The St Helena Cloud Forest Project

THE PEAKS NATIONAL PARK
ST HELENA ISLAND. 1502

Restoring St Helena's internationally important cloud forest for wildlife, water security and people.

Annual Report 2024/25

UK Government

Contents

Cover photo: View of the Central Peaks, Shayla Ellick

Area of restored cloud forest habitat, Brendan Leo

Summary

St Helena Island is a UK Overseas Territory in the South Atlantic Ocean. This report provides an overview of the key achievements, challenges and promotional activities during year 4 of the St Helena Cloud Forest Project, a highly collaborative multi-year project working to implement the Peaks Management Plan for St Helena's 'Peaks National Park'.

This globally significant area holds over one sixth of the UK's total endemic biodiversity (approximately 250 unique species) including many critically endangered plants and invertebrates found nowhere else on earth. The cloud forest also provides the majority of St Helena's freshwater through mist capture and groundwater recharge, and is located within an area voted one of St Helena's 'Seven Wonders'. This holistic project utilises a nature-based approach to support St Helena's ability to adapt to and mitigate against climate change. Works are taking place within the Peaks National Park under three main pillars:

- **Biodiversity – improving, restoring and creating cloud forest habitat, research into and conservation of associated species with the aim of safeguarding an internationally important wildlife hotspot from further extinctions.**
- **Water security and climate change— re-vegetating around native habitat fragments in key areas of mist capture, and monitoring and research to inform and secure the island's water security and climate change adaptation efforts.**
- **Socio-economic – supporting the sustainable development of St Helena by developing opportunities through ecotourism, education, sustainable land use, and conservation training.**

The project been funded by the UK Government's Foreign Commonwealth and Development Office since July 2021. Managed by the RSPB, and led by St Helena Government (SHG), the project also works with local partners including a number of SHG departments (Environmental Management Division (EMD), Economic Development, Education and the St Helena Research Institute (SHRI) and Bottom Woods Met Office), the St Helena National Trust (SHNT) and Connect Saint Helena. The project is also supported by core international partners Arctium, the UK Centre for Ecology and Hydrology (CEH) & the Royal Botanic Gardens Kew.

Restoration of St Helena's cloud forest is a long-term process, this initial 4-year phase is part of a much longer vision and anticipated programme of work. Details of previous project achievements can be found in annual reports (years one, two & three) on the project's webpage.

In year four, plant pathogens and associated research and mitigation activities continued to be the biggest challenge impacting the project. Partners worked collaboratively to adapt work streams to meet this challenge, with steady progress being made. Highlights this year were the upgrade of the mist and rainfall monitoring network to a telemetry-based system, resulting in a live and publicly accessible dashboard; and the launch of several short films about the project presented by primary school children to support the primary education pack developed in year three (the primary education pack is included locally in the curriculum, and will soon be available on the project's webpage).

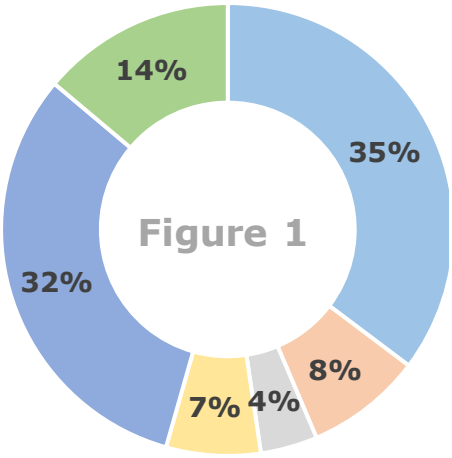
Financial accounts

Over the first three years of the project, funding of £2.74m was committed for project delivery by the UK Government's Foreign Commonwealth and Development Office (FCDO). This was supported by matched funding from project partners and complementary Darwin Plus projects bringing the total funding value to £3.44m for the first three years.

In year four, the project spent £705,843 of grant funding from the FCDO, with an additional spend of £100,069 matched funding from partners and the Darwin Initiative .

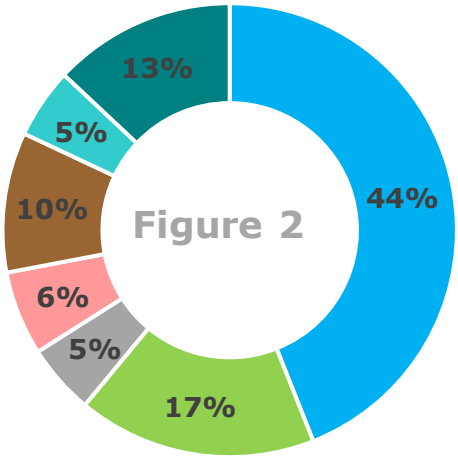
Proportion of grant funding (£705,843) allocated to core partners is outlined in Figure 1 below and categories for total budget spend, including match (£100,069), are illustrated in Figure 2. Figure 3 shows grant spend across the four project pillars.

Endemic Spiky Yellow Woodlouse family, Liza



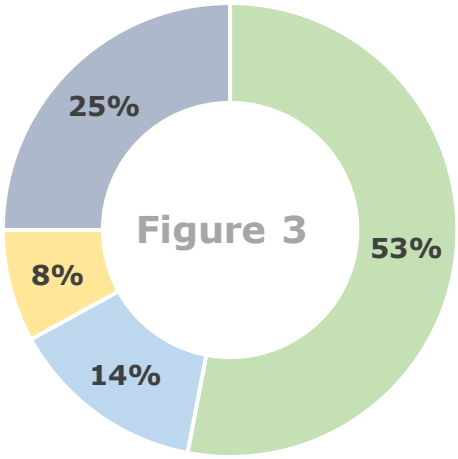
Percentage of grant funding allocated to core Cloud Forest Project partners in year four, April 2024 to March 2025.

- RSPB*
- Connect
- CEH
- KEW
- SHG
- SHNT



Percentage of project spend (grant and match funding) across budget categories in year four, April 2024 to March 2025.

- Staff
- Consultancy
- Travel
- Equipment
- Consumables
- Other
- Overheads



Percentage of project spend (grant and match funding) across work pillars in year four, April 2024 to March 2025.

- Output 1: Biodiversity
- Output 2: Water
- Output 3: Socio-economic
- Output 4: Mgmt

NB: Funding allocated to the RSPB included spend of more than £90,000 on equipment, consumables and external consultancy (procured for partners on island).

Key achievements

There were some exciting achievements for St Helena in year four of the project.

Water security and climate change pillar

Monitoring of mist, rainfall, ground and surface water networks, as well as weather around the Peaks National Park continued throughout year four. The data from these was used to refine the island's water balance model, and the year four report on the water pillar work can be found here: https://sthelenatourism.com/wp-content/uploads/2025/06/SHCFP-Climate-and-Water-Resource-Year-4-Report.pdf. Data being collected from the monitoring networks is actively informing water management decisions on island.

A highlight of year 4 was the upgrade of the mist and rainfall monitoring network with telemetry-based systems to relay data automatically through the island's mobile network. The data is publicly accessible via an online dashboard: https://hobolink.licor.cloud/dashboards/44cfe05d-a1e0-4441-87d4-373f651f1b16/true. This dashboard provides a real-time look at conditions around the Peaks National Park, alerts us to equipment malfunctions sooner, and also allows us to reduce footfall for pathogen mitigation efforts by reducing the need for manual data collection. Soil moisture meters were also installed at three sites with the mist and rainfall monitoring equipment.

In year five, upgrades of the surface water monitoring network will be finalised, including telemetry for these as well, and an upgrade of the automatic weather stations within the Peaks National Park.

Mist and Rainfall Monitoring Site at Casons, Robert George
Inset: Screenshot of live dashboard for Mist and Rainfall Monitoring network

Golden Sail Spider surveys by Invertebrates Team, Shayla Ellick
Inset: Golden Sail Spider and egg sac, Shayla Ellick

Biodiversity pillar

Invertebrate research continued for both endemic and invasive invertebrate work under the project. The annual invertebrate survey was completed, and the report found on the project's web page (previous reports are available on request). The annual survey looks at invertebrate presence and abundance in 10 study sites across the Peaks National Park, in a variety of habitat types. Interesting results from this year included that sites located on Diana's Peak generally have the highest levels of endemic invertebrate richness, followed by High Peak and then the Depot, demonstrating a high need for strategic restoration at the more isolated parts of the National Park. The Golden Sail Spider *Argyrodes mellissii* work found that they are nocturnal hunters and on sites outside of the cloud forest they were found using non-native plants, particularly Yellow Ginger Lily *Hedychium flavescens* and Banana *Musa acuminata.* Also, invasive damp-wood termites were found predating on endemic trees Black cabbage tree *Melanodendron integrifolium* and Whitewood *Petrobium arboreum*.

The team also finalised 106 endemic invertebrate Red List Assessments, 70 were published in the March 2025 update of the IUCN Red List and the remainder will be published before the end of 2025.

Reports from the invertebrate endemic work, included a year-long study on the Golden Sail Spider at sites on the fringe of the Peaks National Park. For the invasive invertebrate work, reports included a Damp-wood termite scoping study, which identified ways of measuring termite infestation in wood; and Common wasp survey and control report, plus a final report on the invasive Big-headed ant survey and control. These will all be made available on the project's webpage .

Cloud forest habitat restoration activities in Year 4 continued to be adapted in response to the identification of Phytophthora kelmanii as a key plant pathogen present across the Peaks. In 2024, intensive soil sampling was carried out under the Darwin Plus project DPLUS157 with support from Defra grants and the Cloud Forest Project. This produced the first comprehensive map of the distribution of P. kelmanii across

restoration sites, footpaths, and unmanaged areas. These results directly informed the implementation of enhanced phytosanitary measures for nursery production and fieldwork to contain further spread, protect sensitive habitats and continue to lay the groundwork ensuring future planting efforts are both safer and more effective.

3,365 plants from 10 cloud forest species were planted out this year. Approximately 1.5ha worked on in previous years were maintained this year, and an additional 0.22ha cleared of invasive plants. Positively, about half this newly cleared was naturally restored through regeneration of endemic ferns, demonstrating the value of continued maintenance of invasive weeds to allow the native seed bank to function effectively and promote natural regeneration. It is also hoped that improved soil diversity after the regeneration with endemic species will help to combat the threat from *P. kelmanii* by reducing inoculum pressure.

Despite the impact of the plant pathogens on the programme, over the course of the project over 2.26ha of area has been cleared of invasive plants and restoration started.

The endemic plant nurseries continued their infrastructure upgrades with the entire Peaks nursery being fully refurbished to revised phytosanitary standards, and two new shade houses constructed at the Scotland nursery. Phytosanitary procedures continued to be reinforced to ensure propagation of pathogen-free plants, with sterile medium produced using the large capacity soil steriliser bought under the project. 13,049 plants from 15 cloud forest species were propagated throughout the year. Endemic gene banks were also developed and maintained, with a continued focus on collection of germplasm to safeguard these rare and threatened species from the considerable threat of plant pathogens.

Scotland shade house during renovations, Myra Young
Inset: Endemic Dogwood seedlings at the nursery, Shayla Ellick

Behind the scenes filming a youth-led project film, Capricorn Studios

Socio-economic pillar

A highlight this year was access restrictions being lifted from two areas of the Peaks National Park in December 2024, allowing public access again after extensive testing confirmed they were pathogen-free.

Local and international advocacy and outreach continued throughout the year through public talks, webinars, conference presentations, activity days and school sessions, with a sustained focus on building a sense of ownership of the cloud forest within island youth. Five education short films (see Advocacy & Communications section) presented by primary students, were launched to support the primary education pack and were well-received locally and internationally.

A UAV (Unmanned Aerial Vehicle) pilot survey was completed, including processing of UAV imagery, to develop recommendations for future surveys. The use of drone and satellite imagery can be used to monitor vegetation health, and monitor change over time, reducing footfall in key areas of sensitivity.

Various research studies continued this year including soil analysis and bryophyte research. The bryophyte research represents the first comprehensive assessment of bacteria, archaea, fungi and microbial eukaryotes from soils and bryophytes across St Helena Island. The Doctoral study being undertaken by Tsvetoslav Georgiev, based at the Natural History Museum and Imperial College London continued. With additional funding from this project for analysis of samples and invitro culturing, Tsvet was able to complete DNA high throughput sequencing of soil and bryophyte samples and geochemical analysis of soil samples to update the existing soils database; *in vitro* culturing of hornworts and their isolated cyanobacteria and scanning electron microscopy (SEM) of hornworts.

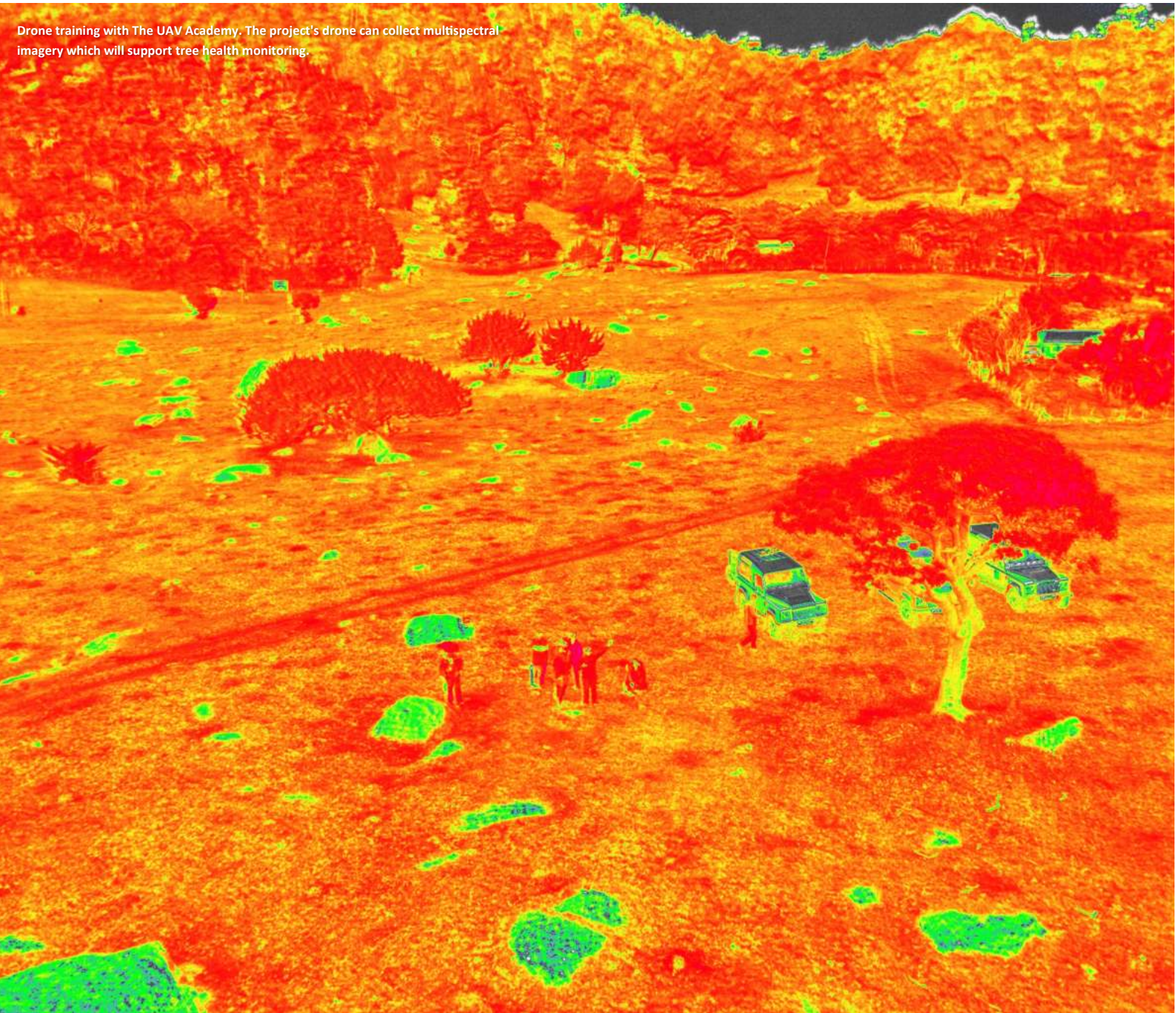
A research bursary was also issued to Timm Karisch, entomologist and curator, Museum of Natural History and Pre-History, Dessau for further research on endemic moths of the cloud forest. Dr Karisch visited the island for six weeks in February and March and worked closely with Liza Fowler, Cloud Forest Endemic Invertebrate Specialist and staff from ENRP and SHRI to conduct day and night surveys with a focus on the family of *Opogona* moths.

Training and capacity-building

In year four of the project there were 16 full-time and four part-time roles employed on island.

Various training opportunities were offered to the project team locally and by international partners, either overseas, online or locally on St Helena during research or training trips. These included a capacity-building trip to the UK and the Netherlands for Connect's Water Resource Monitoring Technician to receive training on applied geo-physics and in-depth use of equipment; a review of and further training on biosecurity and pathogen protocols; bryophyte identification; endemic moth identification; updates on cloud forest species genetic research, and meteorological data and equipment. Four staff under the project also participated in drone training, gaining a GVC (General Visual Line of Sight Certificate) from the UAV Academy Ltd.

Seed viability testing trials were also conducted during a capacity development visit by Kew horticulturalist, who also trained newer staff at the endemic plant nurseries in seed sowing techniques, nursery practices to aid germination and plant establishment, and monitoring and record-keeping.



Drone training with The UAV Academy. The project's drone can collect multispectral imagery which will support tree health monitoring.

Key Challenges

The presence of plant pathogens within the Peaks National Park continued to be the most significant challenge to the project in year four. Workplans were modified and adapted quickly and collaboratively to allow project targets to be delivered.

Throughout the year work continued under a separate Darwin Plus project (DPLUS157) to better understand the impact of the pathogens on different cloud forest species through inoculation trials. Widespread testing of soils across the Park also determined the extent was much wider than previously known. It is suspected that in addition to *P. kelmanii* other plant pathogens such as *Fusarium* spp. might play a significant role in the dieback of endemic trees, but we still do not understand their impact sufficiently at this stage. However, based on this testing, two areas were able to be re-opened for public access, with biosecurity measures in place, while other areas of sensitive cloud forest habitat remain restricted impacting some work areas of the cloud forest project. The cloud forest project focused on strengthening propagation procedures, securing additional equipment for the pathogen testing lab, and upgrading propagation infrastructure such as the Peaks shade house.

St Helena's cloud forest restoration is a long-term programme of work and securing future sustainable funding is vital yet challenging. A Darwin Plus application was submitted but delays with the UK Government spending review means the next phase of funding remains uncertain. However, an additional bridging grant from FCDO to continue into 2025/26 has been very welcomed.

During this year the project completed a light-touch project review and strategic look forward. Both sessions were useful and necessary to maintain and improve the multi-partner approach adopted by the project, with the overall aim of setting the partnership up to succeed in continuing to protect and enhance this critically endangered habitat, through shared resource and funding opportunities.

Biosecurity measures in place at the reopened Harding's trail with access restrictions still in place to the George Benjamin Arboretum, Shayla Ellick

Sarah Hulton OBE; Kedell Worboys MBE, Will Stone MP, Katie-Jo Luxton, Speaker Lindsay Hoyle, and Andrew Rosindell MP at the reception held at the Palace of Westminster, Johnny Clingham

Advocacy and communications

A reception to celebrate four years of innovation and achievements under the FCDO-funded project was held at Plantation House by His Excellency Governor Nigel Phillips, attended by project teams, researchers, and FCDO officials. A separate event was also held at the Speaker's House State Rooms in the Palace of Westminster, London in early April 2025, attended by UK Parliamentarians, St Helena Cloud Forest Project partners, people connected with St Helena through charities and other groups, officials from the FCDO and Defra, and St Helenian students currently studying in the UK.

Over 540 positive engagements were made with the local community throughout the year, through school presentations to launch project films, youth outreach, public talks by visiting researchers, and through training. Presentations were also made at two international conferences, and through webinars on project research, engaging a wider audience. In addition to this, radio interviews, promotion in the island's two newspapers, and social media posts boosted the project's reach. Various reports and project updates were also added to the project webpage throughout the year.

Online, the total reach for posts on the project through the project's website and social media pages in Year 4 was 117,110 (target was 100,000); this figure excludes totals from project partner-run social media pages.


Screenshot of youth-led project film on Peaks National Park, Capricorn Studios

Project promotion

- Several films were produced by Capricorn Studios for the project:
    - 'Restoration Notes': a series of comments from project partners and team members– https://youtu.be/70v2Hs2Dbg8
    - Recording of a SHCFP public talk on pathogen work: https://youtu.be/z_b-gxrg17Q
    - A Day in the Life of the Water Resource Monitoring Technician: https://www.youtube.com/watch?v=P8glmfDUHt4
    - A series of short films to support the primary education pack:
    - Geography: https://youtu.be/IcB-slLzlfM
    - History: https://youtu.be/2Y-TLBOe6Zg
    - Micro Habitats: https://youtu.be/cWOll6Puiac
    - Water Cycle: https://youtu.be/6P8QEmIR2Lg
    - About The Peaks: https://youtu.be/LCOAIgB511w
- Two articles (focused on water and pathogen work) were published in the St Helena Connection (Friends of St Helena publication).
- The Project Manager gave a presentation on the Cloud Forest project to the Autumn Conference of the Chartered Institute of Ecology and Environmental Management (CIEEM) on 27 Nov.
- At the St Helena Research Institute online conference (26 & 27 Nov) several presentations were given by staff/partners linked to Cloud Forest project-funded work and activities (see below for presentations and speakers).
- St Helena's Terrestrial Invertebrate Conservation Strategy and Spiky Yellow Woodlouse Action Plan - Vicky Wilkins
- Protecting and monitoring native invertebrates - Natasha Stevens & Liza Fowler
- Transforming St Helena's spider fauna - Danni Sherwood & Daryl Joshua
- A study of tree disease – Amy Webster
- Land use influences on bryophyte and soil microbiology — Tsvetoslav Georgiev
- The importance of cloud forest habitat for water supply — Robert George
- Amy Webster presented a talk to the British Society for Plant Pathology Annual Conference (10-13 Sept, 2024). She was presented with second prize for the PH Gregory Best talk. Amy is in her final year and is currently writing up her doctorate on tree disease on St Helena. Her doctorate is funded by the University of Birmingham and Amy has been in receipt of two research bursaries given by the SHCFP.
- (PDF) Annotated checklist of the spiders of Saint Helena, with new records, descriptions of unknown sexes, new and restored genera, and two new species (Araneae: Araneomorphae) published.

Thank you to funders and partners

Thank you to our funders and partners who make this work possible:

Funding partners

Funding for the St Helena Cloud Forest Project is provided through the UK Government's Foreign, Commonwealth and Development Office (FCDO).

UK Government

DARWIN INITIATIVE

Match funding is provided through several Darwin Initiatives and through core partner organisations.

Associated partners

- Species Recovery Trust (associated with the IUCN Mid-Atlantic Islands Invertebrate Specialist Group)
- UK Met Office
- Natural History Museum
- Centre for Agriculture and Bioscience International (CABI)
- Birmingham Institute of Forestry Research (BIFoR)

Core partners

RSPB

St Helena Government

Connect Saint Helena Ltd

St Helena National Trust

St Helena Island A breath of fresh air

Arctium Enabling Better Choices for Future Generations

Royal Botanic Gardens Kew

UK Centre for Ecology & Hydrology

UBC

Where to find us?

Website: St Helena's Cloud Forest Project (sthelenatourism.com)

Facebook: St Helena Peaks National Park

Twitter: StHelenaPeaksNP

St Helena Cloud Forest Project team photo, Shayla Ellick