Seabird conservation in the Mediterranean:
current status, challenges and opportunities

MARIA DIAS
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Key points

What is the status of seabirds in the Mediterranean and how it compares to the global situation?

Connectivity between Mediterranean seabirds and the Atlantic ocean

What we don’t know yet

Challenges and opportunities – Med and global

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BIRDLIFE: A GLOBAL PARTNERSHIP FOR NATURE

11

Supporters 7 million

Members 3 million

Partners 121

Regional divisions 6

Partner staff 8,000

Local groups 4,000

Ha of reserve 4 million

IUCN RED LIST©

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Species' assessments

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Data Zone

Search...

Species ▾ | Sites (IBAs) ▾ | Country Profiles ▾ | Case studies ▾ | Tools ▾ | Request data ▾ | Publications ▾ | Citizen Science ▾

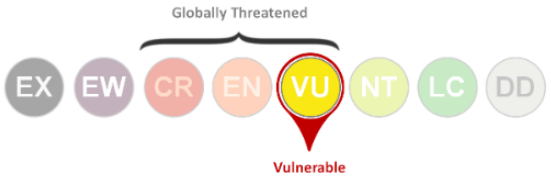
VU Yelkouan Shearwater *Puffinus yelkouan*

Summary | Text account | Data table and detailed info | Distribution map | Reference and further resources

Family: Procellariidae (Petrels, Shearwaters)

Authority: (Acerbi, 1827)

Red List Category



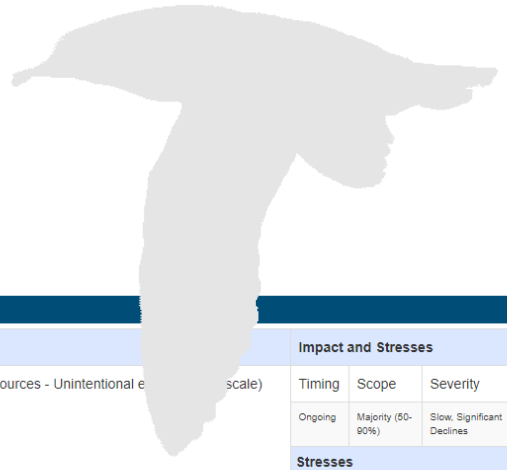
Criteria: A4bcde

Click here for more information about the Red List categories and criteria

Justification of Red List category

This species is precautionarily maintained as Vulnerable. Existing demographic studies of populations in France and Malta indicate a population decline, caused by low breeding success due to predation by introduced mammals and low adult survival owing to fisheries bycatch and predation. However, some more recent studies have shown population increases and there may be large as yet undiscovered colonies in the Eastern Mediterranean or the Black Sea. If further study and monitoring provide evidence of large stable or increasing populations, the species may warrant downlisting in the future.

Population size:



Threats & impact

Threat (level 1)	Threat (level 2)	Impact and Stresses			
Biological resource use	Fishing & harvesting aquatic resources - Unintentional e… scale) [harvest]	Timing	Scope	Severity	Impact
		Ongoing	Majority (50-90%)	Slow, Significant Declines	Medium Impact: 6
		Stresses			
		Competition, Reduced reproductive success, Species mortality			
Biological resource use	Fishing & harvesting aquatic resources - Unintentional effects: (subsistence/small scale) [harvest]	Timing	Scope	Severity	Impact
		Ongoing	Whole (>90%)	Slow, Significant Declines	Medium Impact: 7
		Stresses			
		Competition, Reduced reproductive success, Species mortality			
Biological resource use	Hunting & trapping terrestrial animals - Intentional use (species is the target)	Timing	Scope	Severity	Impact
		Ongoing	Minority (<50%)	Negligible declines	Low Impact: 4
		Stresses			
		Species mortality			
Energy production & mining	Renewable energy	Timing	Scope	Severity	Impact
		Ongoing	Minority (<50%)	Negligible declines	Low Impact: 4
		Stresses			
		Indirect ecosystem effects, Species disturbance			
Invasive and other problematic species, genes & diseases	Invasive non-native/alien species/diseases - Felis catus	Timing	Scope	Severity	Impact
		Ongoing	Minority (<50%)	Rapid Declines	Medium Impact: 6
		Stresses			
		Reduced reproductive success, Species mortality			

Global review threats to seabirds

359 species

> 900 publications

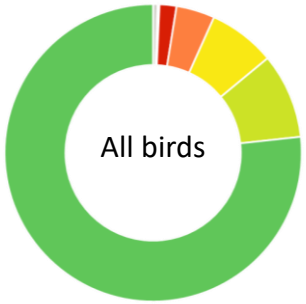
Systematic and standardized method

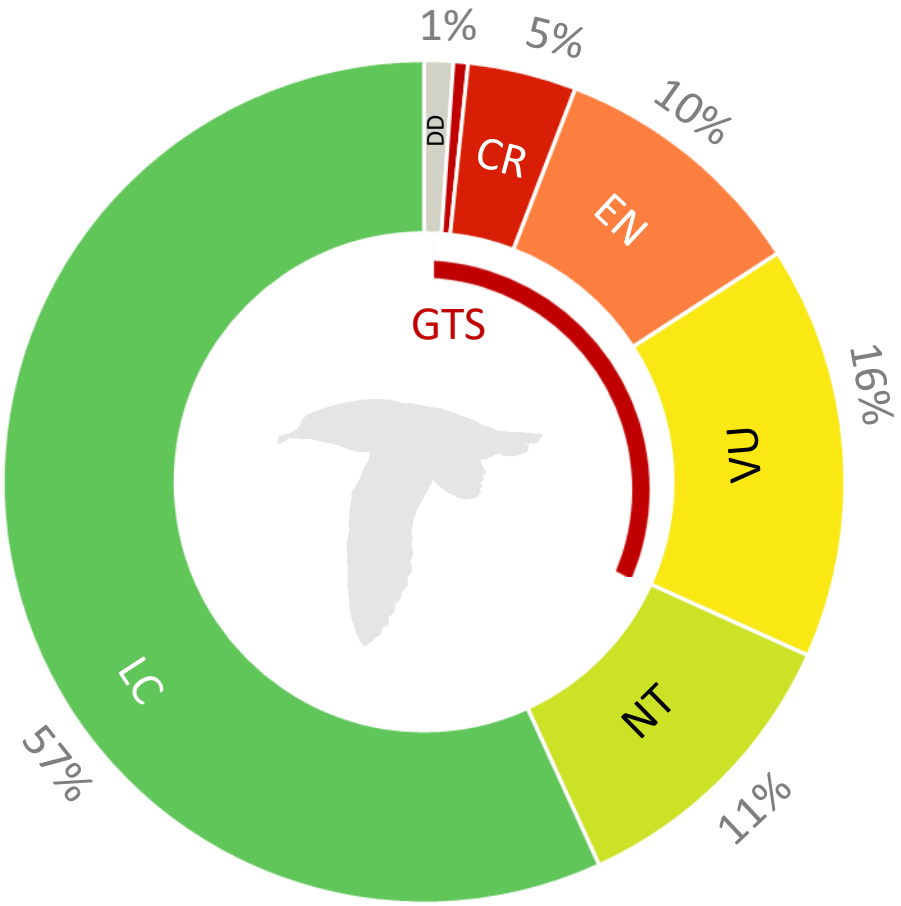
Classified impact of each threat on each species (IUCN standards):

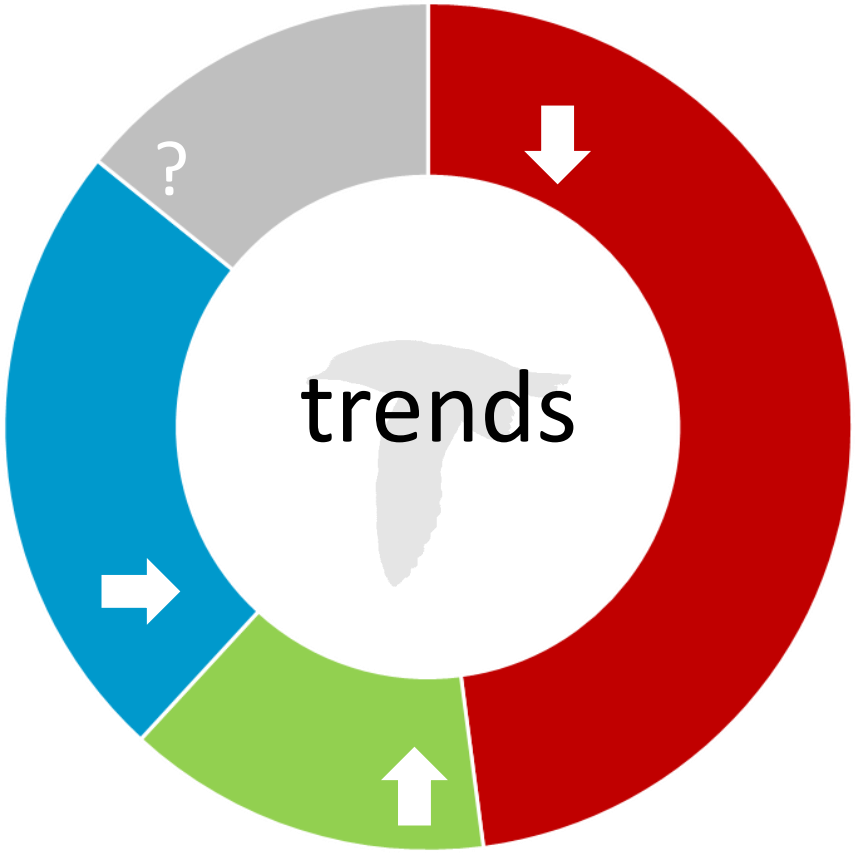
- scope (% of the population/range affected)
- severity (decline rate)
- timing (ongoing, past or future)

Threats with a clear impact on the status of the species

Global status of seabirds







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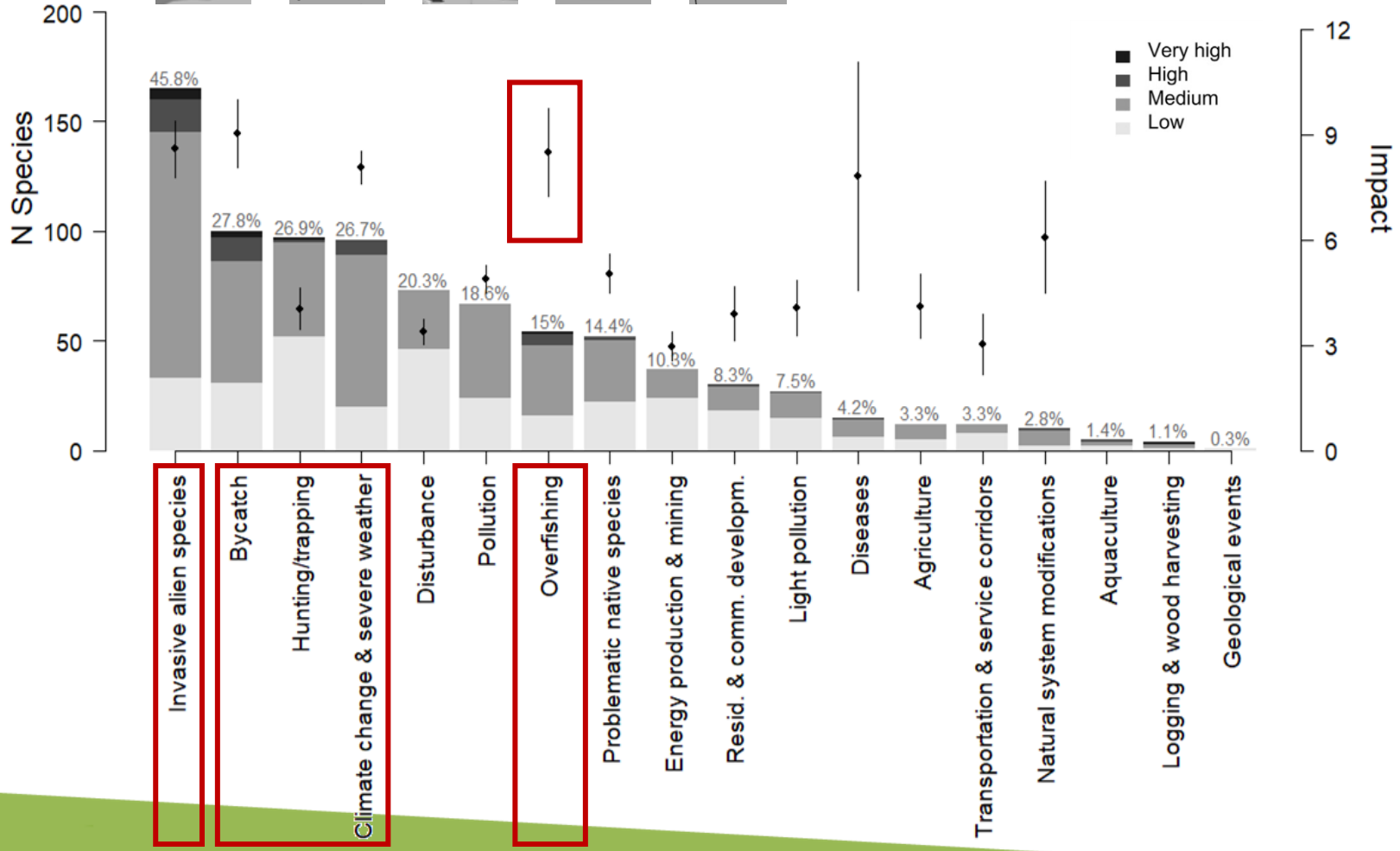
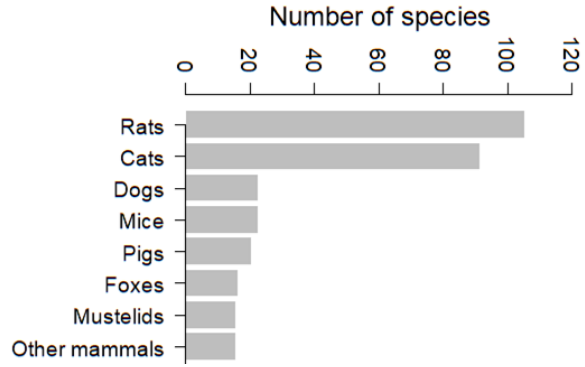
Global review threats to seabirds





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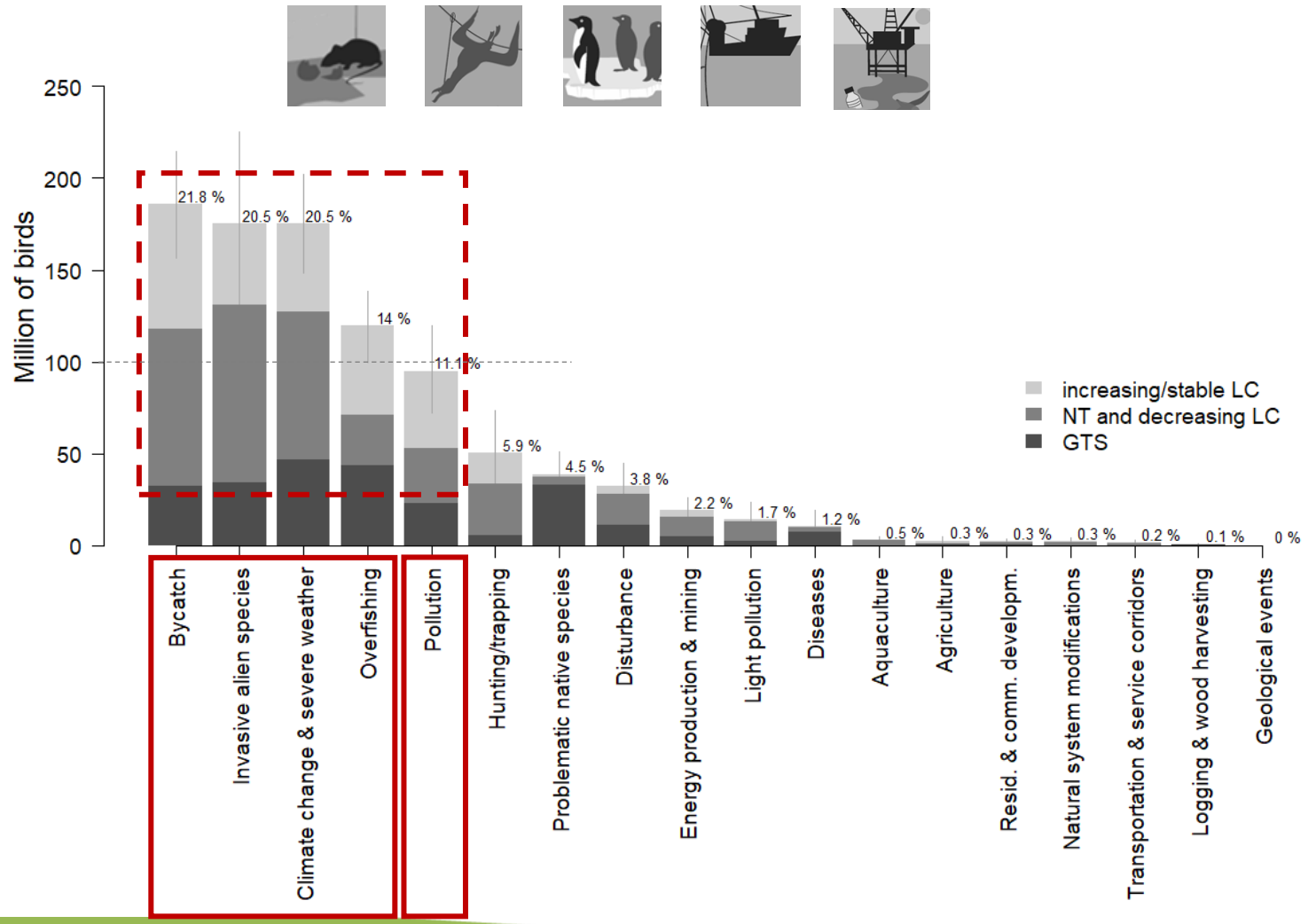

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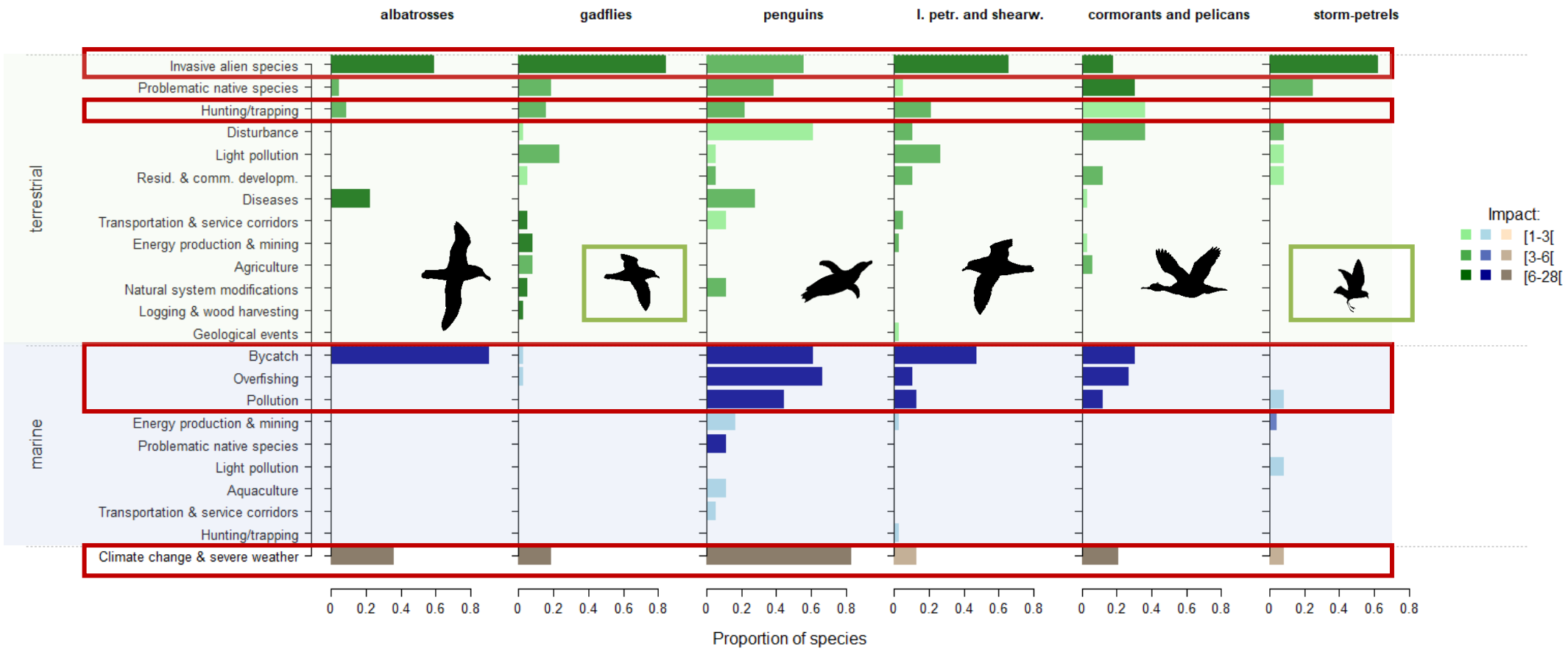

Ca. 70% species: multiple threats

> 50% species: marine and terrestrial threats

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Global review threats to seabirds

Biological Conservation 237 (2019) 525–537

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Biological Conservation

journal homepage: www.elsevier.com/locate/biocon

Review

Threats to seabirds: A global assessment

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Globally threatened species

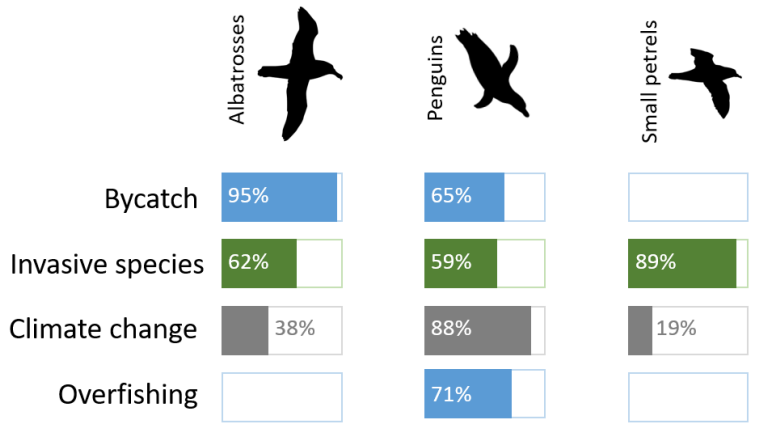
ABSTRACT

We present the first objective quantitative assessment of the threats to all 359 species of seabirds, identify the main challenges facing them, and outline priority actions for their conservation. We applied the standardised Threats Classification Scheme developed for the IUCN Red List to objectively assess threats to each species and

7 Aug 2019

Top threats to seabirds identified

Scientists reviewed more than 900 studies and found that seabirds face big threats both on land and at sea. This helps explain why they are one of the most threatened group of vertebrates.



Threats to some of the most threatened groups of seabirds. Values represent the percentage of species in each group affected. **Dias *et al.* (2019) *Biol. Cons.***

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And in the Mediterranean?

44 species

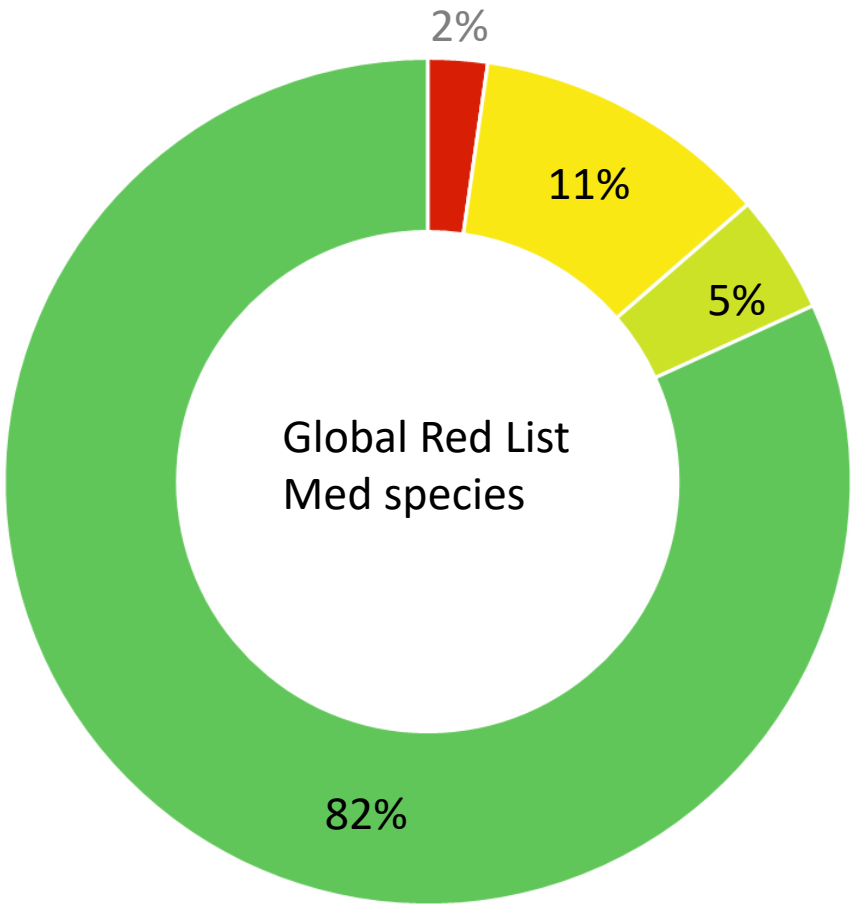
Breeding and visiting species

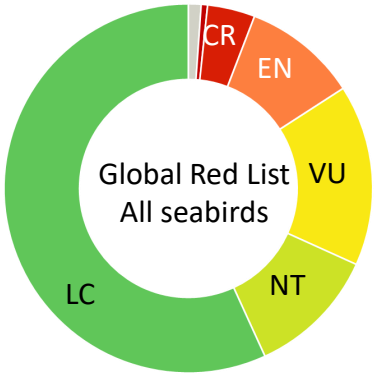
Threats

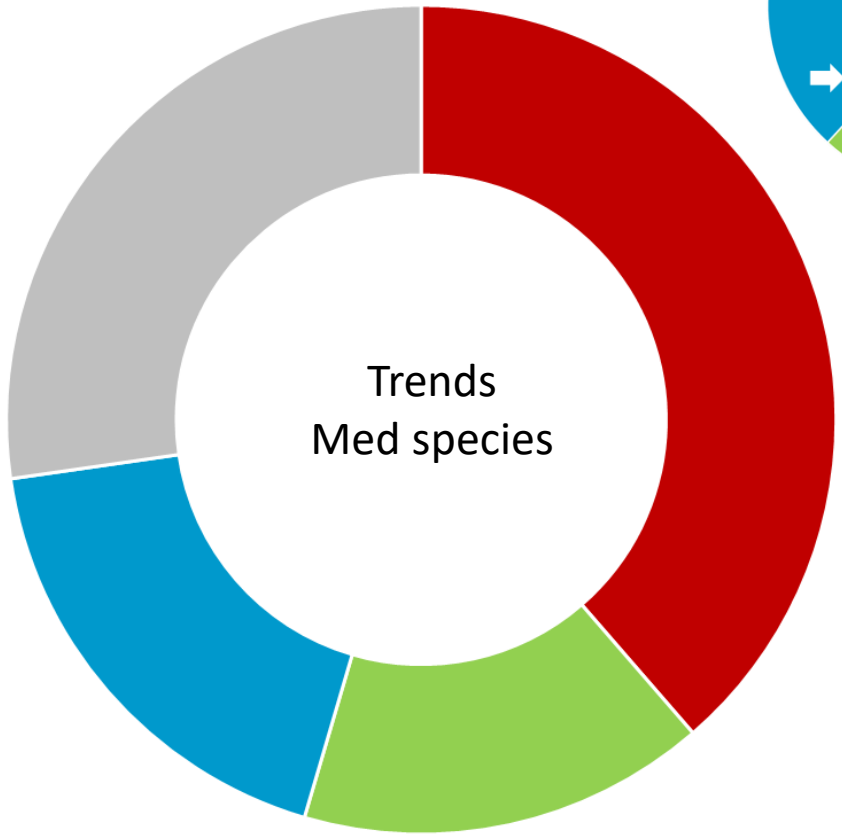
Global Red List status

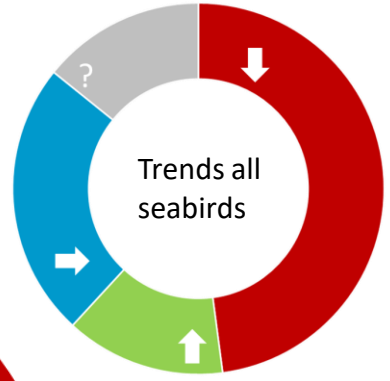
EU Red Lists 2015-2020
(27 and 27+1 Red List)

And in the Mediterranean?

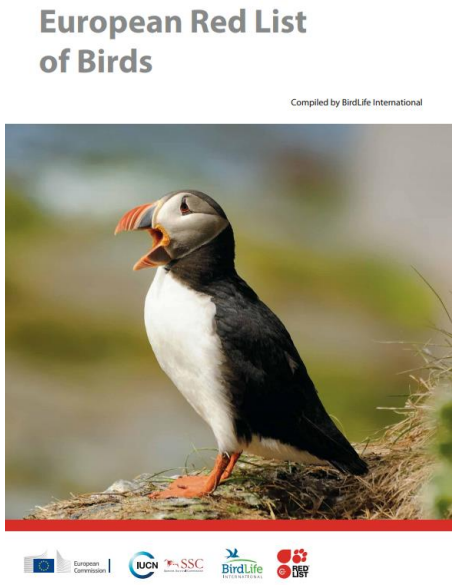




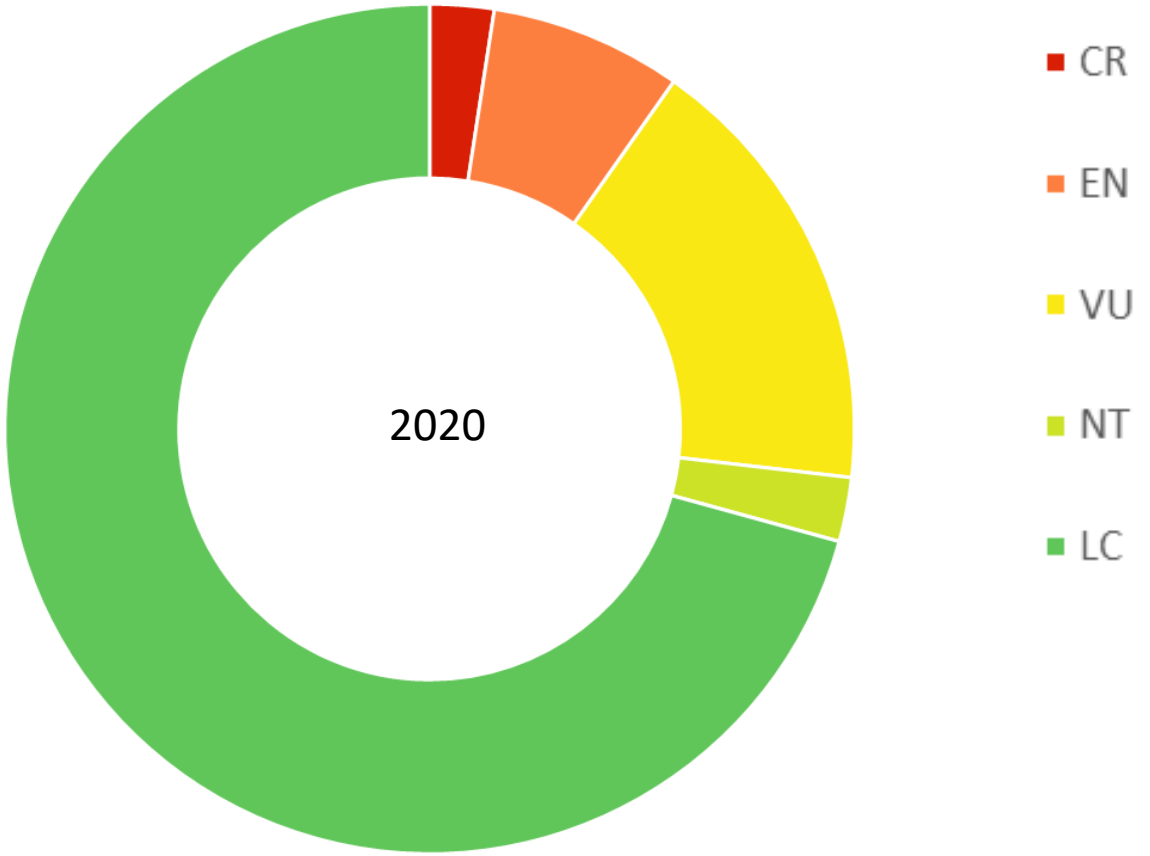




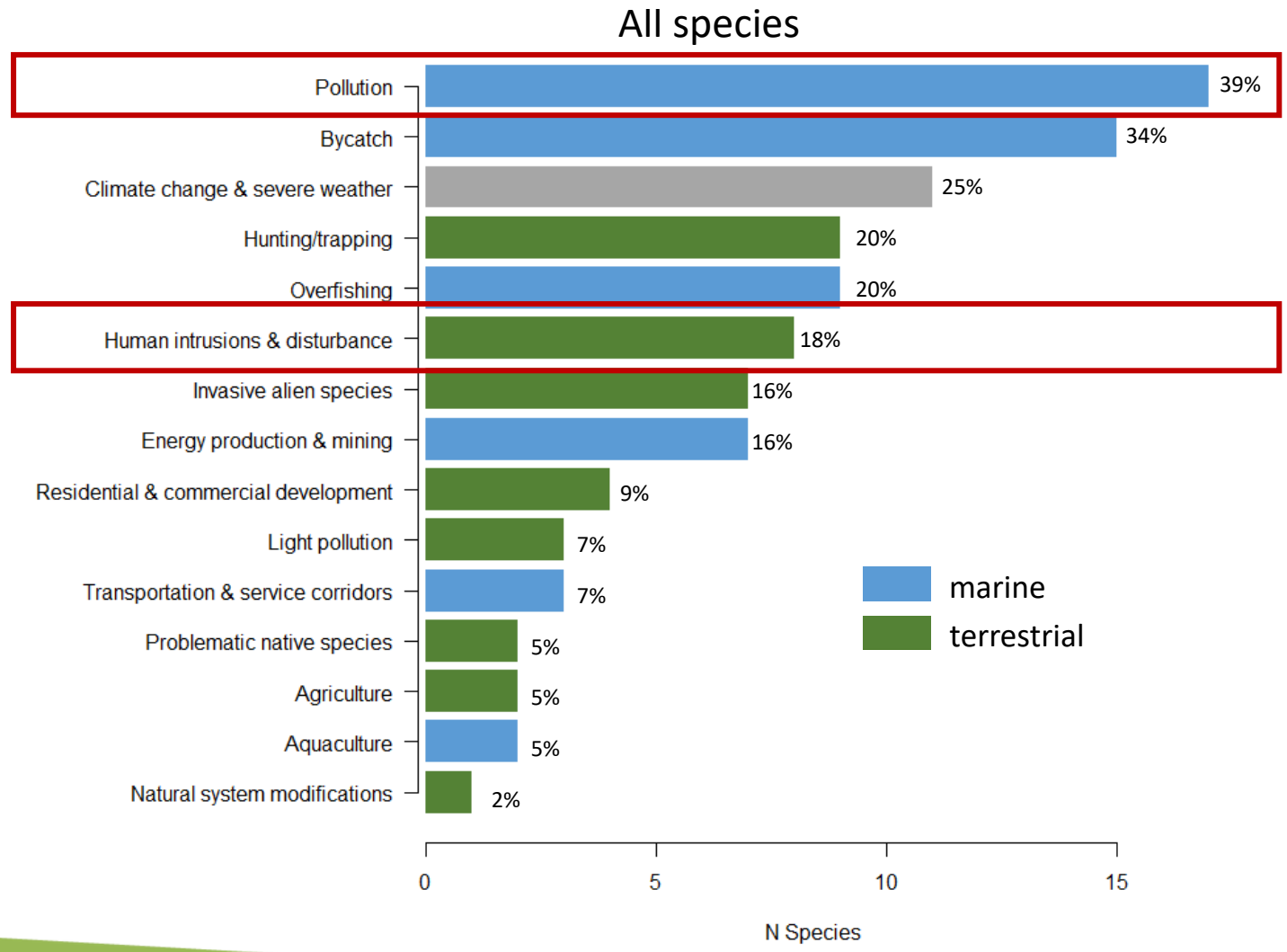
Status of Mediterranean seabirds



EU27/EU27+1 Red List Category



Main threats to species occuring in the Med



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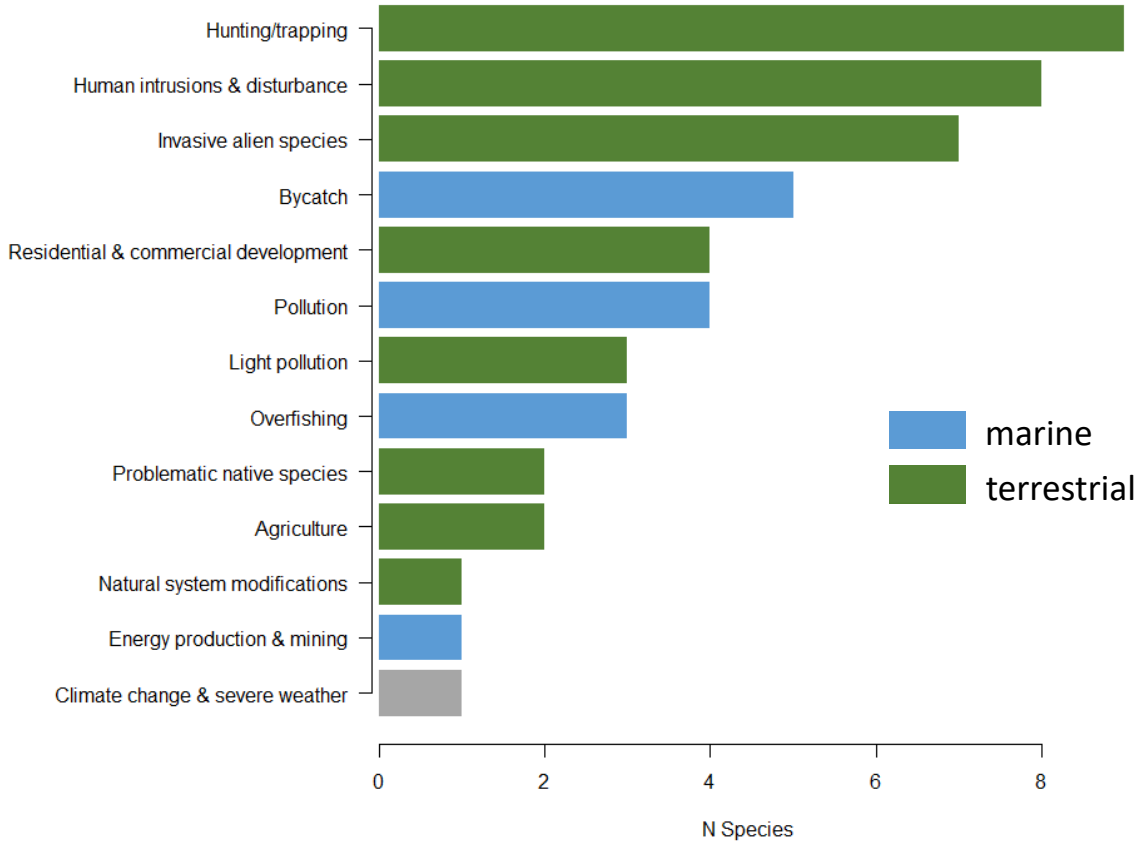
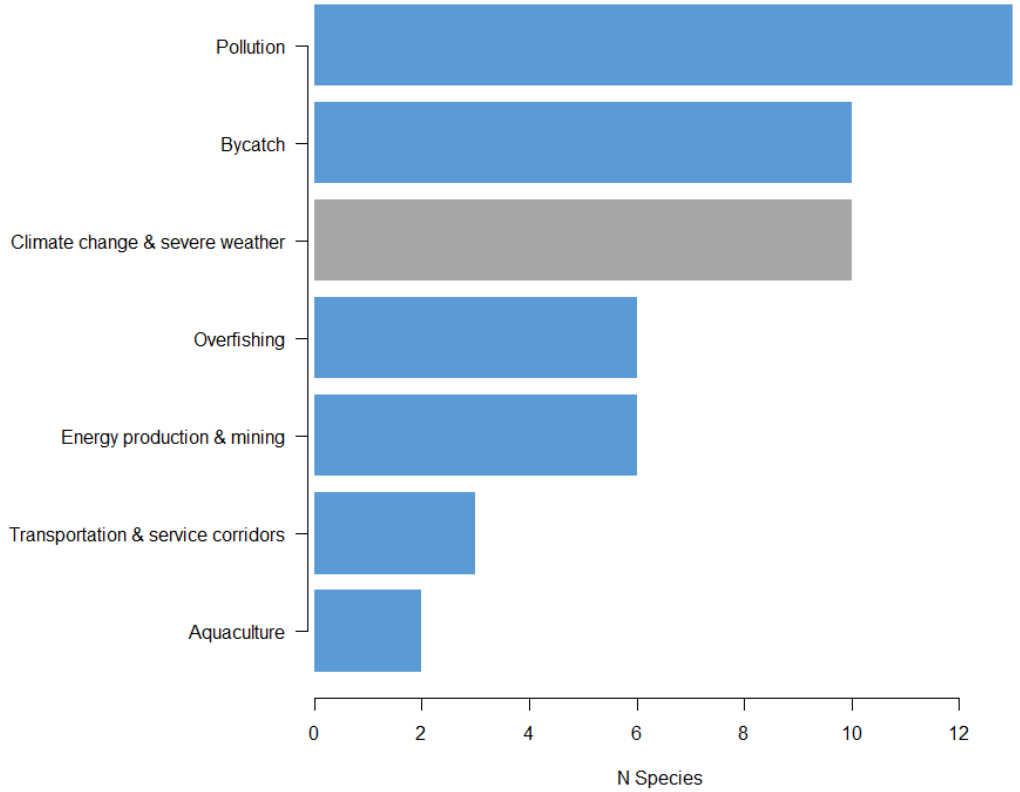
Main threats to species occuring in the Med

Breeding (n=21)



Wintering/Migrating (n=23)



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Migratory connectivity

What happens in the Med, does not stay in the Med…

Most seabird populations that occur in the Mediterranean migrate to/from outside the Mediterranean sea

Migratory connectivity

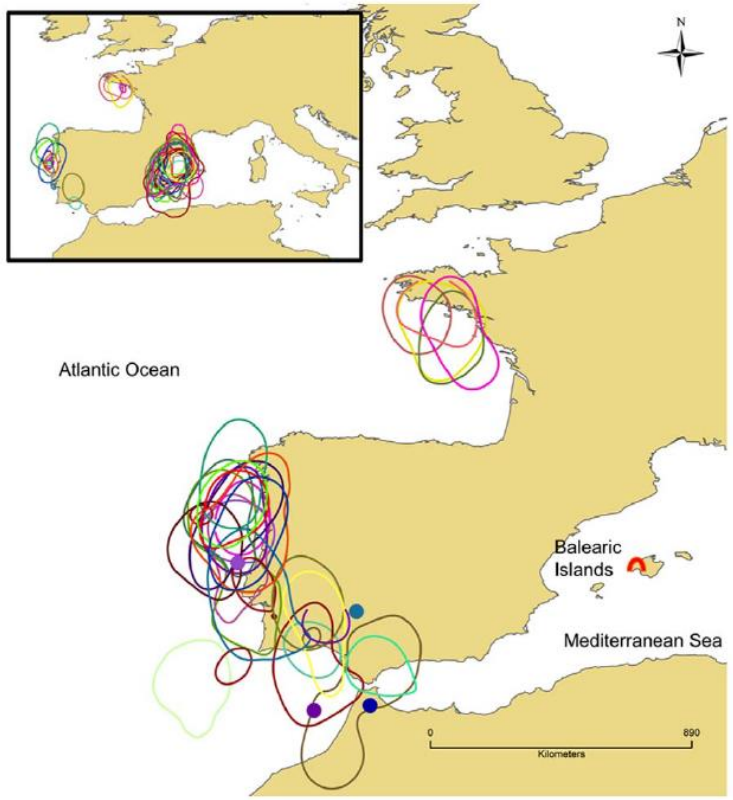

Figure 1. Balearic shearwater movements at sea. The inset shows the 50% occupancy kernels for all birds of all valid locations through the entire annual cycle, with each individual coloured separately. The main figure shows the 50% occupancy kernels for all birds of locations between leaving and returning to the Mediterranean on migration, in the same colours. The coloured circles are spatial median positions for four birds that made a second trip into the Atlantic post-migration (same individual colours). These latter estimated positions are very approximate, and should not be taken to signify that birds are inland. The red symbol is the position of the breeding colony at Sa Cella cave on Mallorca.
doi:10.1371/journal.pone.0033753.g001

Guilford et al. 2012. PLoS ONE 7

CRITICALLY ENDANGERED
CR

Balearic shearwater

Table 3. Seabird species reported by on-board observers to be bycaught during the study period, 2010–2012, including number of birds caught, sets that bycaught birds, range of birds caught per set, and average number of birds caught per set with bycatch.

Species	IUCN status	Capture of seabirds			
		Birds caught	Sets that caught birds	Average birds/set	Range
Common scoter	Least concern	6	3	2	1–3
Cory's shearwater	Least concern/Endangered	2	2	1	1
Balearic shearwater	Critically endangered	31	4	7.75	1–20
Northern gannet	Least concern	22	11	2	1–4
Great cormorant	Least concern	2	2	1	1
Unidentified gull		1	1	1	1

Oliveira et al., 2015. Global Ecology and Conservation 3

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Migratory connectivity

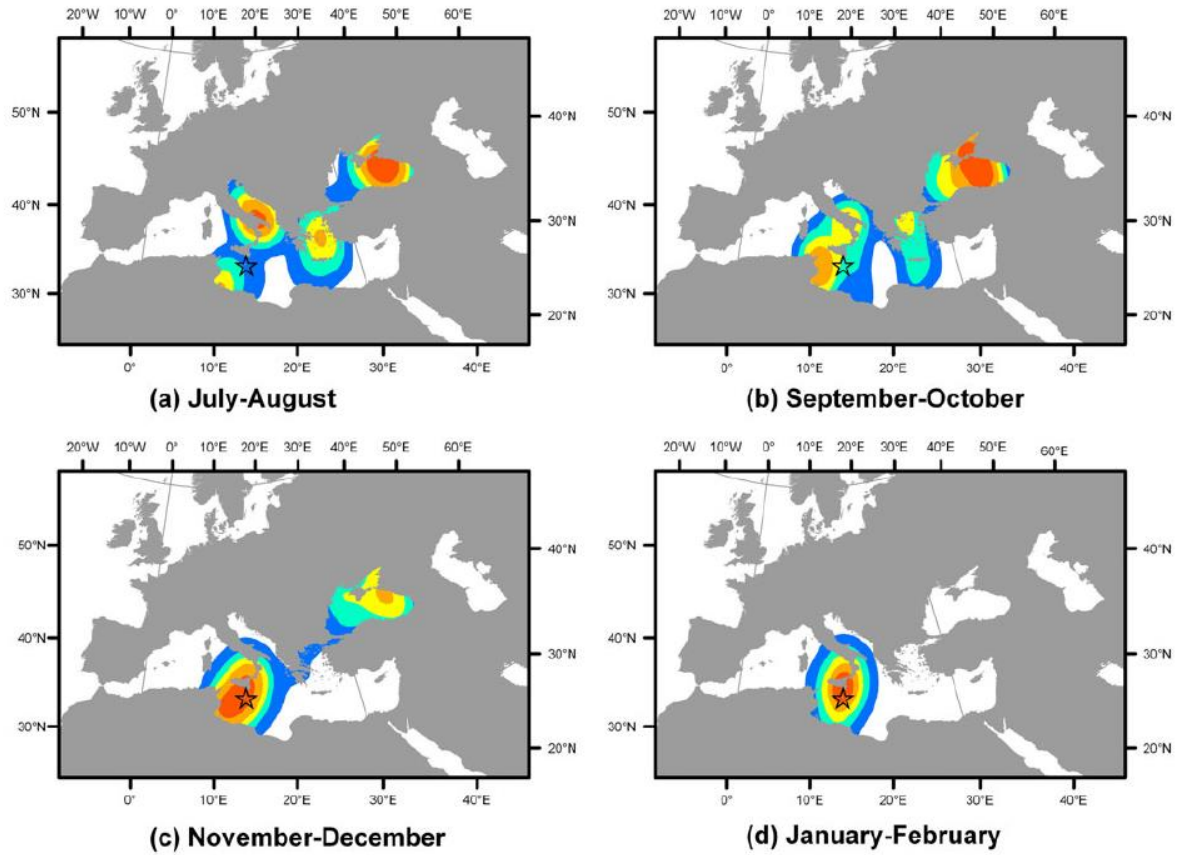

Fig. 1 Seasonal changes in distribution of Yelkouan Shearwaters (*Puffinus yelkouan*) ($n = 15$) from Malta tracked during the non-breeding season (July–February) in 2008 and 2009. *Star* Location of Malta. Kernels presented are 20, 40, 60, 80 and 95 %, respectively, with land masses (*shaded*) placed above kernel layers to allow better visualization of the migration patterns (color figure online)

Raine et al. 2013. J Ornithol 154

RED LIST
< VULNERABLE >
VU

Yelkouan Shearwater

Biological Conservation 144 (2011) 2255–2263

Contents lists available at ScienceDirect

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journal homepage: www.elsevier.com/locate/biocon

Is the Yelkouan shearwater *Puffinus yelkouan* threatened by low adult survival probabilities?

Steffen Oppel [a,*], André F. Raine [b], John J. Borg [c], Helen Raine [b], Elsa Bonnaud [d], Karen Bourgeois [e], André R. Breton [f]

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Migratory connectivity

Mediterranean Storm Petrel

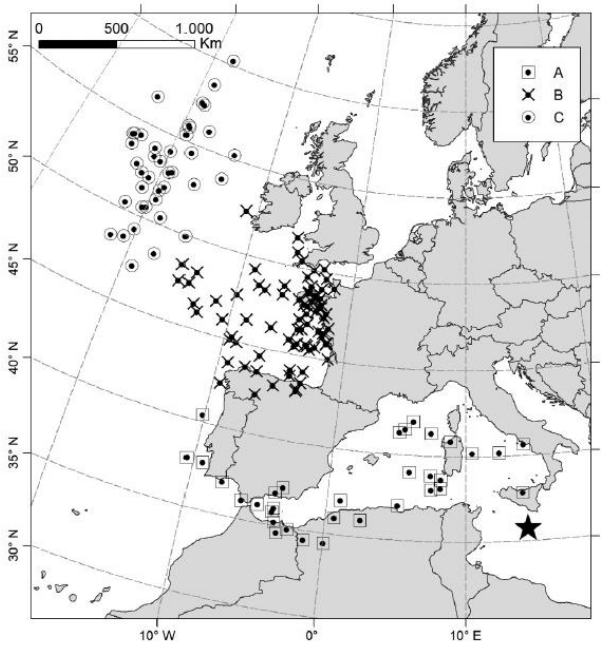
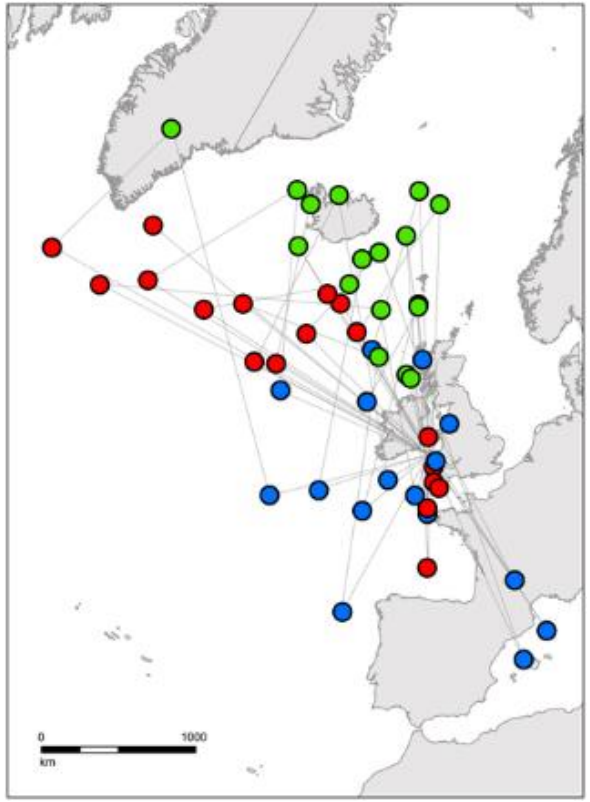


Fig. 4. Movements of one Mediterranean Storm Petrel (Z665) from the Filfla colony during the non-breeding period (October 2016 to March 2017), split into periods of migration into the Atlantic Ocean (A), a stay in the Bay of Biscay (B), and a stay in the North Atlantic (C); return migration is not shown. The star represents the Filfla colony.

Lago et al, 2019. Marine Ornithology 47

Atlantic Puffin



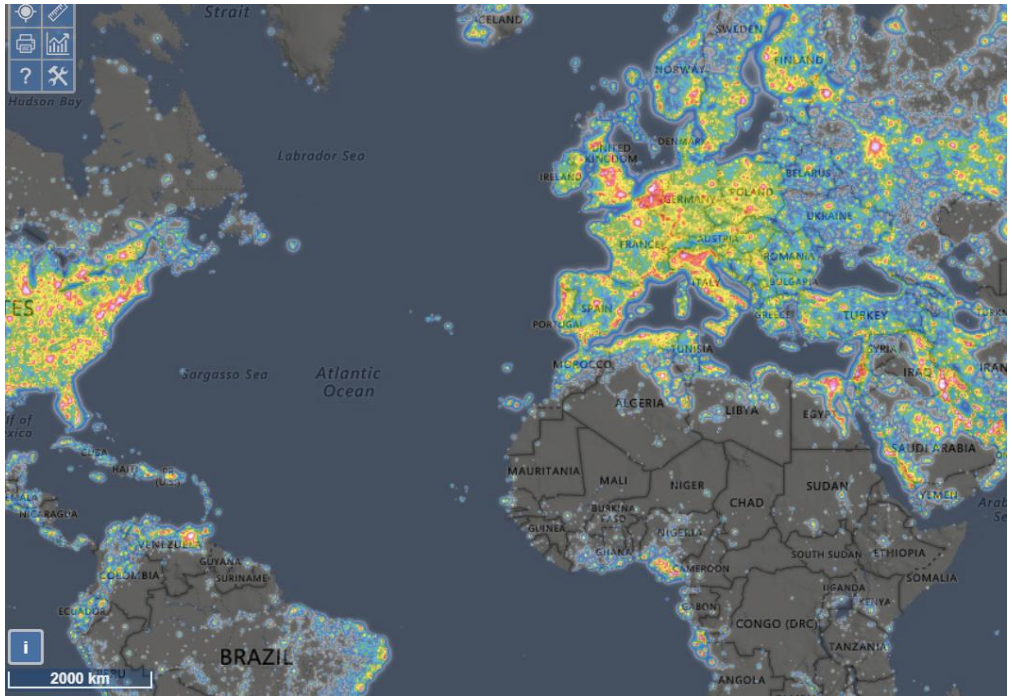
Guilford et al. 2011. PLOS ONE 6

Knowledge gaps

At-sea threats (and cumulative impacts)
- pelagic species

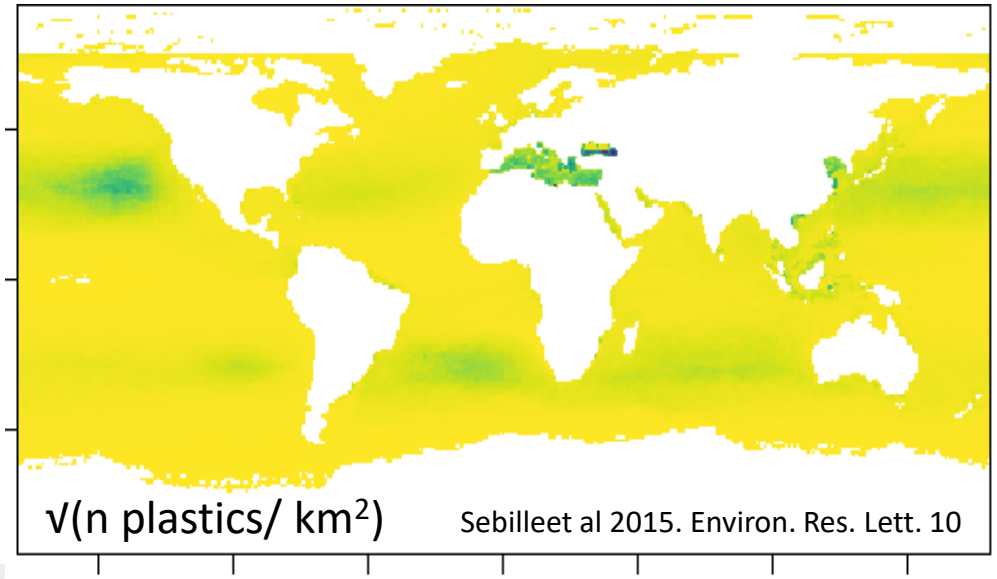
Colony numbers (North African coast)

Emerging threats: plastics, offshore energy developments and mesopelagic fisheries

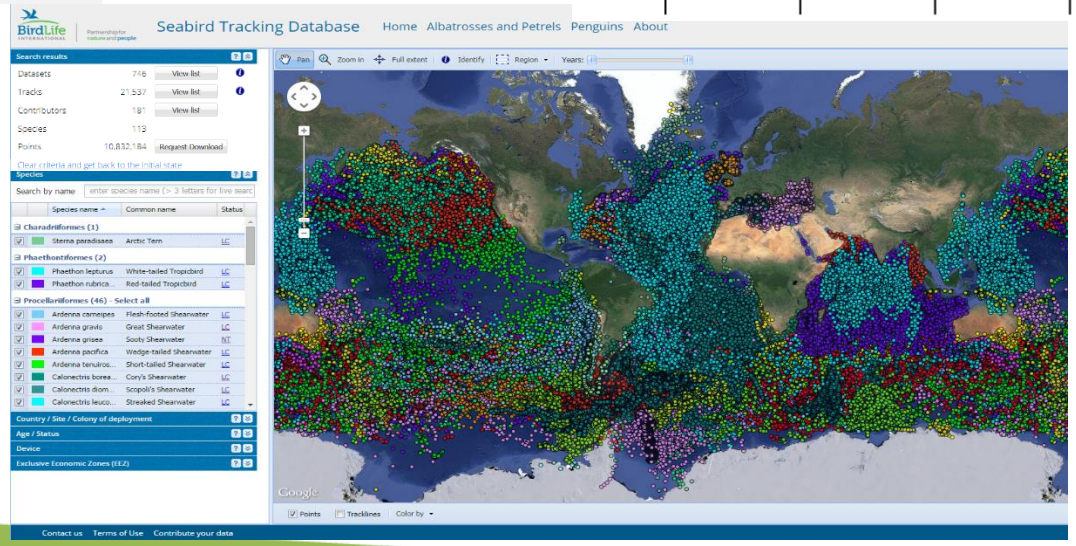


https://www.lightpollutionmap.info/

Plastics – is that an issue?



Sebilleet al 2015. Environ. Res. Lett. 10



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Challenges and Opportunities

Challenges

International cooperation / political complexity

Increasing number of Globally Threatened Species

Climate change

Communication (a gull is not an albatross…)

MPA effectiveness/compliance with mitigation measures

Gap science – policy - conservation

- Monitoring/long term studies

Challenges and Opportunities

Opportunities

International agenda

Seabirds as good indicators

Funding

Public opinion / global push for marine conservation

Ecological Connectivity to Be Focus of CMS COP13 in India

CMS COP13 due to take place in Gandhinagar, India, from 15 to 22 February 2020

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

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Seabird Tracking Database

Tracking Ocean Wanderers

We are the Power of Many!

CambridgeConservationInitiative

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

based on a decision of the German Bundestag

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

HORIZON 2020

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