DURRELL WILDLIFE CONSERVATION TRUST (DWCT)

Mammal Keeper and Education Intern

Lucy Wilkinson, Bsc (Hons) Biology with Professional Placement

About DWCT

DWCT is a world-wide conservation organisation dedicated to the rewilding of species, ecosystems and people.
Jersey Zoo is the epicentre of the organisation, where exciting projects including captive breeding programmes, re-introduction projects and vital education courses are run. Zoo-based research facilitates these conservation efforts.
It is becoming evident that in order to restore the health of the natural world, a positive relationship between people and planet must be established. Thus, nature connection is an area of research that is growing in importance for DWCT and other conservation organisations.

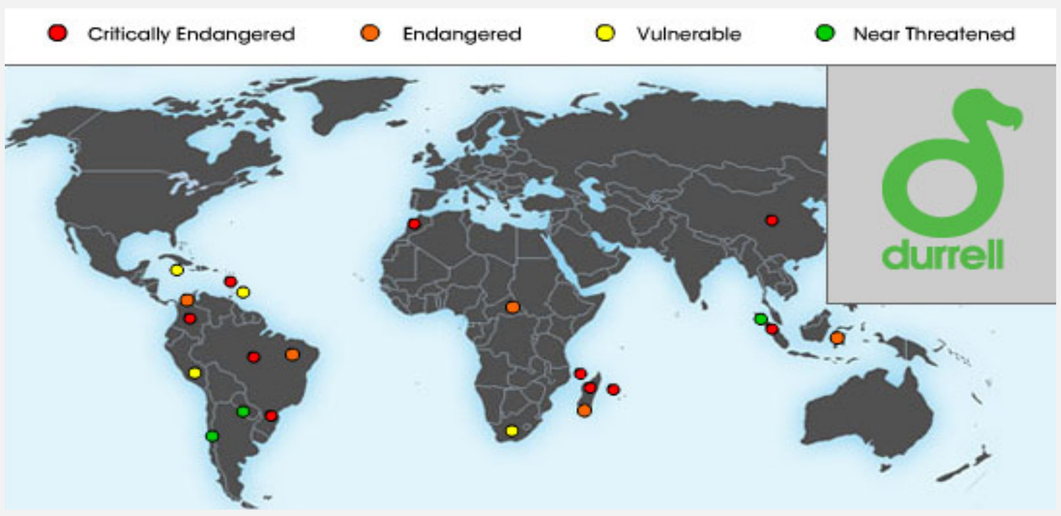

Fig. 1 Global rewilding sites of DWCT. Source: DWCT

Global rewilding sites (pictured above) are varied, from the wetlands of Madagascar to the rainforest of Sumatra to the coastlands of Jersey, where species including the Alaotran gentle lemur, Sumatran orangutan and red-billed chough respectively, are under threat.

By 2025, DWCT aims to see **10 ecosystems** across the world rewilded, **100 threatened species** on the road to recovery, **500 endangered species projects** working more effectively, and **1,000,000 people** better connected with nature, as set out in their 2020 strategy (DWCT, 2020).

Day-to-day Roles

Mammal Department

- Attended to essential and necessary animal welfare needs including planning and implementing species-specific diets and the cleaning and maintenance of enclosures.
- Conducted systematic behavioral observations.
- Prepared diverse, daily enrichment.
- Delivered keeper talks daily to facilitate knowledge exchange between keepers and the public.
- Assisted with the catching of animals and attended veterinary procedures.

Education Department

- Designed and completed a pilot research investigation into visitor attitudes and conservation concern toward the bat species housed at Jersey Zoo.
- Assisted at and coordinated local school visits both in a lecture and practical outdoor environment to deliver predetermined learning outcomes.
- Collaborated with staff across the Trust to plan for upcoming events.
- Participated in Nature Connection research.

Bat Study: Methodology

- DWCT currently houses two species of fruit bat, the Livingstone and the Rodrigues fruit bat.
- Students in the education department were given the opportunity to explore the idea and importance of nature connectedness by conducting a research led project, titled "**Does visitor attitude towards bats correlate with their conservation concern towards them and can enclosure design influence this?"**
- The survey was finalized by adapting semantic differential questions from a study by Clayton *et al.*, (2009) to allow visitors to share their thoughts on bats.
- The survey was split into a 'pre' and 'post-viewing' questionnaire.
- The questions covered attitude towards bats, level of conservation concern for bats in the wild and overall experience in the exhibit.
- This was to determine whether the novel experience of viewing fruit bats up close in a diurnal (daylight) enclosure encouraged a feeling of connectedness and improved attitude towards and concern for the species as hypothesised.

Bat Study: Results

- A paired t-test comparing the attitude of a group of visitors towards bats before and after viewing the exhibit resulted in a p-value of 0.02136 at $p<0.05$, concluding that visitor attitude towards bats significantly improves.
- When comparing conservation concern, a paired t-test revealed a p-value of 0.002794 at $p<0.05$. It can therefore be said that conservation concern also increases with statistical significance, supporting the hypothesis.
- However a Pearson's rank test to determine whether attitude towards bats was correlated with conservation concern resulted in a p-value of 0.646 and 0.882 when comparing 'pre' and 'post-viewing', respectively, concluding a lack of correlation between the two variables.
- This result may be due to the small sample obtained before the temporary closure of the Zoo immediately after the pilot period caused by the COVID-19 pandemic.

Fig. 2 Diurnal bat enclosure, Jersey Zoo. Source: Lucy Wilkinson

Fig. 3 Livingstone fruit bat. Source: DWCT

The Future of Bat Conservation

It is well known that bats have a negative reputation, however, it is unknown whether the COVID-19 pandemic, of which many believe bats are the source, will damage this reputation further.
Returning to this study in the future could answer the question of whether the pandemic has been a stop light in the face of bat conservation.

For more information, email ljew20@bath.ac.uk