



Trends in seal rehabilitation admission data in south west England and the impacts of climate change.



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Introduction

The aim of this project was to review four years of admission data from a seal pup rehabilitation centre in south west England, and to explore how changing trends call attention to threats to seal conservation and welfare, as well as the stranding response network. In the south west of England, the grey seal pupping season takes place between August and October each year [3], and the associated period for seal pup rescues can stretch from September to May.

Methods

Admission data from the BDMLR Cornwall Seal Hospital was collated for four rescue seasons from 2021-2022 to 2024-2025. Collated data included the total number of admissions per season, the temporal range of the admissions, species, sex, age and weight of each pup. The primary reason(s) for admission were also recorded, broken down into six main categories: malnourishment, trauma, infection, pre-mature separation from mother, entanglement, and other. Only pups that had been rescued from the south-west region were included in the dataset.

Results

A total of 373 pups were admitted over the four seasons. 371 were grey seals (*Halichoerus grypus*) and two were common seals (*Phoca vitulina*). The seasonal breakdown is shown in Table 1.

2021/2022	2022/2023	2023/2024	2024/2025
71	111	115	76

Table 1: Number of admissions per rescue season

The number of admissions per month is shown in Figure A. The majority of admissions (on average 87%) occurred between October and January each year. The peak number of admissions occurred in November for three seasons (with on average 28% of pups admitted during this month), except 2022/2023 in which December was marginally higher.

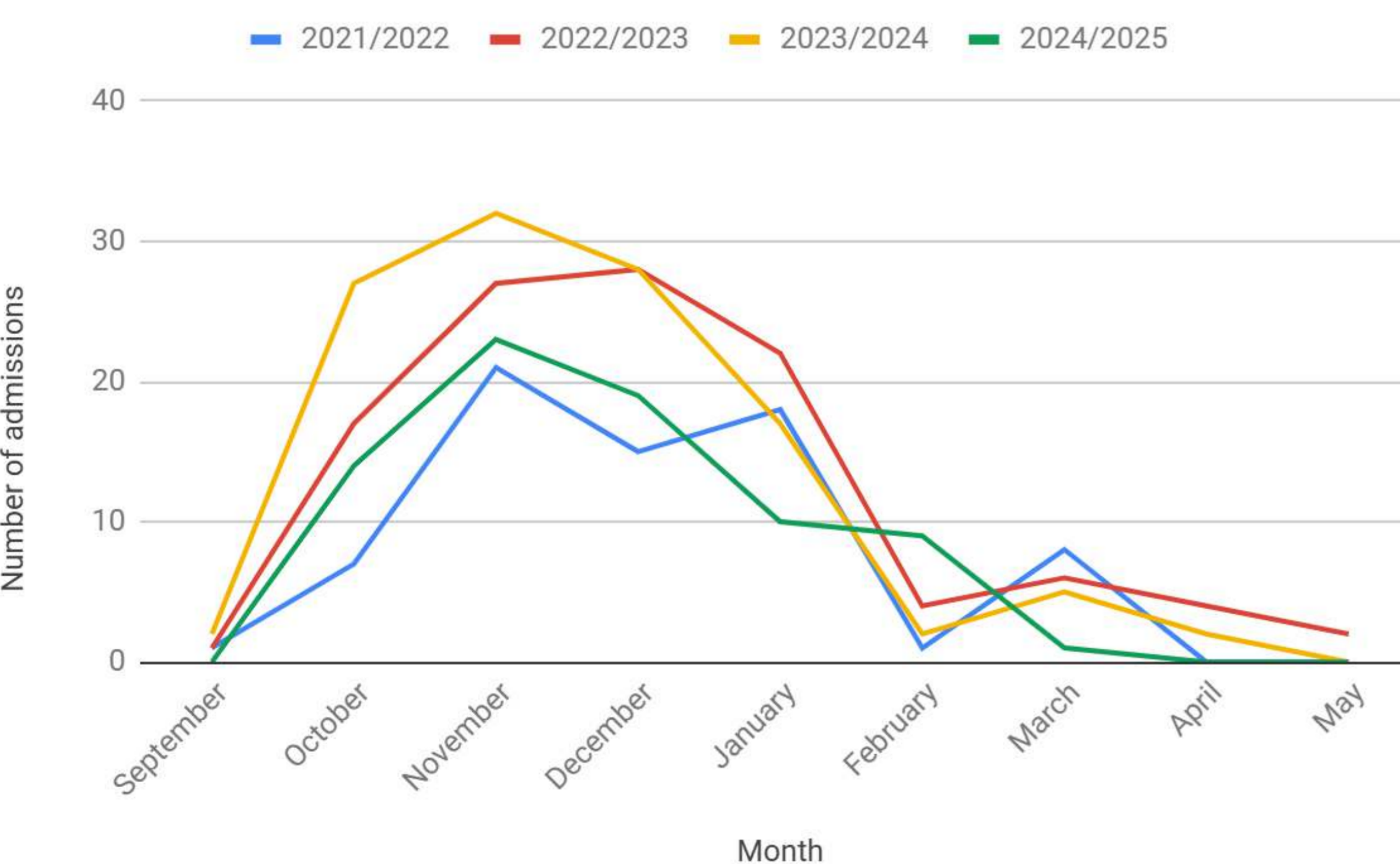


Figure A: Number of admissions per month

Each year, more males were admitted than females. Across the four seasons, on average 13.9% more males were admitted than females.

Sex	2021/2022	2022/2023	2023/2024	2024/2025
Male	43 (60.6%)	57 (51.4%)	64 (56.6%)	45 (59.2%)
Female	28 (39.4%)	54 (48.6%)	49 (43.4%)	31 (40.8%)

Table 2: Numbers of males and females admitted each rescue season

The vast majority (93%) of grey seal pups admitted were considered to be post-weaning age (with 0-5% of lanugo remaining). The two common seals admitted were also considered to be post-weaning age.

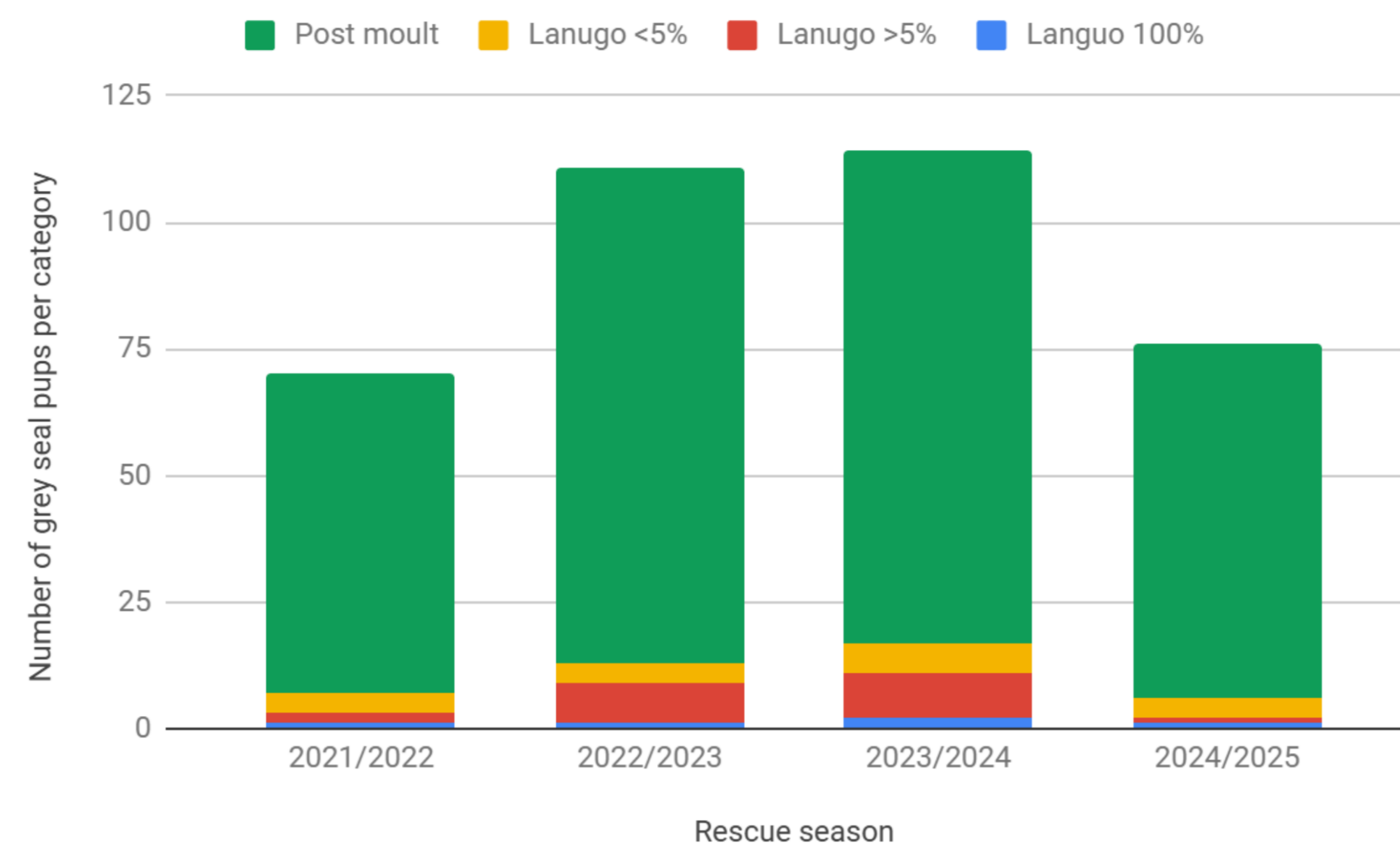


Figure B: Stage of moult of seal pups admitted during each rescue season

Figure C shows the range of weights observed for the 371 grey seal pups across the four rescue seasons. Weight cannot and should not be relied upon to accurately assess body condition (BC)- but it can allow for an approximation. Here, grey seal pups were placed into one of five categories, based on their admission weight:

- <12.9kg- typically in very poor BC
- 13-16.9kg- typically in poor/very poor BC
- 17-19.9kg- typically in moderate/poor BC
- 20-22.9kg- typically in moderate/good BC
- >23kg- typically in good BC

The two common seal pups were both considered underweight and were in poor body condition.

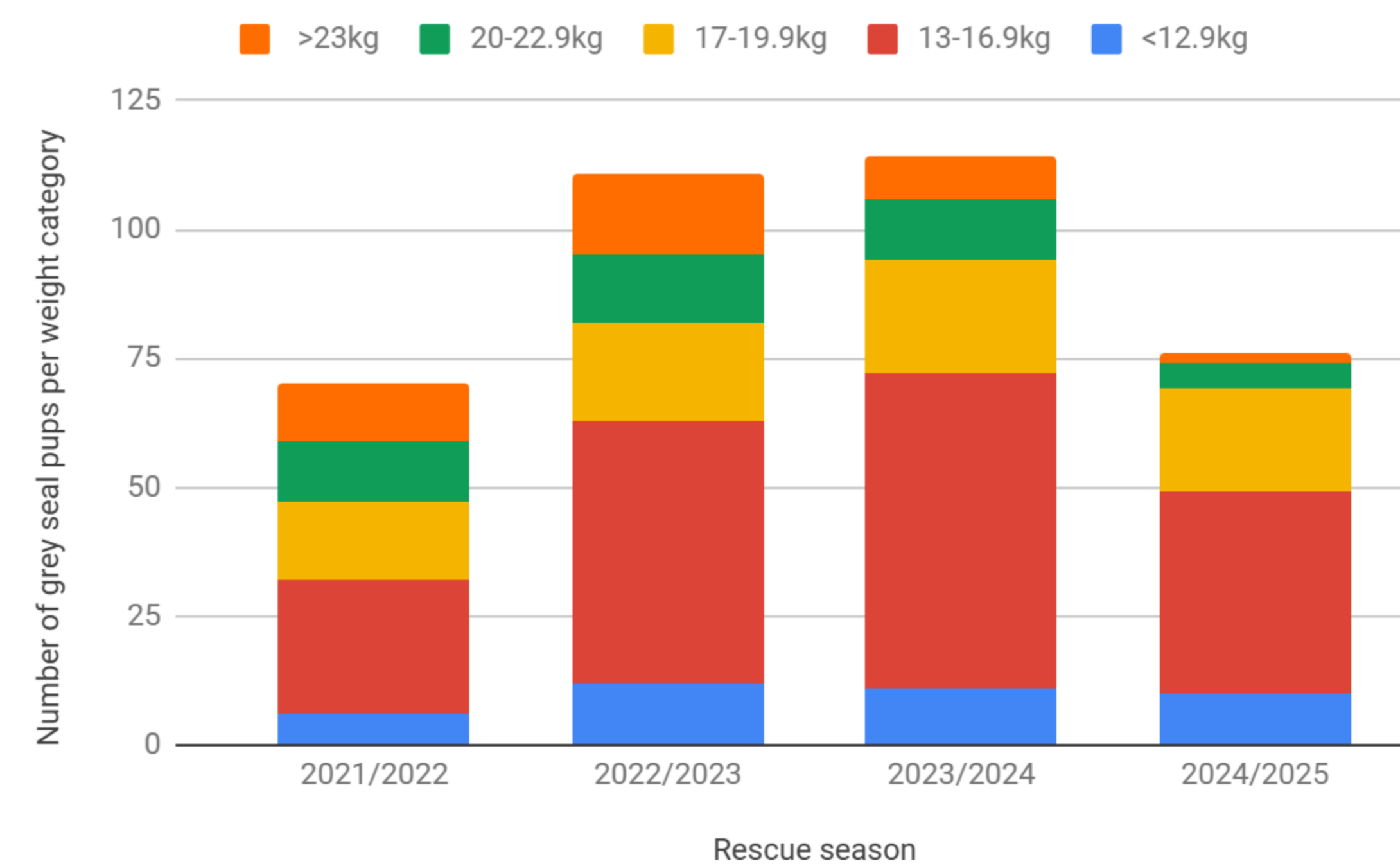


Figure C: Weight of grey seal pups admitted during each rescue season

Over the four years, the mean admission weight has dropped from 17.8kg to 16.2kg (Table 3). The number of pups being admitted that are >20kg (usually in moderate-good BC) has dropped from 33% in 2021/2022 to 9% in 2024/2025.

2021/2022	2022/2023	2023/2024	2024/2025
17.8kg	17.6kg	16.9kg	16.2kg

Table 3: Mean admission weights during each rescue season

Figure D shows the primary reasons for admission over the four rescue seasons. Pups could have multiple primary reasons for admission- for example being malnourished and with a significant infection- and hence be placed into multiple categories. Secondary findings, such as minor wounds, were not included. The percentage of pups being admitted with malnourishment as a primary reason for their rescue rose from 64 to 83%.

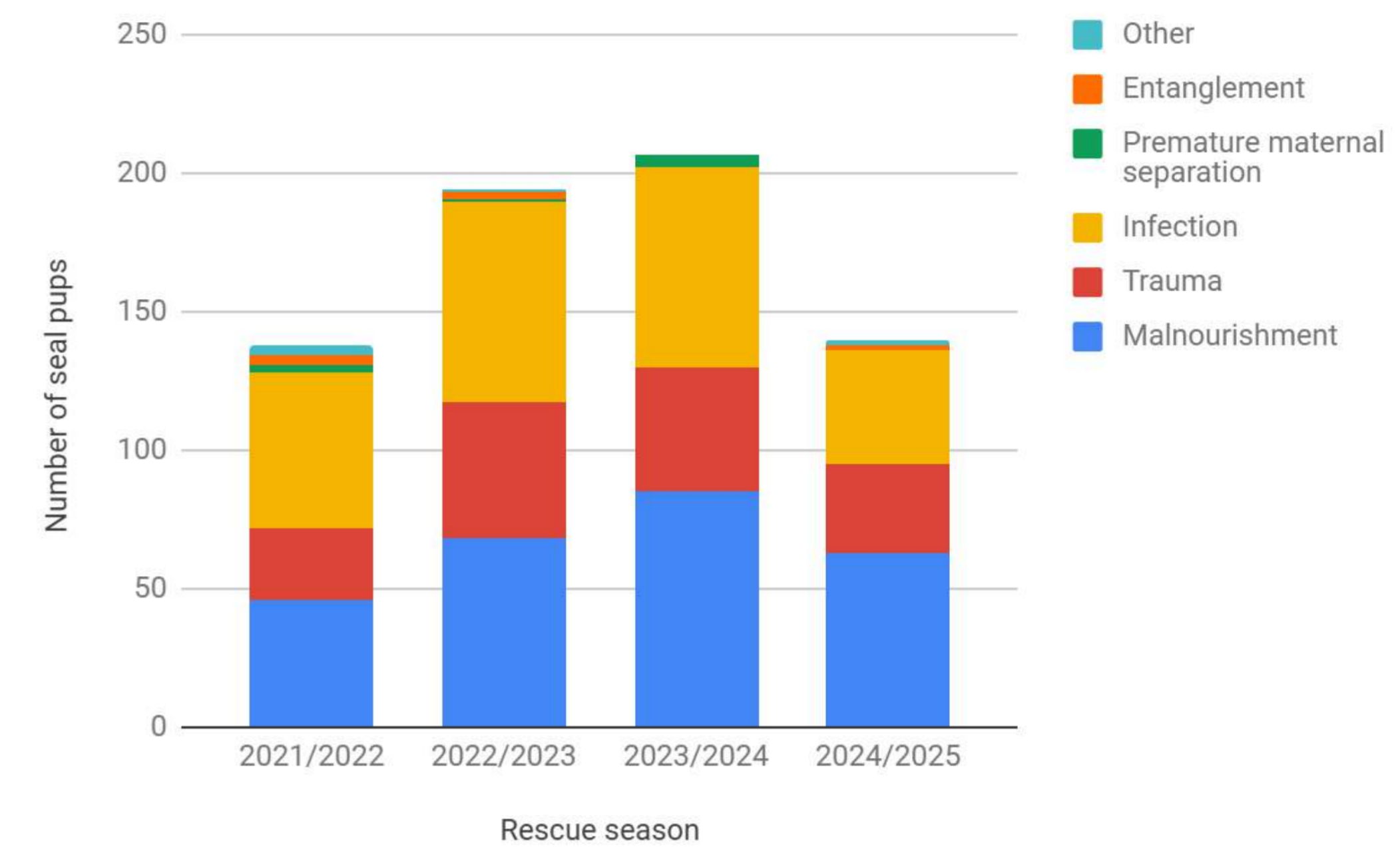


Figure D: Primary reasons for admission during each rescue season



Figure E: A 12.2kg grey seal pup in very poor body condition (left) and a 31kg grey seal pup in very good condition (right)

Summary of key findings

- 371 grey seals and 2 common seals were admitted over 4 rescue seasons, with peak admission numbers in November and December
- More males than females were admitted each year
- Over 90% of admissions were post-weaning age
- Mean admission weight dropped over the four-year period; this was supported by an increase in the proportion of pups with malnourishment as a primary reason for admission.

Discussion

Admission weights may be falling due to a number of reasons. Recent evidence suggests that an increase in stormy weather during the pupping season (a result of climate change) is resulting in higher rates of malnourishment, injuries, and infections in pups (for example, by separating mothers and pups during storm surges)[4]. A contributing factor could also be the lack of rehabilitation capacity, which is leading to more pups in the 'borderline' weight categories (around 17-20kg) being monitored in-situ and not uplifted unless deteriorating.

Elevated rates of admissions have put much greater pressure on already limited, and overall decreasing, rehabilitation capacity in the UK. Given human-driven climate change forecasts indicate increasing storminess [1,2]; the authors call for further investigation of these issues and for improved resources for rehabilitation in strategic locations nationally.

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References

- [1] Allan, R. Impacts of Climate Change on Storminess. In *Executive Summary*; Meteorological Office: Exeter, UK, 2021. [[Google Scholar](#)]
- [2] Met Office. Recent Trends and Future Projections of UK Storm Activity. Available online: <https://www.metoffice.gov.uk/research/news/2021/recent-trends-and-future-projections-of-uk-storm-activity> (accessed on 18 April 2025).
- [3] Russell, D.J., Morris, C.D., Duck, C.D., Thompson, D. and Hiby, L., 2019. Monitoring long-term changes in UK grey seal pup production. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 29, pp.24-39.
- [4] Saville, K., Nunny, L., Jarvis, D., Sayer, S., Talas, L. and Simmonds, M.P., 2025, April. Vulnerability of Grey Seal Pups (*Halichoerus grypus*) to Storm Disturbances in the Context of Climate Change: A British Isles Case Study. In *Oceans* (Vol. 6, No. 2, p. 19). MDPI.