts of electrocution or collision with power lines (Figure 2).



The Bearded Vulture (*Gypaetus barbatus*) is listed as Endangered in the Mediterranean region as a result of habitat loss, direct persecution and poisoning in parts of its range. © J. Martin

* Based on the IUCN-CMP Unified Classification of Direct Threats (<https://www.iucnredlist.org/resources/threat-classification-scheme>).

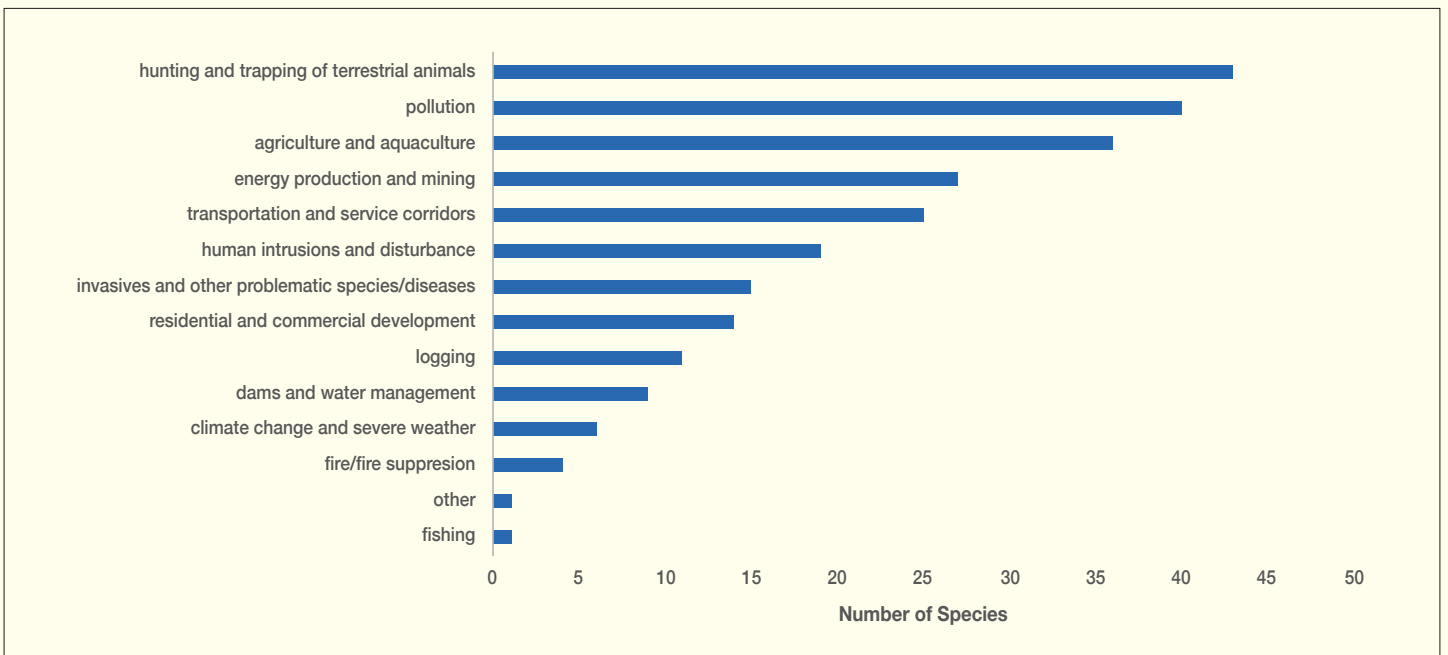


Figure 2: The primary threats affecting breeding birds of prey in the Mediterranean region. Source data: IUCN Red List.



Tracking raptors provides valuable information not only about the species distribution but also about individual mortality and its causes, which is fundamental to design effective conservation actions. Griffon Vulture (*Gyps fulvus*) at the Jbel Moussa Rehabilitation Centre in Morocco. © Rachid El Khamlichi

Conservation Actions

The most frequently required conservation actions identified for breeding raptors within the Mediterranean region are land/water management (37 species; 70%), land/water protection and education and awareness (both 30 species; 57%), species management (26 species; 49%) and legislation (20 species; 38%). For some species, targeted actions are required, whereas there are some broader actions whose implementation would benefit a range of species, e.g. measures being brought in to reduce collisions with power lines, manage land more appropriately for raptors, or to reduce hunting and persecution of raptors. The Action Plan for the Conservation of Migratory Birds of Prey in Africa and Eurasia (Raptors MOU 2008) summarises a suite of actions that would benefit this group of species.

Table 1: The conservation status of breeding birds of prey in the Mediterranean region.

Family	Scientific Name	Common Name	Mediterranean Category	Global Category
Accipitridae	<i>Melierax metabates</i>	Dark Chanting-goshawk	RE	LC
Accipitridae	<i>Aquila rapax</i>	Tawny Eagle	CR	VU
Accipitridae	<i>Gyps rueppelli</i>	Rüppell's Vulture	CR	CR
Falconidae	<i>Falco cherrug</i>	Saker Falcon	CR	EN
Falconidae	<i>Falco concolor</i>	Sooty Falcon	CR	VU
Falconidae	<i>Falco vespertinus</i>	Red-footed Falcon	CR	VU
Strigidae	<i>Asio capensis</i>	Marsh Owl	CR	LC
Accipitridae	<i>Gypaetus barbatus</i>	Bearded Vulture	EN	NT
Accipitridae	<i>Haliaeetus albicilla</i>	White-tailed Sea-eagle	EN°	LC
Pandionidae	<i>Pandion haliaetus</i>	Osprey	EN	LC
Strigidae	<i>Glaucidium passerinum</i>	Eurasian Pygmy-owl	EN	LC
Strigidae	<i>Ketupa zeylonensis</i>	Brown Fish-owl	EN	LC
Strigidae	<i>Otus brucei</i>	Pallid Scops-owl	EN	LC
Strigidae	<i>Strix uralensis</i>	Ural Owl	EN	LC
Accipitridae	<i>Aquila adalberti</i>	Spanish Imperial Eagle	VU*	VU
Accipitridae	<i>Aquila heliaca</i>	Eastern Imperial Eagle	VU°	VU
Accipitridae	<i>Circus cyaneus</i>	Hen Harrier	VU	LC
Accipitridae	<i>Circus pygargus</i>	Montagu's Harrier	VU	LC
Accipitridae	<i>Neophron percnopterus</i>	Egyptian Vulture	VU	EN
Strigidae	<i>Aegolius funereus</i>	Boreal Owl	VU	LC
Accipitridae	<i>Clanga pomarina</i>	Lesser Spotted Eagle	NT°	LC
Falconidae	<i>Falco biarmicus</i>	Lanner Falcon	NT	LC
Strigidae	<i>Asio flammeus</i>	Short-eared Owl	NT°	LC
Accipitridae	<i>Accipiter brevipes</i>	Levant Sparrowhawk	LC°	LC
Accipitridae	<i>Accipiter gentilis</i>	Northern Goshawk	LC	LC
Accipitridae	<i>Accipiter nisus</i>	Eurasian Sparrowhawk	LC	LC
Accipitridae	<i>Aegypius monachus</i>	Cinereous Vulture	LC	NT
Accipitridae	<i>Aquila chrysaetos</i>	Golden Eagle	LC	LC
Accipitridae	<i>Aquila fasciata</i>	Bonelli's Eagle	LC	LC
Accipitridae	<i>Buteo buteo</i>	Eurasian Buzzard	LC	LC
Accipitridae	<i>Buteo rufinus</i>	Long-legged Buzzard	LC	LC
Accipitridae	<i>Circaetus gallicus</i>	Short-toed Snake-eagle	LC	LC
Accipitridae	<i>Circus aeruginosus</i>	Western Marsh-harrier	LC	LC
Accipitridae	<i>Elanus caeruleus</i>	Black-winged Kite	LC	LC
Accipitridae	<i>Gyps fulvus</i>	Griffon Vulture	LC	LC
Accipitridae	<i>Hieraetus pennatus</i>	Booted Eagle	LC	LC
Accipitridae	<i>Milvus migrans</i>	Black Kite	LC	LC
Accipitridae	<i>Milvus milvus</i>	Red Kite	LC	LC
Accipitridae	<i>Pernis apivorus</i>	European Honey-buzzard	LC	LC
Falconidae	<i>Falco eleonora</i>	Eleonora's Falcon	LC	LC
Falconidae	<i>Falco naumanni</i>	Lesser Kestrel	LC	LC
Falconidae	<i>Falco peregrinus</i>	Peregrine Falcon	LC	LC
Falconidae	<i>Falco subbuteo</i>	Eurasian Hobby	LC	LC
Falconidae	<i>Falco tinnunculus</i>	Common Kestrel	LC	LC
Strigidae	<i>Asio otus</i>	Northern Long-eared Owl	LC	LC
Strigidae	<i>Athene noctua</i>	Little Owl	LC	LC
Strigidae	<i>Bubo ascalaphus</i>	Pharaoh Eagle-owl	LC	LC
Strigidae	<i>Bubo bubo</i>	Eurasian Eagle-owl	LC	LC
Strigidae	<i>Otus cyprius</i>	Cyprus Scops-owl	LC	LC
Strigidae	<i>Otus scops</i>	Eurasian Scops-owl	LC	LC
Strigidae	<i>Strix aluco</i>	Tawny Owl	LC	LC
Tytonidae	<i>Tyto alba</i>	Common Barn-owl	LC	LC
Accipitridae	<i>Aquila verreauxii</i>	Verreaux's Eagle	DD	LC

* Retained at higher category to match global and European assessments, following the Five-Year Rule. ° Regional adjustment applied.



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The Lesser Kestrel (*Falco naumanni*) population has declined in some parts of the Mediterranean due to agriculture intensification, afforestation and urbanisation. It is listed as Least Concern. © J.R. Garrido



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