St Helena Cloud Forest Project update: January - March 2024

The St Helena Cloud Forest Project is a highly collaborative multi-year project working to implement the Peaks Management Plan for St Helena's 'Peaks National Park'; a globally significant area for biodiversity which is also vital for St Helena's long-term water security. Key actions across the first four years of the project include monitoring and research to inform and secure the island's water security and climate change adaptation efforts; improving, restoring and creating cloud forest habitat to increase areas for mist capture and ensure the conservation of associated species; and supporting the sustainable development of St Helena by developing opportunities through ecotourism, education, sustainable land use and conservation training.

What happened under each pillar?

Biodiversity

- The teams at EMD continued to be busy with maintenance of gene banks and restoration sites at Taylors and Wells - with over 1,600 ferns and understory plants planted at Taylors in March. Work also continued in this quarter to track and record tree health and pathogen spread. In addition:
  - ◊ The team began refurbishment of the Peaks nursery, in order to upgrade the facility in line with new phytosanitary protocols;
  - ◊ Soil sampling for pathogen testing was carried out at Girlings gene bank before planting;
  - ◊ Seed collection, banking and sowing continued;
  - ◊ Soil sterilising for sterile growing medium continued;
  - ◊ A standardised rodent baiting programme is in place as part of on-going rodent control methods.
- At Scotland's endemic nursery, the team had some issues with germination in cloud forest species; however, there was some success with several key endemic species, as well as through the use of cuttings. Also:
  - ◊ As part of a capacity-building visit, Miriam Bazzicalupo from Royal Botanical Gardens, Kew, visited and supported the team in the micropropagation lab. The team continue to make steady progress with micropropagation of critically endangered ferns.
- At the St Helena National Trust, important invertebrate monitoring, control, and assessment work continued. These include:
  - ◊ Monitoring of the rare endemic Golden Sail Spider; with both day and night surveys carried out;
  - ◊ Invasive control efforts, including surveying for control trials on the Big-headed Ant, and deployment of control for the Common Wasp at Blue Hill and Sandy Bay;
  - ◊ Completing the first draft of the Y2 Annual Invertebrate Report;
  - ◊ Drafting Red List Assessments for 106 endemic cloud forest invertebrate species for the IUCN Red List.

Water security and climate change

- Regular water and climate monitoring by Connect Saint Helena and the Bottom Woods Met Office continued throughout this period.
- International project partner Ben Sansom, of Arctium, visited to conduct further fieldwork in January and review datasets and undertaking interpretation.
- The team drafted reports on the island's water resources and water balance using data collected over a number of years. These reports will be finalised in Q1 of year 4.
- Connect Saint Helena procured telemetry equipment to upgrade the water monitoring network which will increase monitoring efficiency and reduce footfall in sensitive areas.
- A successful Water Pillar Outreach Day was held for Years 9-11 at Prince Andrew School to educate and involve students in some of the skills and techniques being used to assess the island's water resources and geology.
- Monthly climate data from automatic weather stations and mist and rain gauges was collected, and maintenance carried out on equipment. Water level and flow monitoring continued.
  - ◊ Real-time data from the automatic weather stations can be accessed via: https://wow.metoffice.gov.uk/ (pan to St Helena).
- Steve Palmer - an expert Meteorologist supporting the Project – archived historical meteorological data for St Helena.
  - ◊ This data has been made available via: https://data.ceda.ac.uk/.../images/metobs/atlantic/ST_HELENA


Water Pillar Outreach Day

Socio-economic

- A Focus Group was held by St Helena National Trust's Education & Outreach Officer with Year 10 female students at Prince Andrew School discussing barriers to females joining conservation related roles.

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- The Project funded training on Geographic Information Systems (GIS) for staff from SHG, SHRI, Connect, SHNT, the MET Station, & RSPB which covered an introduction to QGIS, as well as Advanced GIS Training.
- Work continued on drafting material for the Cloud Forest Secondary Education Pack
  - ◊ Following research in Quarter 3, procurement of a 3D Island Model was made to support the project's education and outreach work
- Work began on aerial surveying of priority cloud forest compartments, a vital tool in assessing cloud forest habitat whereby multispectral data on the land surface is collected and collated in order to analyse factors such as tree health, the spread of pathogens, and track habitat expansion. The surveying will be completed in Quarter 1 of Year 4.


Drone image from aerial mapping

Update on Pathogens

- The St Helena Government prohibited public access to critical areas of the Peaks National Park including the cloud forest from 11 April until December 2023 to help to prevent the further spread of the pathogens.
- Following the precautionary principle, the closure of sensitive areas of the Peaks was extended to March 2024 in the first instance pending further testing and monitoring. A process to grant authorised access through EMD remains in place. During this period the CABI team were on island (project DPLUS157) for further testing, training and to commence inoculation trials. An update on their work to March 2024 can be viewed here: https://youtu.be/z_b-gxrg17Q.

What's coming up April to June 2024?

- A capacity-building visit for Robert George to undertake further training on geophysics surveys in the UK and the Netherlands.
- Propagation of cloud forest species for living gene banks and restoration work is ongoing, and germination trials of cloud forest species will be undertaken.
- Maintenance of restored habitat, invasive clearance works, and infrastructure repairs will continue on the Peaks, at living gene banks and the Scotland nursery.
- A knowledge sharing call on various workstreams researching the genetics of Peaks plant species.
- Ongoing water and climate monitoring.
- Completion of invertebrate survey reports; and commencing Y3 annual surveys (delayed from Q4 in Year 3).
- Completion of aerial mapping of cloud forest habitat to assess tree health, pathogen spread and habitat expansion.

Project Outreach

- In January, the Cloud Forest Project and our ongoing conservation efforts was presented to HRH the Duke of Edinburgh, Prince Edward, during his visit to St Helena.
- Social media coverage continued, including Int. Day for Women & Girls in Science, Invasive Species week, Int. Women's Day, Int. Day of Forests, and World Water Day.
  - ◊ Support, through followers and engagement, continues to grow – see QR codes below for Facebook and Twitter
- The RSPB published two stories, where the work of the project was featured, including for:
  - ◊ Int. Women's Day: Carrying out conservation on a global scale – celebrating our team on Int. Women's Day (www.rspb.org.uk)
  - ◊ Int. Day of Forests and World Water Day: How cloud forest restoration on St Helena is bringing back wildlife and boosting water security (www.rspb.org.uk).
- The Natural History Museum published a blog on the new pirate spider species discovered on the island through work funded by the St Helena Cloud Forest Project: https://ow.ly/vOiQ50RZPgf
- In March, then Project Manager, Kirsten Ellis, gave a presentation of the SHCFP to Birdlife South Africa in Johannesburg during her return to the UK from St Helena
- Kirsten was also interviewed for an article in SA's Getaway Magazine on the role of Tour Guides and Tourism in supporting conservation efforts within the Cloud Forest on St Helena
- On St Helena, during Quarter 4, a further two public talks were held by the SHCFP:
  - ◊ Amy Webster (University of Birmingham) and Jayne Crozier (CABI) gave an update on tree ◊disease and plant pathogens threatening St Helena, filmed by WTSDN and made available on YouTube: https://youtu.be/z_b-gxrg17Q
  - ◊ Dr Mark Nicholson, during a self-funded trip to St Helena, discussed the methodologies, challenges, successes and failures after a quarter of a century restoring Brackenhurst's native forests, as he linked the work on St Helena to the cloud forest restoration work being done as part of a Darwin Project in Kenya's Taita Hills.

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