



Northeast Atlantic killer whales

8M1. Protecting the lesser-known cetaceans of the NE Atlantic (an ASCOBANS Workshop)

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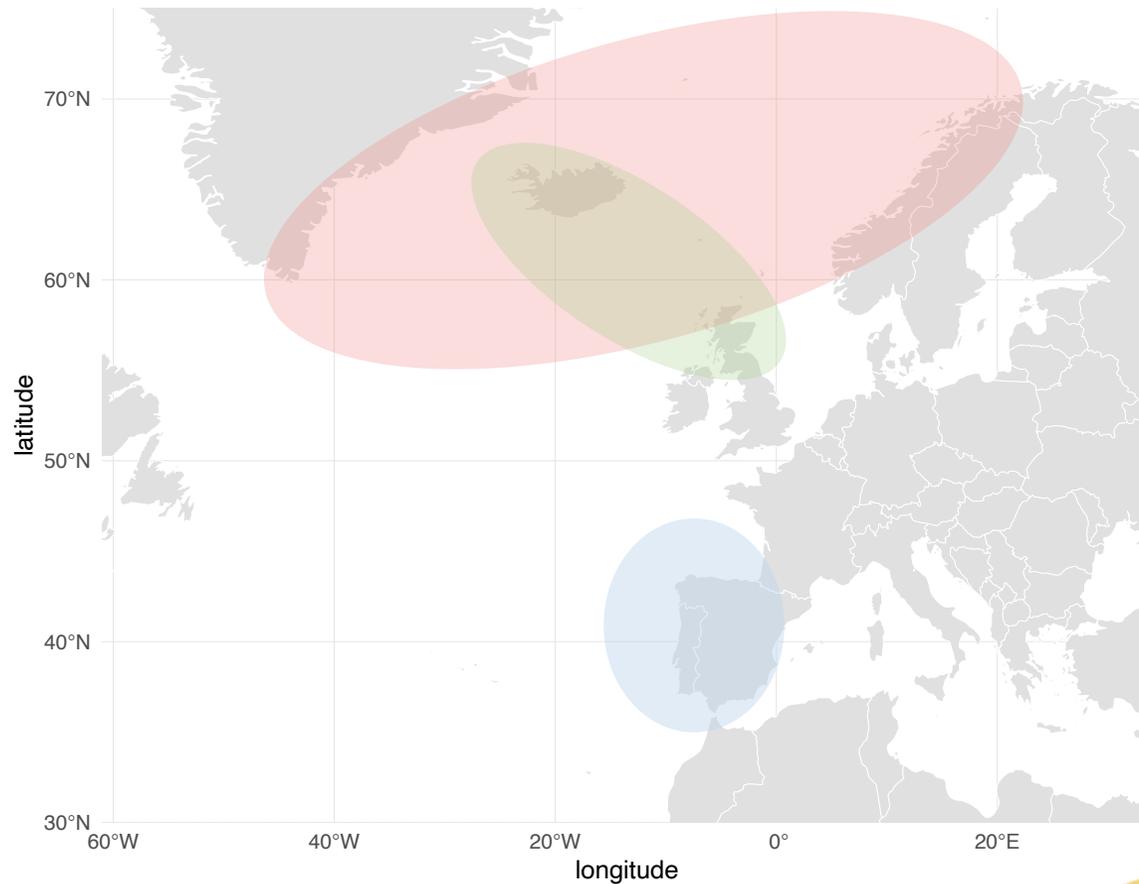
The killer whale

Conservation status: *Data Deficient*

- **The conservation status** of the killer whale in the *IUCN Red List of Endangered Species* has remained Data Deficient due to a lack of baseline data on the populations and taxonomic uncertainty.
- Some populations have been **locally declared critically endangered**

Reeves et al. 2004 & 2017; Esteban & Foote et al., 2019

Population structure



Spatial clustering with distribution of **particular prey resources**:

- Herring-associated killer whales
- Mackerel-associated killer whales
- Tuna-associated killer whales

Adapted from Foote et al., 2011;2013 & Baumgartner & Jourdain et al., in preparation



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Herring-associated killer whales

Herring-associated killer whales have been subject to large-scale exploitation by humans.

- Culling, purportedly to protect herring stocks
- Commercial whaling
- Live captures for aquaria
- Prey depletion

reviewed in Jourdain et al., 2019



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Herring-associated killer whales

Emerging threats are hampering recovery, including

- Chemical pollution
- Increasing unregulated hunting
- Anthropogenic noise
- Climate change
- Prey depletion

Andvik et al., 2020; Remili et al., 2021; Jourdain et al., 2019



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Herring-associated killer whales

- **Herring (*Clupea harengus*) is a major food source** supporting several thousand killer whales
- All major North Atlantic herring stocks **collapsed in the mid-1960s due to overfishing**

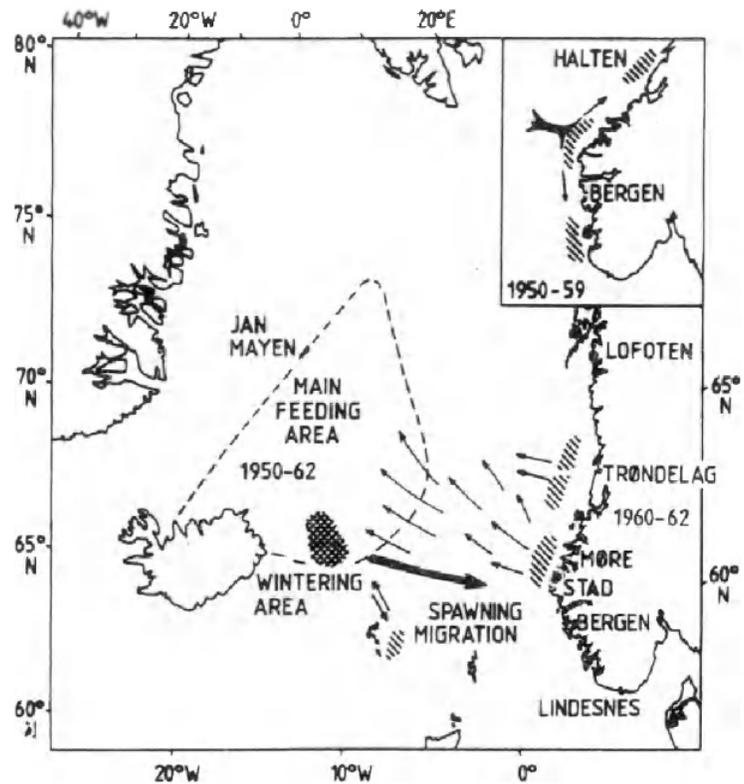


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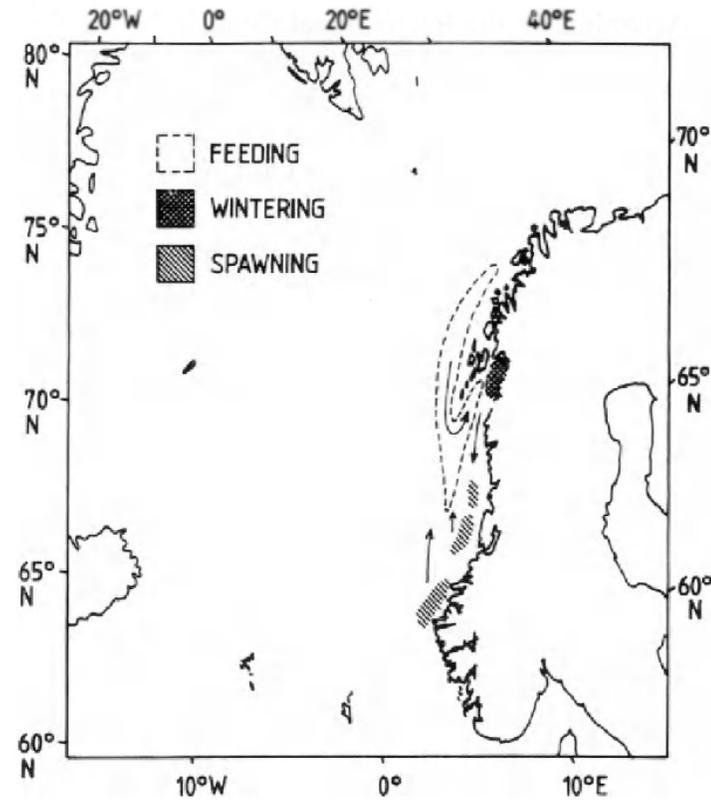


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Distribution and migration of Norwegian Spring-Spawning herring before and after stock collapse



pre stock collapse



post stock collapse

Dragesund et al., 1997



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Ongoing study

Data not shown



Key issues for conservation

Conservation status of herring-associated metapopulation is unknown.

Thus, increasing our knowledge on

- Abundance
- Effective population sizes
- Migration patterns and population connectivity
- Pressures that they are exposed to

is **critical to undertake regional status assessments**



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Key issues for conservation

- **Currently, there is a lack of collaborative effort** to better coordinate knowledge
- We need a comprehensive overview, coordinated efforts and updating of different **photo-ID catalogues, satellite tags** and **acoustic monitoring** also in currently unexplored regions



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Iberian killer whales

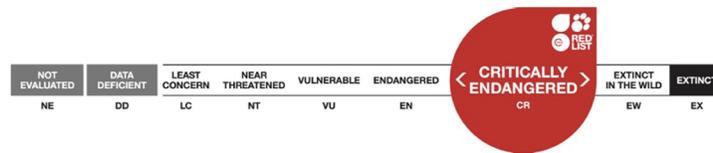
- Critically endangered subpopulation of killer whales (Esteban and Foote 2019)



The IUCN Red List of Threatened Species™
 ISSN 2307-8235 (online)
 IUCN 2019: T132948040A132949669
 Scope: Global
 Language: English

Orcinus orca (Strait of Gibraltar subpopulation), Killer Whale

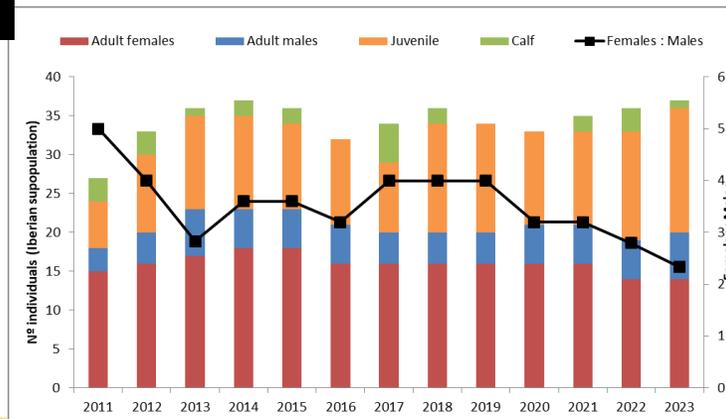
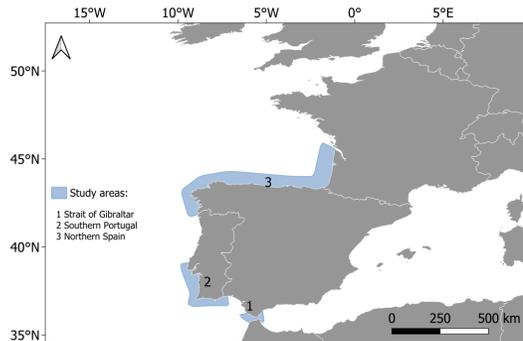
Assessment by: Esteban, R. & Foote, A.



Iberian killer whales



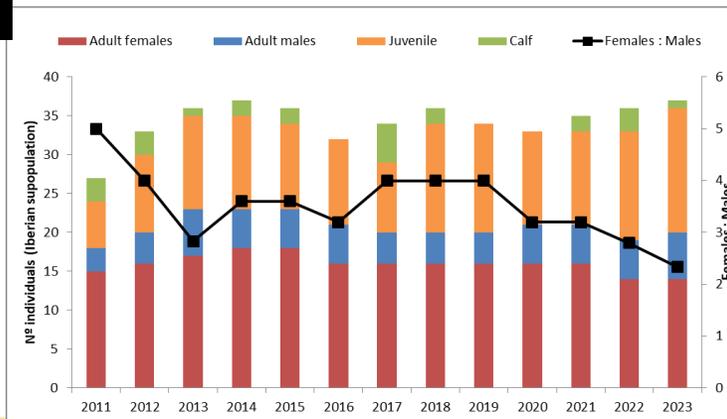
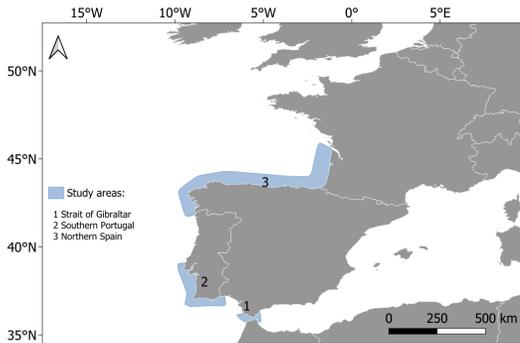
- Critically endangered subpopulation of killer whales (Esteban and Foote 2019)
- Update of demographic parameters with opportunistic data (Esteban et al. In prep.)



Parameter	State	Estimate	LCI	UCI
Survival rate	Calf	0.838	0.609	0.945
	Juvenile	0.950	0.893	0.978
	Female (bF+ nbF)	0.966	0.923	0.986
	Male	0.932	0.808	0.978
Transition rate	Female	0.218	0.141	0.321
Population growth rate		1.005	0.964	1.045

Iberian killer whales

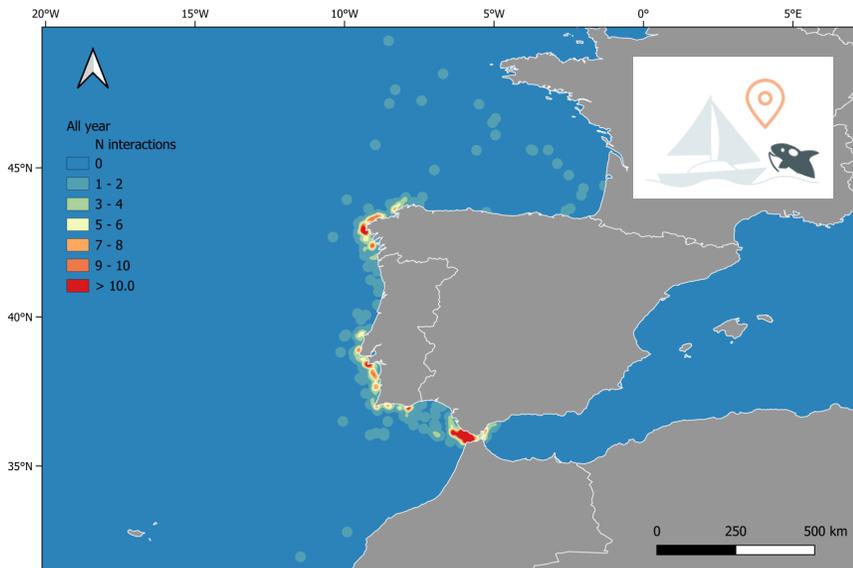
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Iberian killer whales

- Interacting with recreational boats since 2020 (Esteban et al. 2022 Mar. Mam. Sci.)






Key issues for conservation

The **widespread distribution and notable threats** to killer whales in the North Atlantic highlight the necessity for

- Coordinated management
- Mitigation measures and
- Conservation actions

of this migratory predator and its prey across national borders.



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Thank you very much for your attention!