IRELAND

Sinéad Murphy

CD4 Meeting, 8-9th January 2024

Sightings - UCC

ObSERVE II

Title	ObSERVE II
Start Date	Summer 2021
End Date	Summer 2025
Funding Body	Department of Housing, Department of Environment, Climate, a Communications, and SEAI
Coordinator	School of BEES and MaREI, University College Cork
Research Partners	IMARES, Wageningen UR, Netherlands, and Duke University, United States
Project Partners	Action Air Environment, France
Principal Investigators	Dr Mark Jessopp and Prof Emer Rogan
Research Area	Marine Ecology, Coastal and Marine Systems, Animal Distributio

Check for updates

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RESEARCH ARTICLE

WILEY

Identification of priority cetacean areas in the north-east Atlantic using systematic conservation planning

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Abstract

1. Mobile marine protected areas have been proposed for the conservation of highly seasonal or mobile marine megafauna. However, seasonal data on the distribution of marine wildlife to inform protected areas are generally scarce worldwide, especially for cetaceans, which makes dynamic solutions difficult to implement.
2. Furthermore, conservation objectives are often set at the level of individual species rather than at the community level, despite many species having similar or overlapping habitat requirements, and a comparison of the effectiveness of mobile vs. static Marine Protected Areas options has rarely been done.
3. Systematic conservation planning was used to identify priority areas of cetacean biodiversity in the north-east Atlantic accounting for seasonal changes in distribution. Consistent hotspots across seasons at a community level, in particular along the shelf edge, suggest that fixed priority areas for cetacean biodiversity may be appropriate.
4. The area required for protection to meet conservation targets (i.e. 20% of a population occurring within a protected area) is minimized when considering populations at basin scale rather than national level. Highly mobile megafauna normally exploit persistent and predictable oceanographic features, so a habitat suitability rather than a jurisdiction-based approach is more appropriate.

Sightings session – Emer presenting an update!

frontiers | Frontiers in Marine Science

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Pommier M, O'Donnell C, Barile C, McGill R, Berrow S and O'Brien J (2023) Exploring environmental and biological drivers of cetacean occurrence in the cross-border region of the Malin Shelf using data from a European fishery survey.

Exploring environmental and biological drivers of cetacean occurrence in the cross-border region of the Malin Shelf using data from a European fishery survey

Morgane Pommier[1]*, Ciaran O'Donnell[2], Cynthia Barile[1], Ross McGill[3], Simon Berrow[1] and Joanne O'Brien[1]

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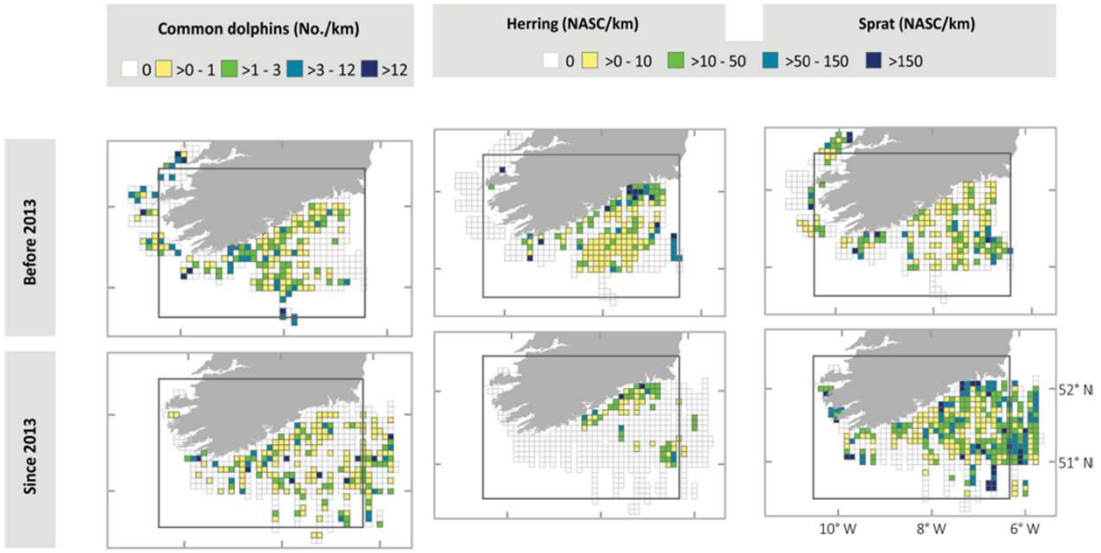
Sightings session – Morgane presenting an overview!

Sightings – Fariñas-Bermejo et al. (2023)

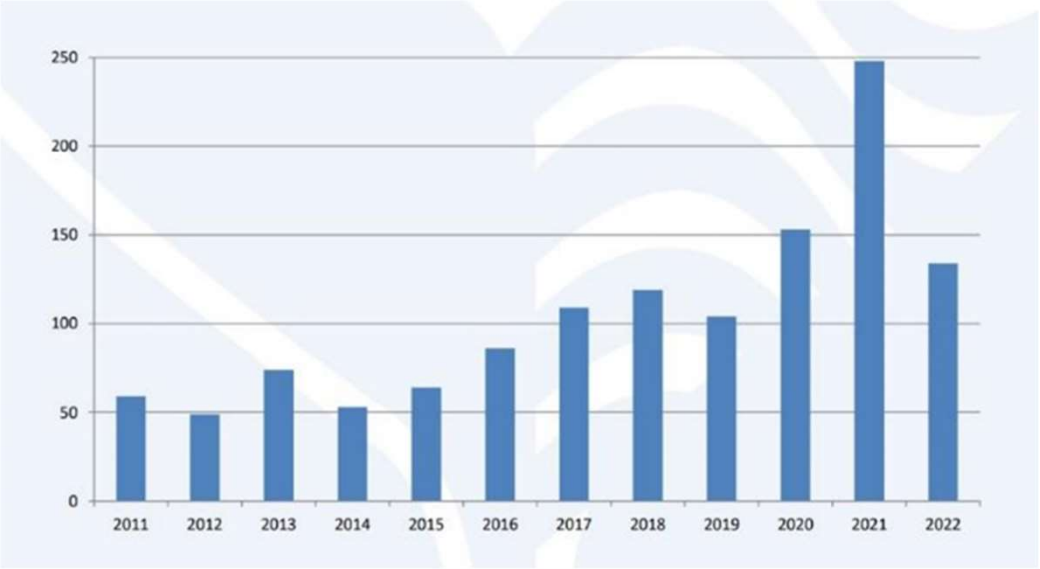
- Annual Celtic Sea Herring Acoustic Survey – prey species
- Common Dolphin sightings data collected in favourable weather conditions
- Collected between 2005 to 2018
- Decline in Herring Stock in 2013 & change in main distribution in the region
- Presence of Common Dolphins was related to depth while, their abundance in those areas was related to SST and herring density.



Fariñas-Bermejo et al. (2023)

Strandings

- Collection of data on strandings and samples by the IWDG/NPWS rangers : 50-60% of strandings are visited
- IWDG developed a guidance booklet based on the UK Bycatch Evidence Evaluation Protocol (BEEP) which was given to volunteers
- Necropsy project currently not funded
  - MI-EMFF funding 2017-2019
- Samples form 20 animals sent to France/Delmoges project



IWDG

Simon to provide update on strandings

MSc Study

Assessing the Stress Response in Common Dolphins (*Delphinus delphis*): Histological Examination and Protein Analysis of Adrenal Glands

Claudia I. Medina Santana

Supervised by

Dr. Sinéad Murphy

Dr. Orla Slattery

IMBRSea

Ollscoil Teicneolaíochta an Atlantaigh
Atlantic Technological University

Erasmus+

GHENT UNIVERSITY

Aims of this study

Assessing the Stress Response in Common Dolphins (*Delphinus delphis*): Histological Examination and Protein Analysis of Adrenal Glands

AIM 1. Assess for evidence of **chronic stress** via examination of stress-induced pathologies in the adrenal glands of common dolphins (*Delphinus delphis*)

Adaptation of previous histological methodologies established by Kuiken et al. (1993) and Clark et al. (2006)

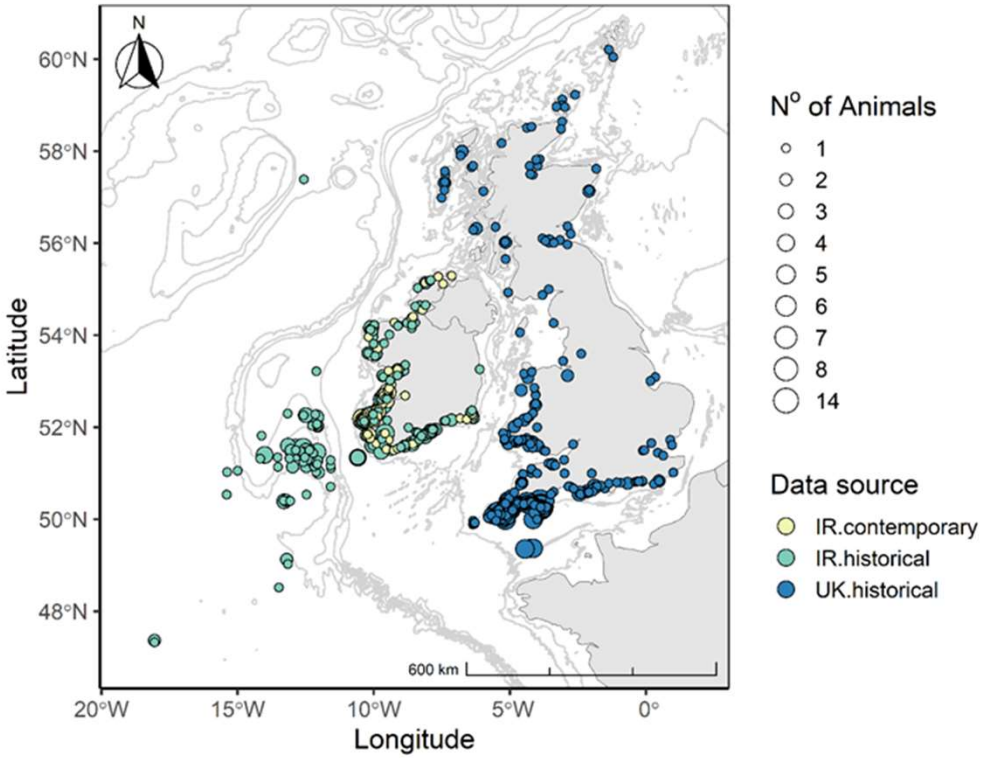
AIM 2. Develop a **protein extraction method** from paraffin-wax-embedded adrenal tissues to assess the differential protein recovery in the adrenal glands

Adaptation of previous methodologies established by García-Vence et al. (2021)

Case control approach – acute stress (control group) = trauma
chronic stress (case group) = infectious & non-infectious disease

ATU PhD study – Sofia Albrecht

Impacts of anthropogenic activities and environmental change on the foraging ecology and nutritional status of common dolphin and its implications towards sustainable resource management



Sofia to provide an update tomorrow!

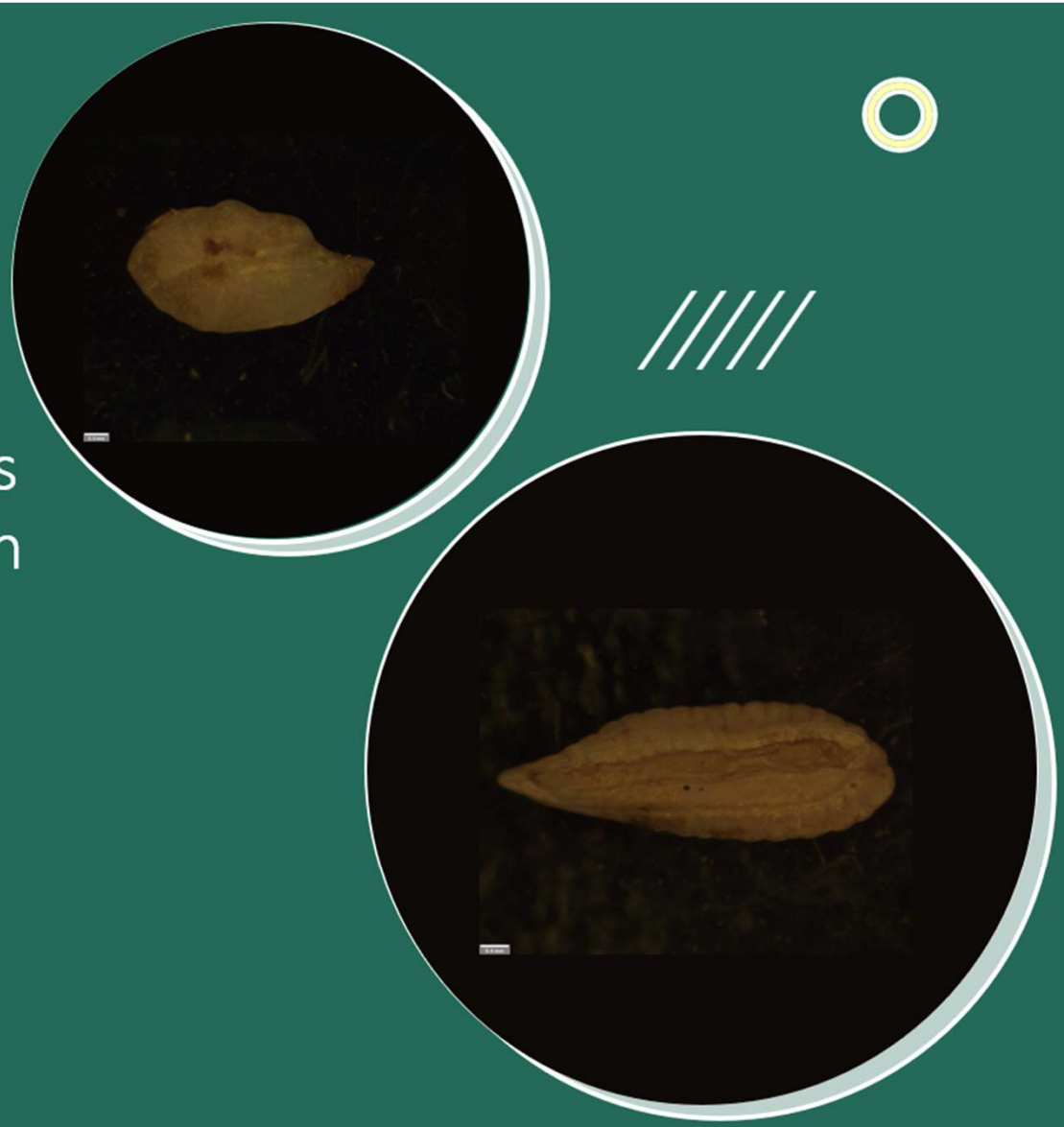
Body condition study

BSc study

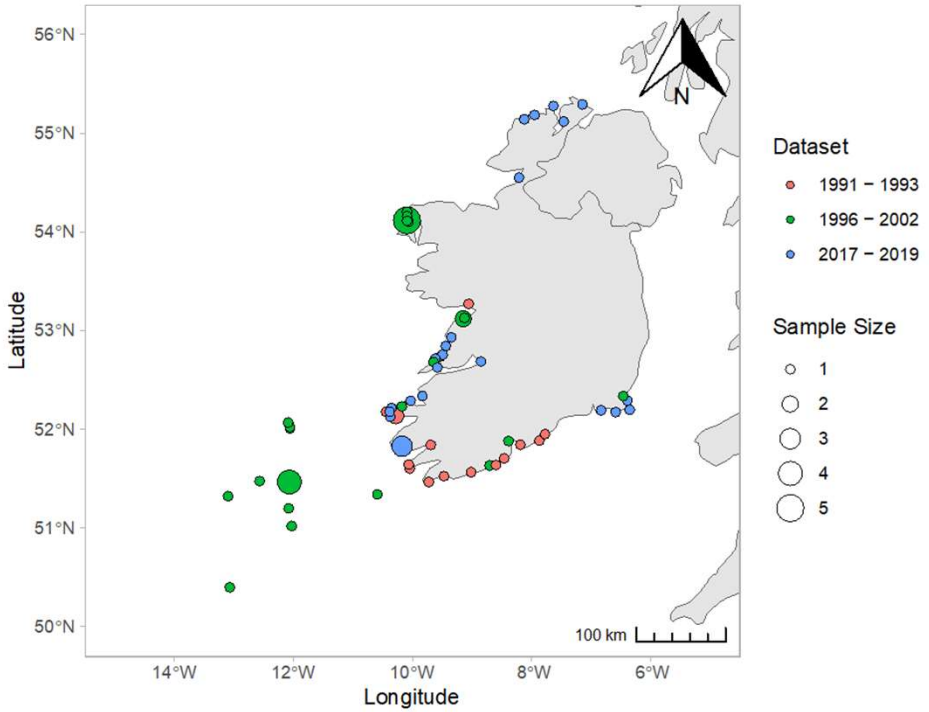
Diet of stranded short-beaked common dolphins (*Delphinus delphis*) in Irish waters

By Georgia Novak

Supervisor: Dr. Sinéad Murphy



Trace elements in Common Dolphins



Tomorrow's presentation on:

Interelemental relationships and effects of age-maturity and health status on trace element concentrations in common dolphins in Irish waters

MARINE BEACON

Monitoring and elimination of bycatch of endangered and conserved species in the NE and high seas Atlantic region (MarineBeacon)

#@APP-FORM-HERIAIA@#

Commencing Jan 2024 – June 2028

ATU - Partner

ATU team - Sinéad Murphy, Cóilín Minto, Joanne O'Brien, Allan McDevitt
Funding for 2 four-year PhDs, 1 thee-year Post-doc

WP 3 - Identifying and overcoming bycatch related knowledge gaps

- Cetacean life history PhD 1 (ATU)
- Best practice guide for bycatch monitoring of PETS

WP 5 - Next generation monitoring of PETS bycatch through AI and molecular approaches

- PETs eDNA PhD 2 (ATU)

WP 7 - Integrative assessment and quantification of the effectiveness of bycatch mitigation measures (SM WP lead)

- Subtask 7.1.2: Evaluation of the deployment of ADDs for mitigation of PETS bycatch (ATU lead)
- Task 7.2: Feasibility of management reform for mitigating PETS bycatch (ATU lead)
- Task 7.3: Ecosystem Services evaluation of bycatch mitigation measures
- Task 7.4: Bycatch management decision support tools