

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

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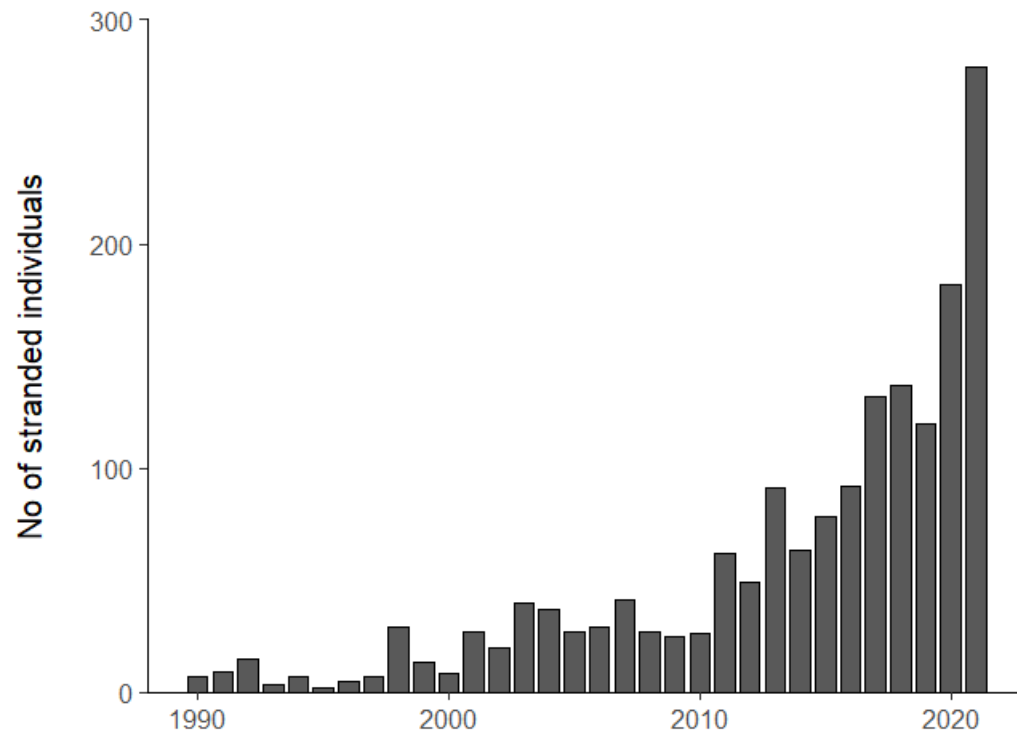


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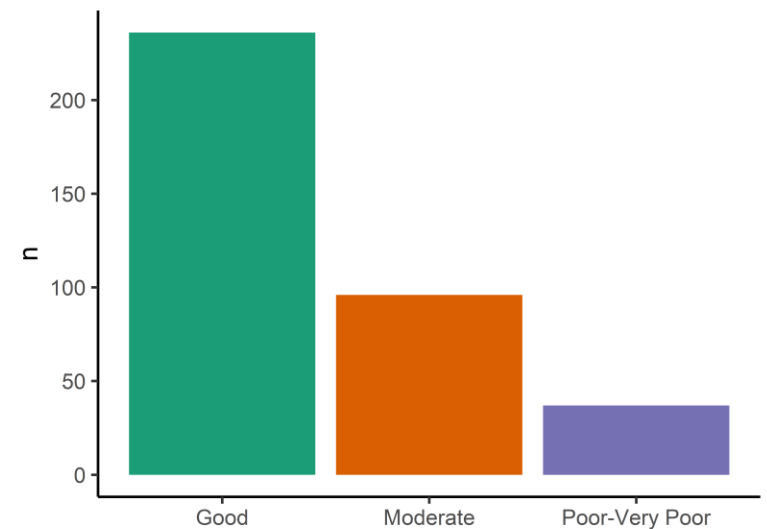
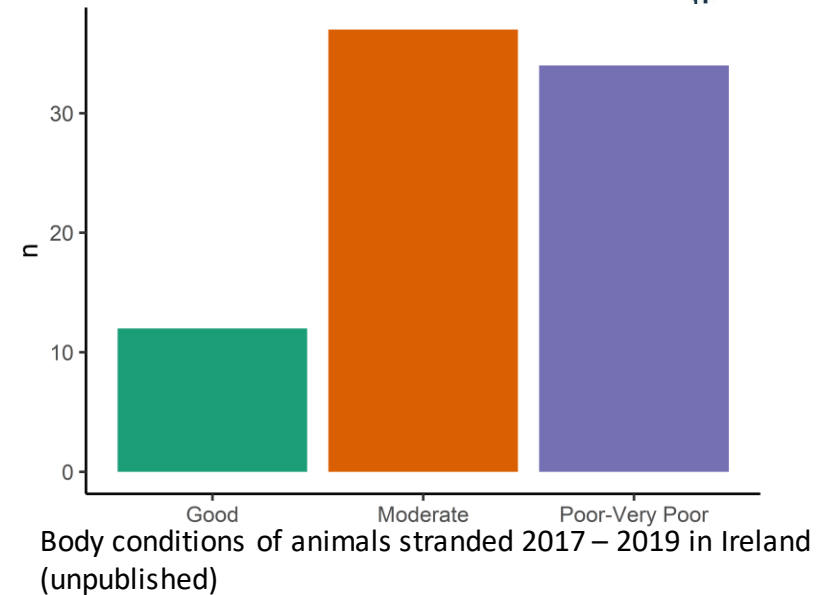
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Common dolphin in Ireland..



Number of Common dolphin stranded that were reported to the IWDG from 1990 - 2021



Body conditions of animals stranded 1990 – 2006 in UK (unpublished)

Common dolphin in Ireland..



Continuous stranding
scheme of the IWDG

Irish Whale
and Dolphin
Group



National Park &
Wildlife Service

Marine Institute-EMFF funded Irish
vertebrate necropsy project (2017-
2019): **84 individuals**

Past stranding and observer bycatch
programme (1990-2004): 121 individuals



Common dolphin in Ireland..



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- Post-Mortem Data (Body measures, diseases,)
- Tissue Samples:
 - Stomachs
 - Blubber
 - Teeth
 -



Chapters:

Identifying **dietary shifts** using stomach contents: Prey
hard part ID & detecting prey DNA via metabarcoding



Photo: Joanne O'Brien IWDG

Results and progress

**Full stomachs
frozen**

Hard parts



DNA



Parasites





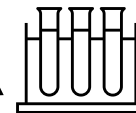
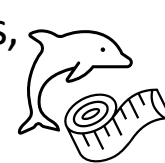
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Photo: Joanne O'Brien IWDG

Developing **nutritional status indicators**: Body condition indices, blubber cortisol levels & blubber proteomic analysis

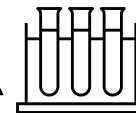
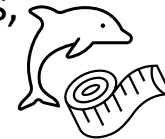


Chapters:

Identifying **dietary shifts** using stomach contents: Prey hard part ID & detecting prey DNA via metabarcoding



Developing **nutritional status indicators**: Body condition indices, blubber cortisol levels & blubber proteomic analysis



Determining **bioenergetic requirements**: Energy requirements and consumption rates as predicted by a bioenergetic model



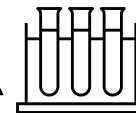
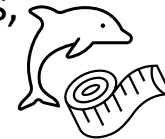
Photo: Joanne O'Brien IWDG

Chapters:

Identifying **dietary shifts** using stomach contents: Prey hard part ID & detecting prey DNA via metabarcoding



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Calorific maps of prey and drivers of dolphin **distribution**: Advanced spatio-temporal modelling of acquired data with sighting data obtained from **SCANS**, **CODA** and **ObSERVE** surveys, environmental factors, and Fishery survey data from ICES



Photo: Joanne O'Brien IWDG

Thank you very much!

Thanks to

- Volunteer of the IWDG stranding network and necropsy scheme
- Placement and thesis students that completed the post mortem data and samples
- The UK Cetacean Strandings Investigation Programme (CSIP) and Rob Deville
- Regional veterinary laboratory in Cork
- MFRC Team for practical advise
- IRC Funding GOIPG/2021/378



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