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Evaluation and revision of the Balearic shearwater Species Action Plan 2011

SEO BirdLife

spea
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Séminaire du
plan national d'actions
en faveur du Puffin des Baléares

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Balearic shearwater Species Action Plan 2011: An overview

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Why this workshop?

- First SAP Balearic shearwater: 1999
- Second SAP Balearic shearwater (strong review): 2011
- A Species Action Plan is expected to be reviewed every 10 years
- New information available since 2011
- Relevant changes in the last 13 years

It's time for a review!

- Questionnaires sent to administrations and experts:
  - Evaluation of implementation SAP 2011
  - New information/threats/actions

SAP 2011 overview

SAP 2011 overview

- Update on general knowledge
  - Distribution
  - Taxonomy
  - Population size and trends (PVA –CR status!!!)
  - Ecology at sea
- Threats assessment – first insights on bycatch!
- Legislation and compilation of actions/research conducted
- Objectives – halt negative trend
- Results expected
- Actions

Objectives

Stop the negative population trend of the Balearic shearwater, and revert it if possible, while ensuring the conservation of its habitat.

- Objective 1: Within 10 years, stop or reverse population decline such that population growth rate is positive ($\lambda \geq 1$).

  Sub-objective 1.1 – monitoring scheme to assess population trend (within 10 years)

- Objective 2: Within 5 years, keep or improve the good environmental status of the current breeding colonies and main marine hotspots.

Results

- 1.1. Average adult survival rate is close to or over 90% (by addressing most significant threats)
- 1.2. Breeding productivity is kept equal or over known current levels.
- 1.3. Knowledge gaps filled.
- 2.1. Conservation of breeding habitat is ensured.
- 2.2. Conservation of marine habitat is ensured.

Results & related actions

- Result 1.1. Average adult survival rate is close to or over 90% (by addressing most significant threats)

#	Action/Result	PS
1.1.1	Reduce predation at colonies by carnivores	4
1.1.2	Promote bycatch action plan	4
1.1.3	Bycatch mitigation in MPA management plans	3
1.1.4	Market-based approaches to minimise bycatch	2
1.1.5	Assessment and response to oil spills	2
1.1.6	Policies and surveillance to minimise acute oil spills	2
1.1.7	Ensure surveillance to prevent upsurge of harvesting	1

PRIORITY SCORE (PS)
1 – low
2 – medium
3 – high
4 - essential

Results & related actions

- Result 1.2. Breeding productivity is kept equal or over known current levels.

#	Action/Result	PS
1.2.1	Rodent eradication as part of island restoration	2
1.2.2	Regulation of human disturbance and best practice guidance	2
1.2.3	Promote light pollution mitigation	1
1.2.4	Promote ecosystem-based policies for fishing practices	2

Results & related actions

- Result 1.3. Knowledge gaps filled.

#	Action/Result	PS
1.3.1	Colony monitoring programmes	4
1.3.2	Population census	4
1.3.3	Assess the impact of bycatch	4
1.3.4	Promote research at sea	3
1.3.5	Asses little understood or potential threats	3
1.3.6	Promote the creation of working groups	3

Results & related actions

- Result 2.1. Conservation of breeding habitat is ensured.

#	Action/Result	PS
2.1.1	Implement management plans in colony sites	3
2.1.2	Develop ecological restoration plan for seabird islands	1

Results & related actions

- Result 2.2. Conservation of marine habitat is ensured.

#	Action/Result	PS
2.2.1	Promote the designation of MPAs for the species	3
2.2.2	Promote conservation measures at sea (MPA and beyond)	3

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Balearic shearwater Species Action Plan 2011: Feedback on implementation

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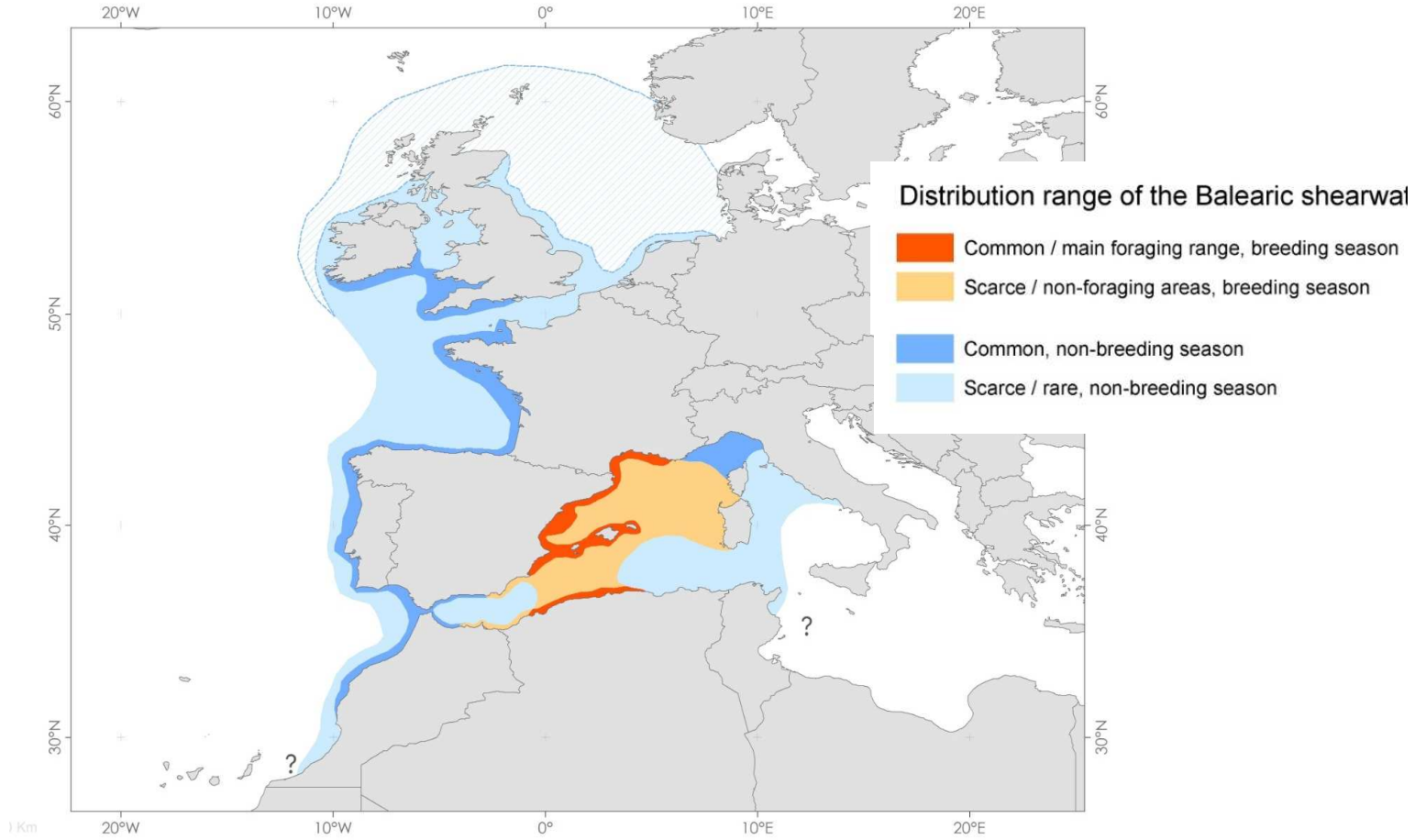
Information gathered

- Questionnaires sent to administrations/experts of 4 core countries (Spain, Portugal, France & UK)

Country code	Country	Responses
ES	Spain	4
FR	France	4
PT	Portugal	3
UK	United Kingdom	1

--- ANY OTHER COUNTRY? ---

Current information on distribution



Scoring

- Request to assign an implementation score to each (applicable) action

Implementation Score
4 - fully implemented
3 - significant progress
2 - some action
1 - little or no action
0 - not relevant

- Modulate according to the priority of the action

Priority Score (PS)
1 – low
2 – medium
3 – high
4 - essential

Methodology and scoring system developed by BirdLife (Gallo-Orsi 2001).

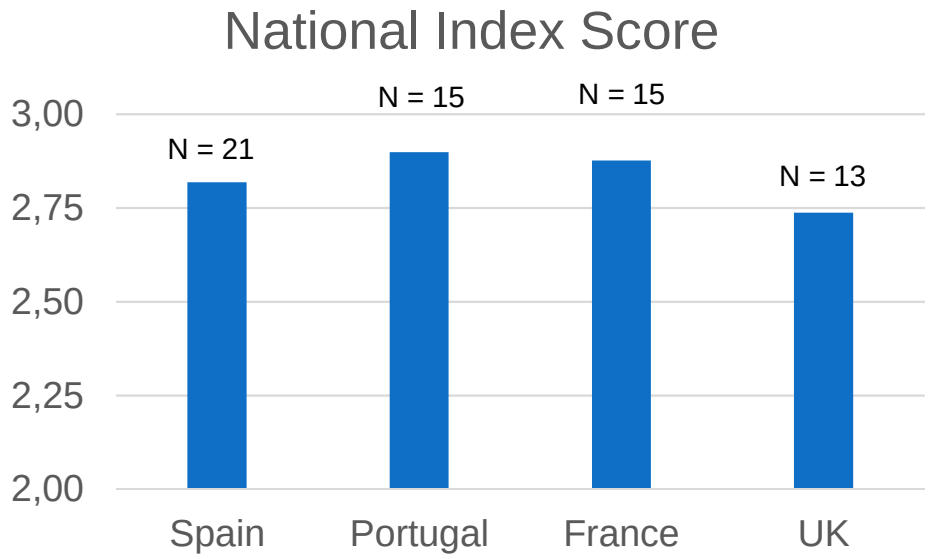
National Implementation Score (NIS)

- NIS expresses progress against all actions by a country.
- Range NIS from 1 (low implementation) to 4 (full implementation).

$$NIS = \frac{\sum [\text{Priority Score (PS)} \times \text{Implementation Score (IS)}]}{\text{Sum [Priority Score (PS)]}}$$

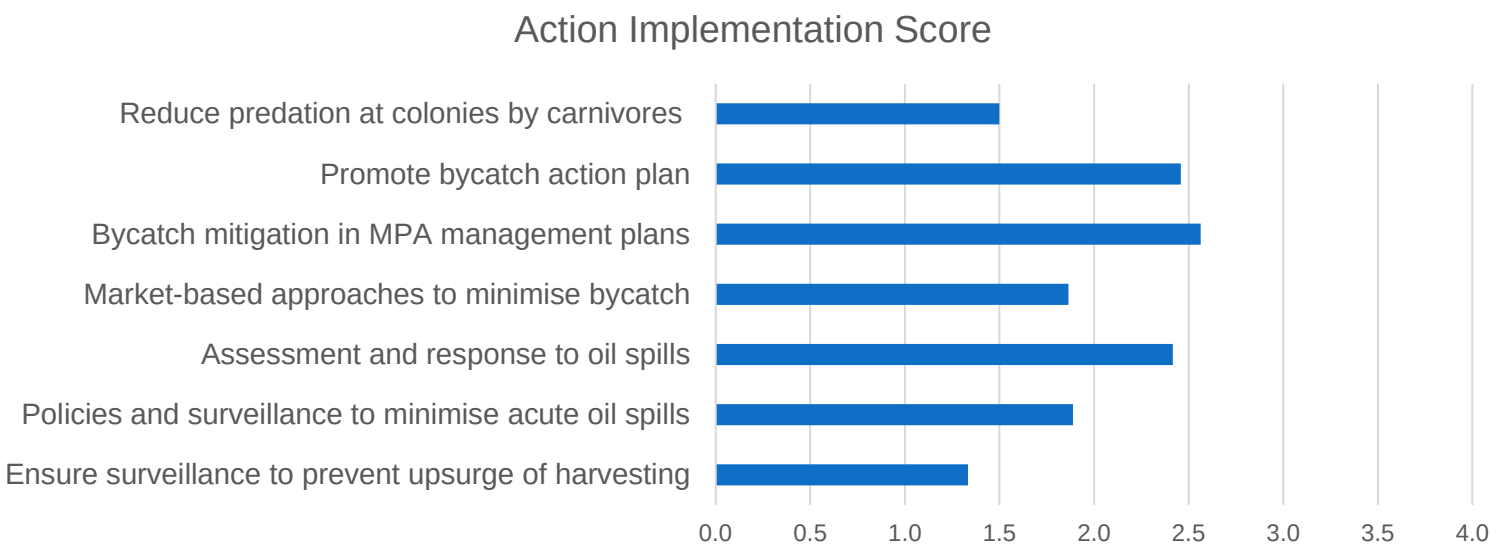
Methodology and scoring system developed by BirdLife (Gallo-Orsi 2001).

National Implementation Score (NIS)



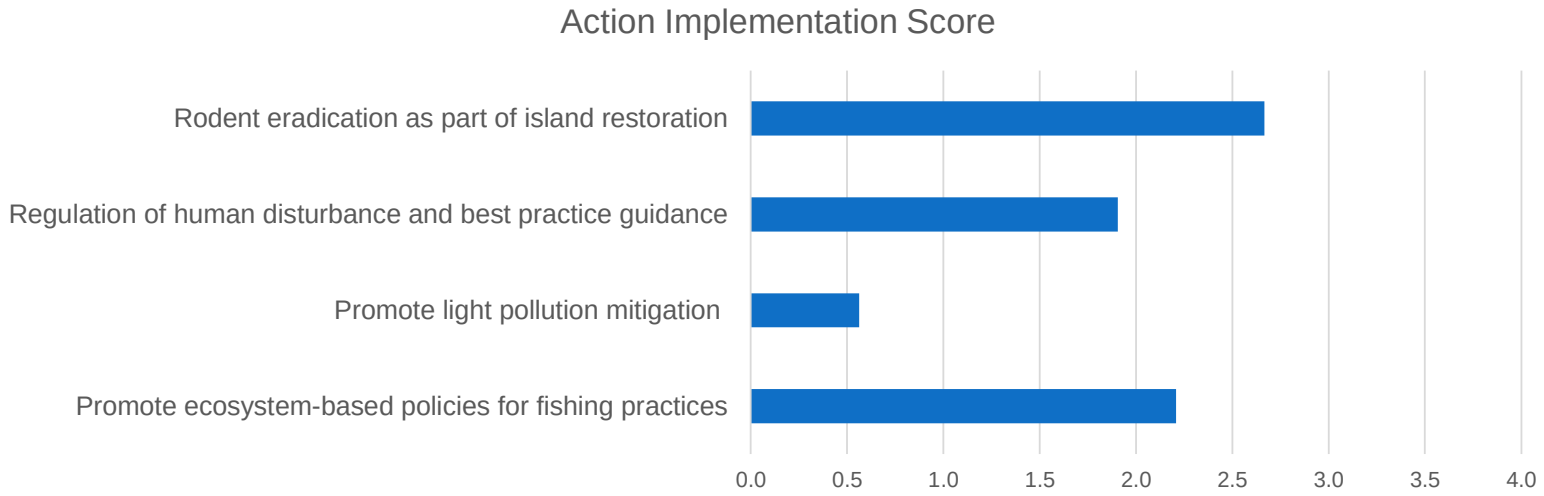
Action Implementation Scores

- Result 1.1. Average adult survival rate is close to or over 90% (by addressing most significant threats)



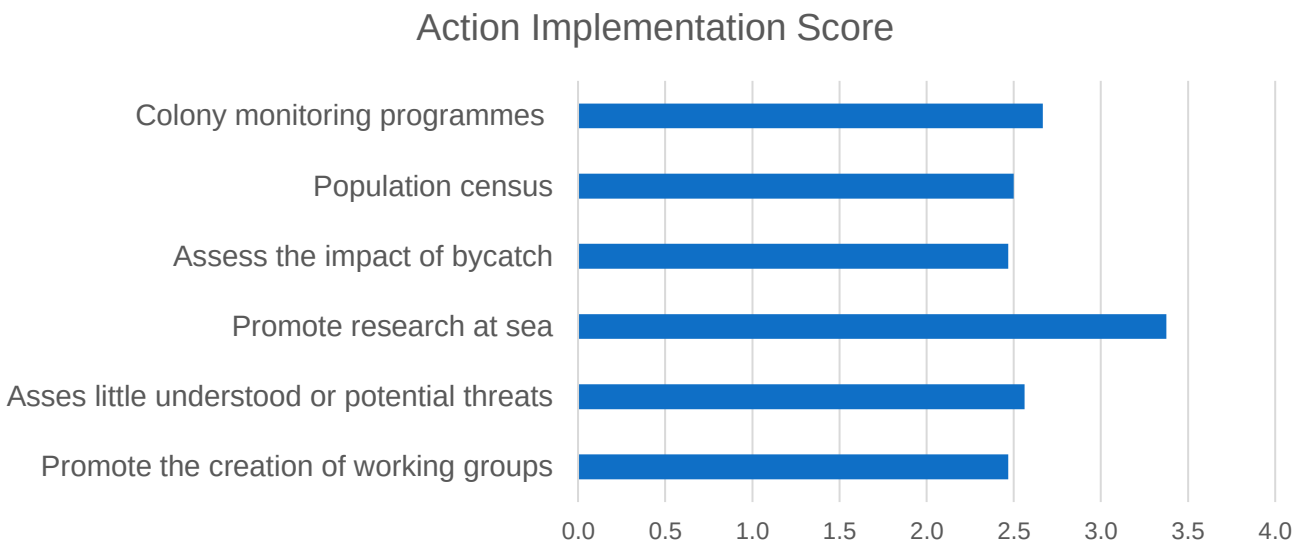
Action Implementation Scores

- Result 1.2. Breeding productivity is kept equal or over known current levels.



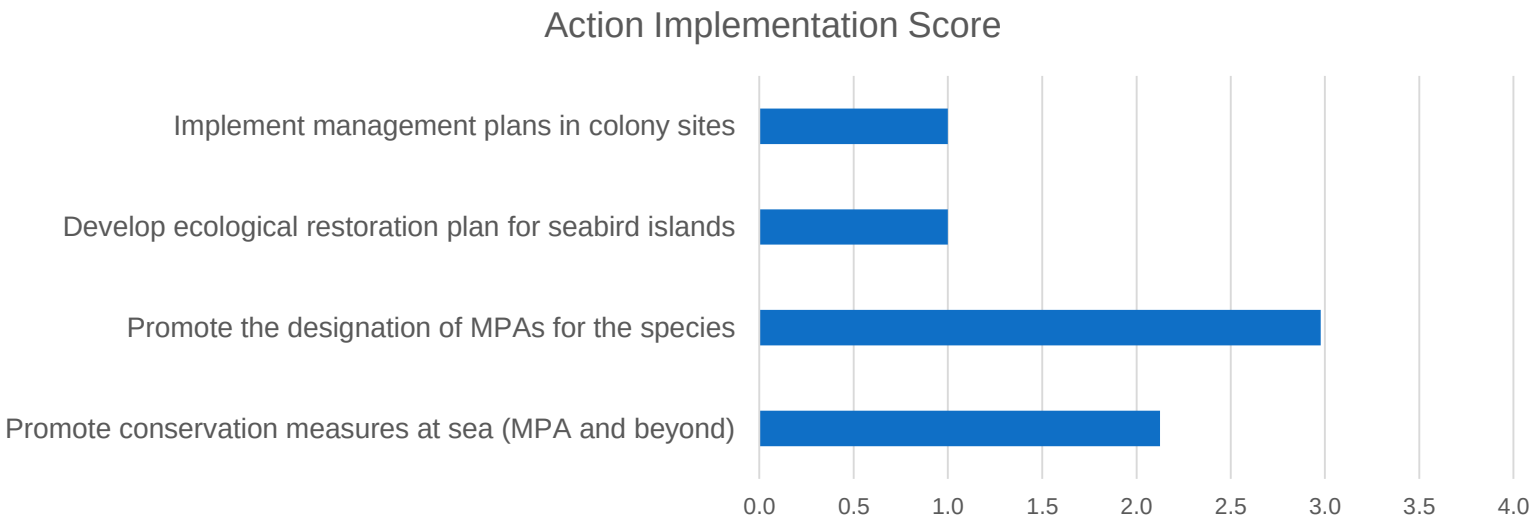
Action Implementation Scores

- Result 1.3. Knowledge gaps filled.



Action Implementation Scores

- Result 2.1. Conservation of breeding habitat is ensured.
- Result 2.2. Conservation of marine habitat is ensured.



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Evaluation of Balearic shearwater Species Action Plan: Threats and conservation actions

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Threats 2011

Threat	Impact
Predation at colonies	Critical
Bycatch	Critical
Acute pollution	(Potentially) High
Decreasing fish stocks	Medium
Degradation of breeding habitat	Medium
Background pollution	Low (unknown)
Windfarms	Unknown

Current threats

Threat	Impact	Review 2024
Predation at colonies	Critical	
Bycatch	Critical	
Acute pollution	(Potentially) High	
Decreasing fish stocks	Medium	
Degradation of breeding habitat	Medium	
Background pollution	Low (unknown)	
Windfarms	Unknown	
Disturbance of rafts		
Disturbance at colonies		
Avian influenza		

Proposed new action?

- Flight height data collection to assess the potential impact of renewable offshore energy

- Assessment of plastic ingestion (bycaught birds,…)

- ….

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Considerations on taxonomy

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Background

- Balearic shearwater originally as subspecies of Manx shearwater:

  Puffinus puffinus mauretanicus – up to ~1990

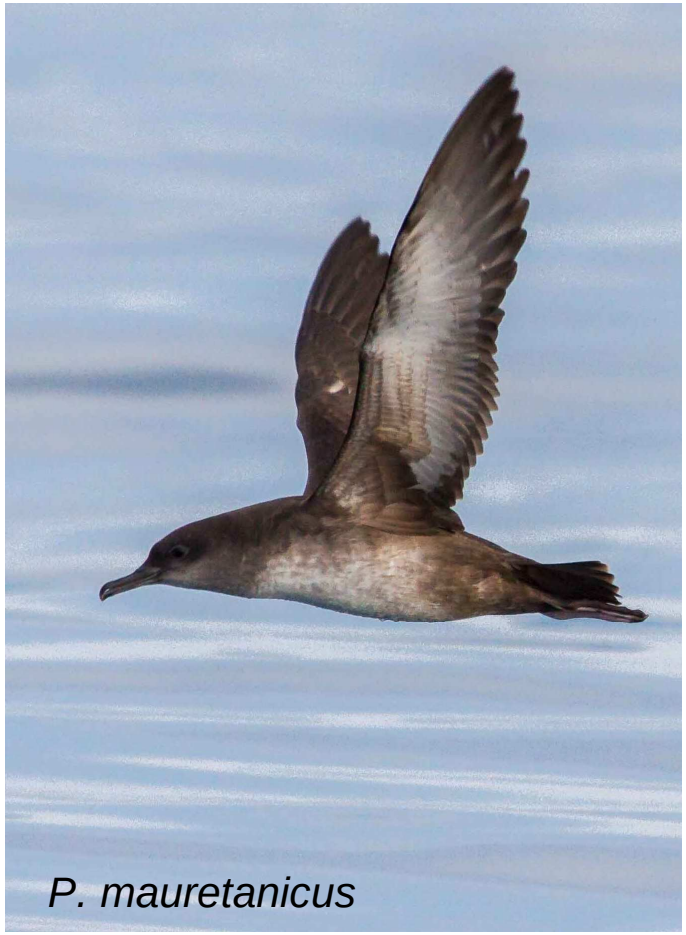
- 1990s – *Puffinus yelkouan mauretanicus*

- Late 1990s/early 2000s – *Puffinus mauretanicus*

- 2023 – proposal to lump again *P. mauretanicus & P. yelkouan*

- Direct implications for conservation status

Is there enough evidence for a lump?



P. mauretanicus

Puffinus yelkouan

Is there enough evidence for a lump?

- Current context of increasing splits (including petrels & shearwaters)
- Lump proposal based on a sole paper (Ferrer-Obiol et al. (2023)
- Evidence focused on genomics, lacking integrative approach
- Genomics better used to support splits
- Balearic & Yelkouan shearwaters are phenotypically quite different (colour, biometrics, movements, vocalisations,…)
- Speciation in petrels & shearwaters often involves little phenotypical differences (environmental constraints)

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Conservation status: how to face next revision?

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Background

- Conservation status CR after demographic study by Oro et al. (2004)
- Status review every 5 years by BirdLife on behalf of IUCN
- Reviews involve public consultation/debate
- Last review in 2020 – initially proposed to downlist from CR to NT
- Finally kept as CR after debate, but stating that demographic modelling along was too weak
- Need to gather complementary evidence for next revision (2025)
- Potential taxonomic lump would ensure the downlisting

Available evidence in favour of CR

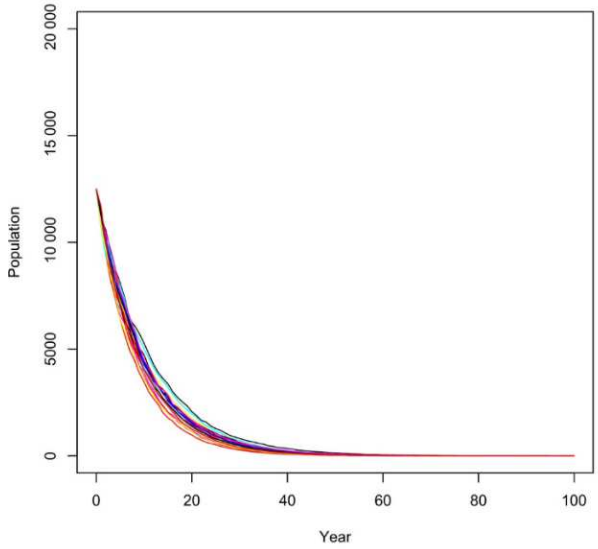
- Revised demographic model by Genovart et al. (2016) (1 colony)
- Further support from new demographic data from Ibiza (Genovart et al. – ACAP report 2019)
- Bycatch identified as main driver – increasing direct evidence of significant mortality
- Distribution modelling – decrease in the Mediterranean & W Iberia, not compensated by increase in France/UK (De la Cruz et al. in prep.)
- Perceived decline of winter congregations in the W Mediterranean

Available evidence for downlisting

- Taxonomic lump
- Presumed recovery based on migration counts at Gibraltar Strait (Martín *et al*. 2019)
- Increased/stable observations in Brittany/UK
- Not strong decline directly perceived (?)

Demography – Mallorca data

- Sa Cella (Mallorca; 1985-2014)
- Annual decline 14% (λ = 0.86)
- ↓ Ad. survival = 0.81
- Mean extinction time 61 years (considering 7000 pp!!!)
- Colony without predators – problem at sea
- Bycatch as a major driver



Journal of Applied Ecology

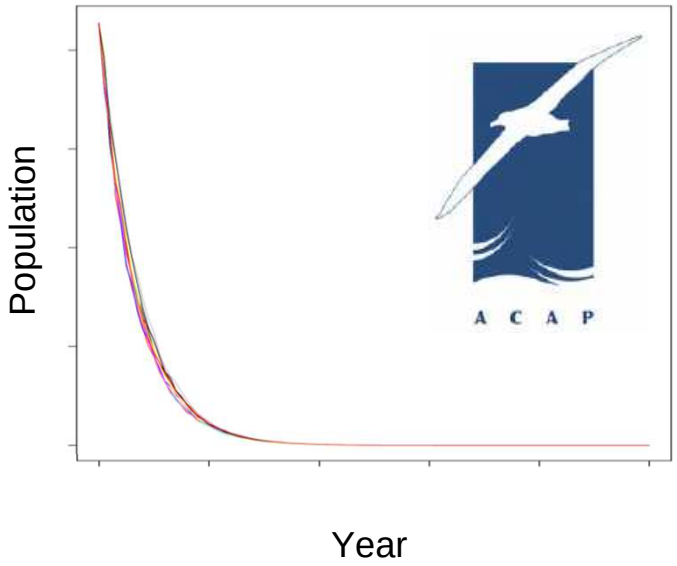
Journal of Applied Ecology 2016, 53, 1158–1168 doi: 10.1111/1365-2664.12622

Demography of the critically endangered Balearic shearwater: the impact of fisheries and time to extinction

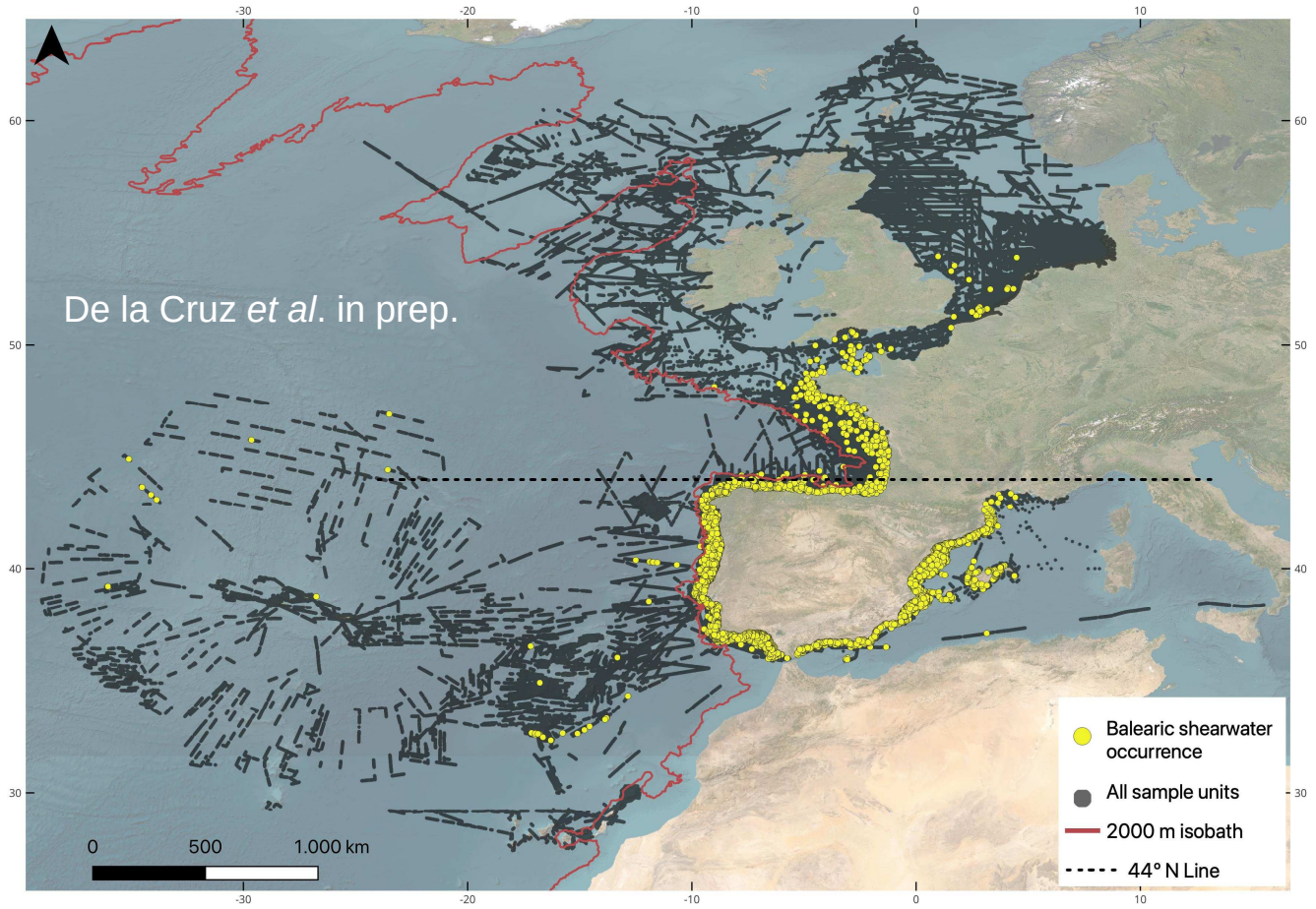
Meritxell Genovart[1*], José Manuel Arcos[2], David Álvarez[1], Miguel McMinn[3], Rhiannon Meier[4], Russell B. Wynn[4], Tim Guilford[5] and Daniel Oro[1]

Demography – Ibiza data

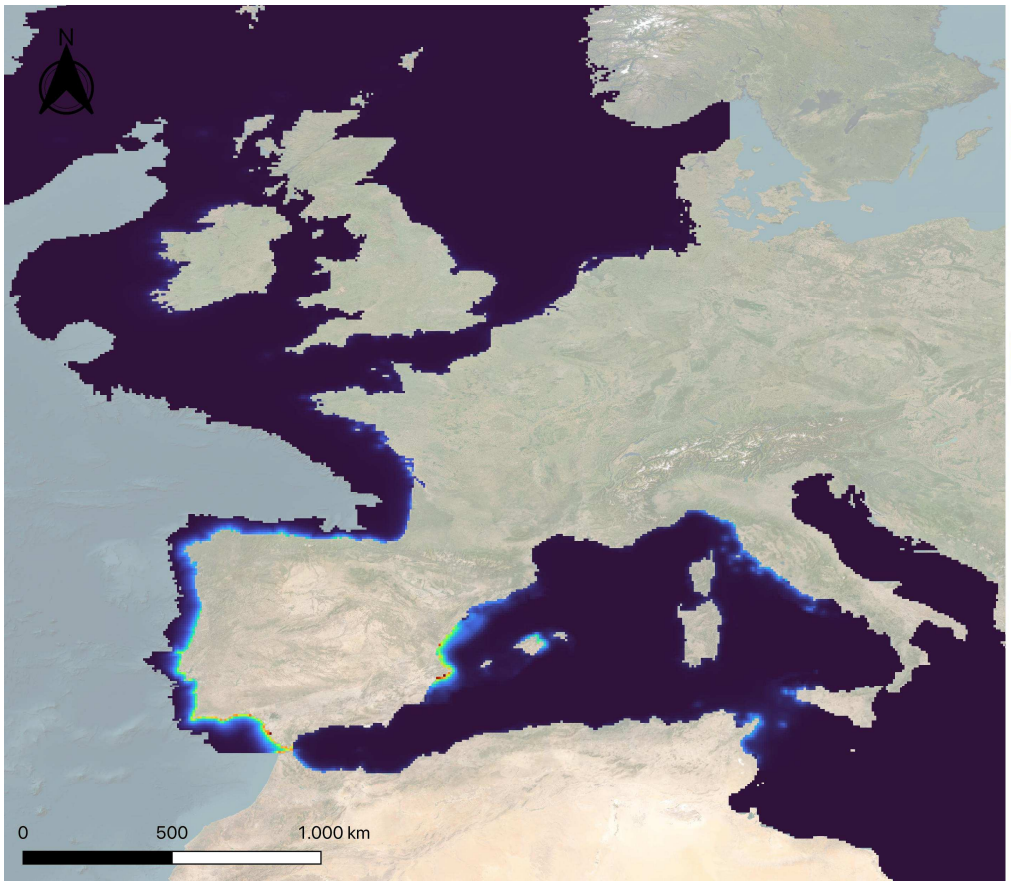
- Sa Conillera – Es Bosc (2011-2018)
- Annual decline 14% (λ = 0.86)
- ↓ Ad. survival = 0.81
- Colony without predators – problem at sea



Distribution modelling: survey effort



Distribution modelling: distribution observed

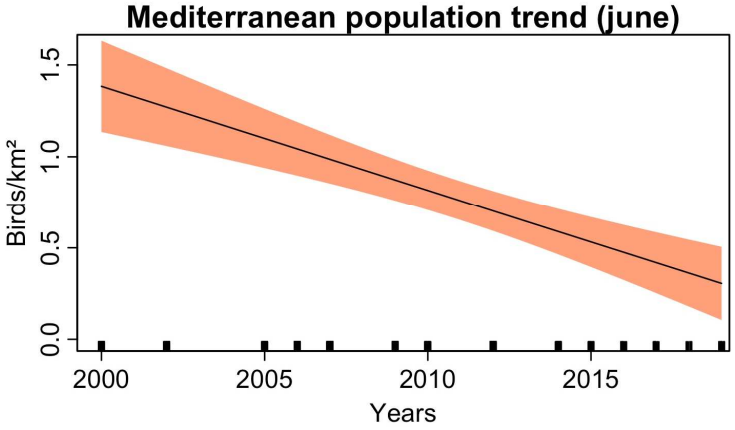


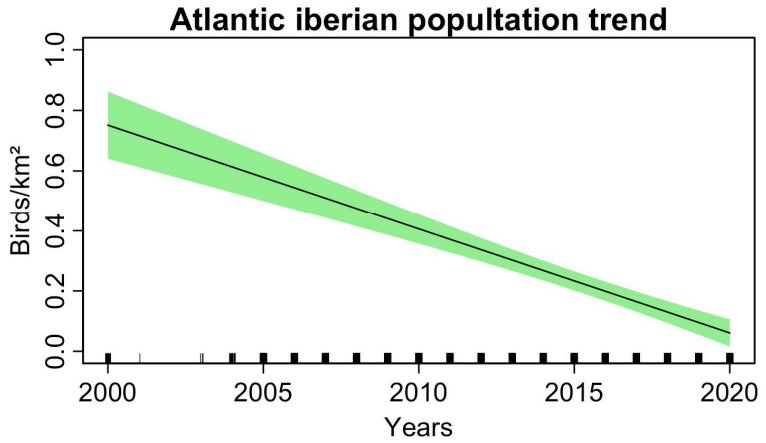
Habitat suitability in the Mediterranean Sea
Birds/km²
19,79169
0

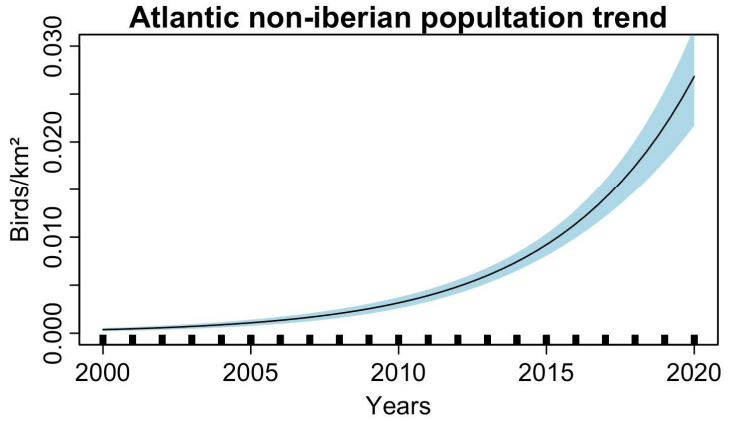
Habitat suitability in the Atlantic Ocean
Birds/km²
1,519
0

De la Cruz *et al*. in prep.

Distribution modelling: regional trends

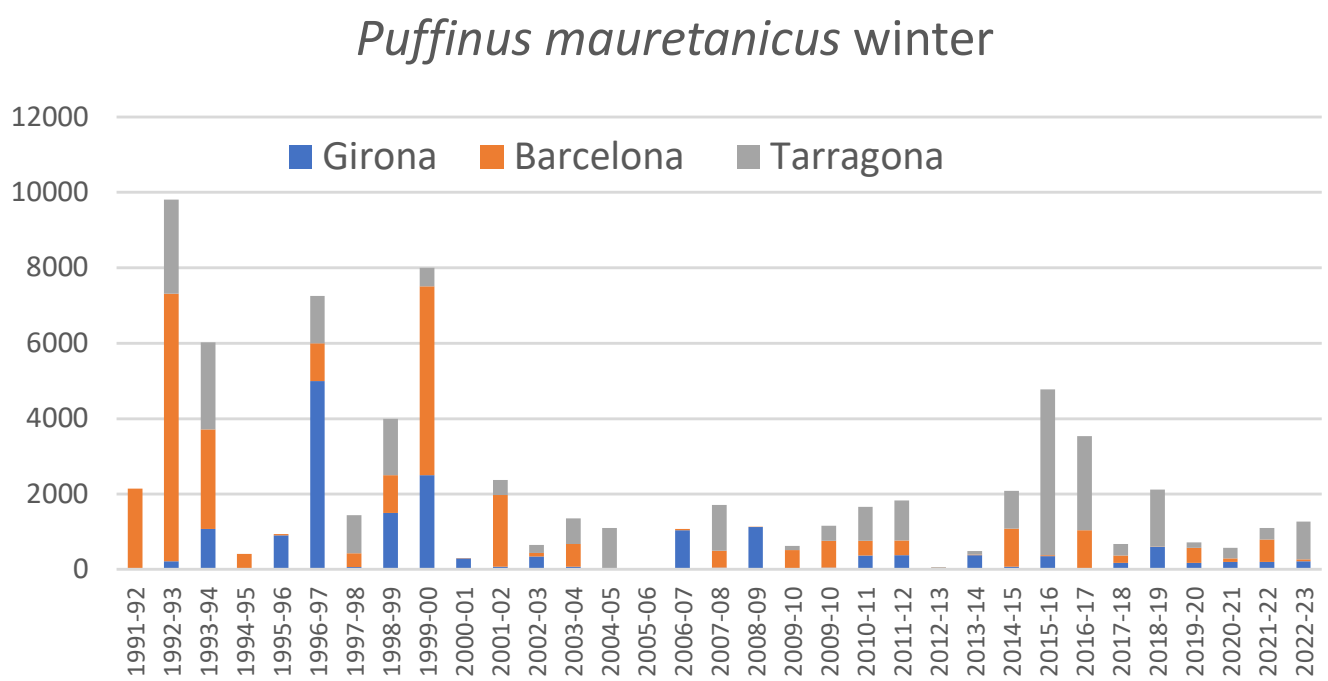






And what does demography say?

- Decrease of winter congregations in Catalonia (W Mediterranean)



Many thanks!