

Evaluating the effect of taxonomic group, age, and reason for admission on Irish wildlife's survival likelihood and time spent in rehabilitation

Research summary:

There has been little published literature on Irish wildlife admission records. Previous studies on wildlife rehabilitation admissions from other countries have predominantly focused on one species or a particular threat; this investigation will analyse multiple taxonomic groups and causes for admission to rehabilitation centres. This study investigated the wildlife admission records of Ireland's only hospital dedicated to wildlife. Comparisons between results from this study and the only published admission survey for Irish wildlife conducted by Wildlife Rehabilitation Ireland (WRI) show a change in the distribution of species admitted and types of injuries sustained. This investigation will serve as a pilot study to analyse whether prognostic factors (age, taxonomic group and reason for admission) could predict an animal's time spent in rehabilitation and which wildlife are most likely to reach a successful outcome from rehabilitation.

Investigations on the WRI hospital admission records between November 2020 to July 2022 focused on wildlife survival likelihood, time spent in rehabilitation, species variation, and causes of admission. Binomial logistic and multiple linear regression tests analysed an animal's survival likelihood and time spent in rehabilitation against the following prognostic factors: taxonomic group, age, and reason for admission to the WRI hospital. Based on the multiple linear regression results, a formula was constructed to predict the number of days an animal will spend in rehabilitation; this formula can help guide wildlife centres to utilise their resources most effectively and aid in triage.

Taxonomic groups most frequently admitted in this study were Columbidae (20.6%) and garden birds (18.9%); however, those with the highest release rates were Anatidae (84.8%) and Mustelidae (80.0%). The most frequently admitted species of conservation concern to the

International Union for Conservation of Nature, were *Corvus frugilegus* and *Oryctolagus cuniculus*.

An animal's reason for admission to the WRI hospital was significant for its overall outcome and time spent in rehabilitation ($p < 0.001$). Wildlife admitted for orphanage ($p = 0.013$), infectious disease ($p = 0.019$) and unknown reasons ($p = 0.026$) had a reduced survival likelihood, whereas grounded birds had an increased survival likelihood ($p < 0.001$). Age was only significant for an animal's time spent in rehabilitation ($p < 0.001$), and the taxonomic group was only significant for an animal's likelihood of survival ($p < 0.001$). Columbidae was the only taxonomic group to be a predictor of survival likelihood ($p < 0.001$). Similar to the 2012 WRI survey, trauma accounted for most admissions (42.7%).

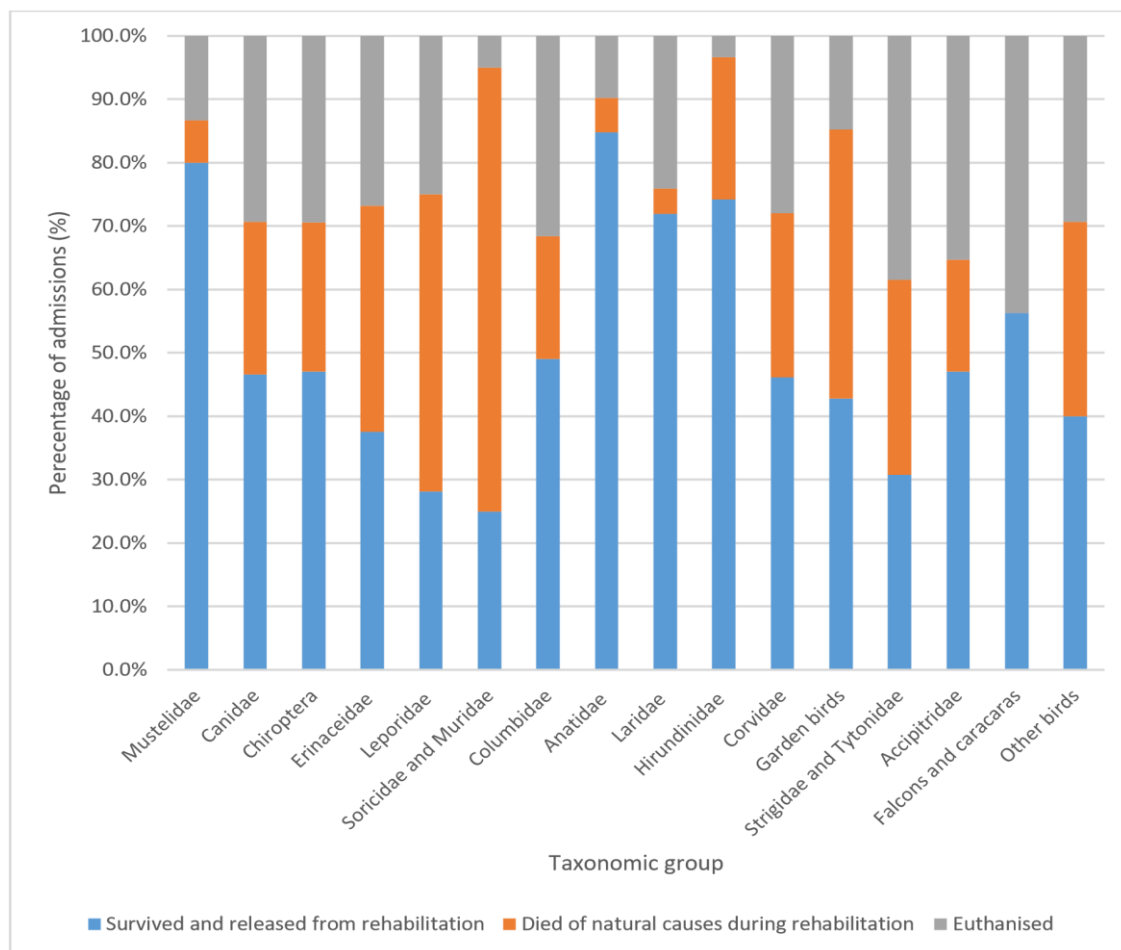


Figure 1: Outcome of taxonomic groups after rehabilitation at the Wildlife Rehabilitation Ireland hospital between 5th November 2020 to 6th July 2022.

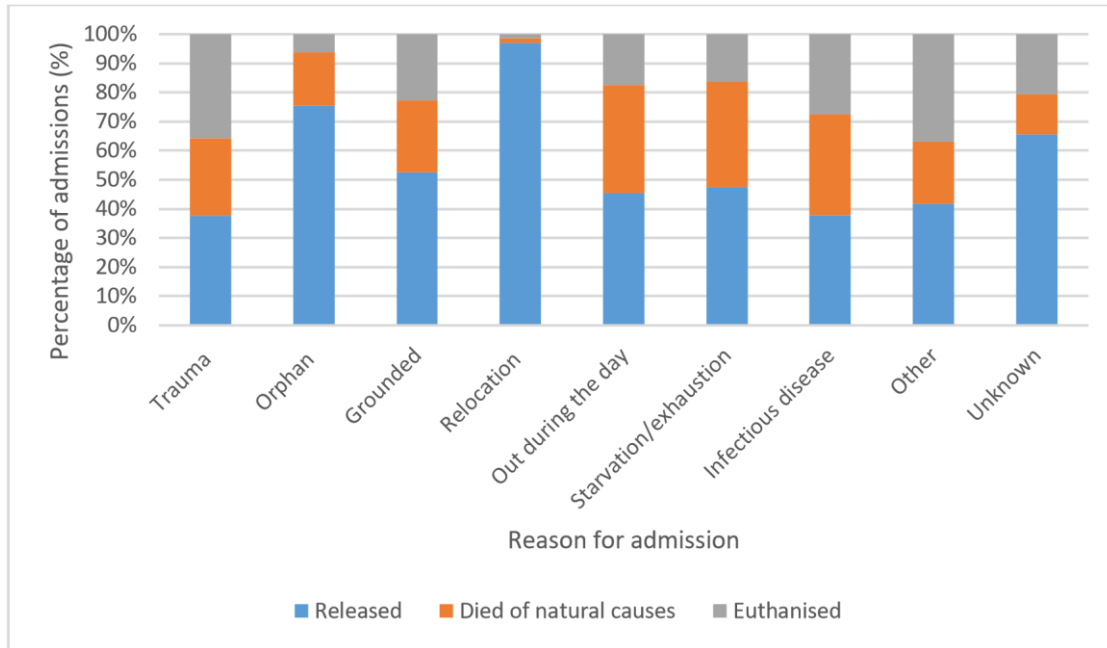


Figure 2: Rehabilitation outcome for admission reasons to the Wildlife Rehabilitation Ireland hospital between 5th November 2020 to 6th July 2022.