



Greenwood music CIC - Caradon woods impact report

2024-25 academic year – Dr James Buckley and Dr Tom Murphy

Summary: Over the past year, University of Plymouth students have visited Caradon woods to conduct scientific research as part of undergraduate and postgraduate projects. A set of microclimatic sensors have also been set up as part of ongoing efforts to monitor microclimatic variation within a woodland. As this is the first such report, we also reference ongoing sample processing and data analysis using samples collected in 2023/24.

Undergraduate and MSc Student research and learning

- **Undergraduate training session:** Six undergraduate students visited woodland in Summer 2024 for introduction to conducting woodland surveys.
- **Undergraduate dissertation (BSc)** by Lucy Stuart (Environmental Science student) - examined carbon storage and woodland composition
 - Nine tree species identified (plots dominated by Silver birch, oak, hazel and holly)
 - Lower soil organic carbon content compared to Cabilla woodland
 - Caradon woods mean carbon storage potential estimated at 209,187.75 kg C ha⁻¹; this could be improved through tree planting to increase tree density
- **Undergraduate dissertation (BSc)** by Oscar Schumann (Zoology student) - examined soil invertebrate composition at core and edge of woodland
 - Invertebrates from 14 taxonomic groups found in soil and leaf litter, dominated by Springtails and Mites (as expected), but also centipedes, millipedes, spiders, pseudoscorpions, isopods (woodlice), ants and various larvae (beetles, flies and moths).
 - Generally, more invertebrate taxonomic groups found near edge than core of woodland, but this was not statistically significant.
- **Postgraduate dissertation (MSc)** (ongoing - two students to date)
 - Further processing of soil invertebrate samples from core and edge of woodland to get greater taxonomic resolution



Postgraduate research student (PhD):

- 1) **Ndaba Maposa (University of Plymouth):** Installed microclimatic sensors as described below and will be monitoring these for his PhD project comparing microclimatic variation within and among woodlands.
- 2) **Katerina Chernyuk (University College Cork):** vegetation survey data collected at Caradon woods as part of larger dataset exploring variation in temperate rainforest condition across SW England and Ireland.
 - Analysis is ongoing for publication as a paper and thesis chapter – can be shared once complete.

Projects and grants submitted:

1) **Entrepreneurial Futures project (University of Plymouth):** Greenwood CIC integrated into wider project with a focus on carbon storage and climate resilience. This year, the following actions took place:

- Registration of Greenwood CIC on the Entrepreneurial Futures project
- Purchase and installation of 16 TOMST sensors to monitor temperature, humidity, and soil moisture at both core (8 sensors) and edge locations (8 sensors) in the woodland. Sensors installed on December 6 (2024) and will be used as part of PhD project to monitor microclimatic variation across the woodland, enabling comparisons with related temperate rainforest sites across the area (including Cabilla woods in Cornwall).

2) **R&D solutions grant (University of Plymouth Enterprise solutions) worth £16978.4** submitted with John Kilburn (Lecturer in Illustration; School of Art, Design and Architecture) intended to consolidate existing relationships and create new illustrated outcomes alongside delivering wellbeing workshops. ***Not funded – May 2025***