

# Main topic 1: Sharing Experiences across territories

Chairing: Helena Bennett (Executive Director of the St Helena National Trust and UKOTCF Council Member); Question-master: B Naqqi Manco (Assistant Director for Research & Development, Department of Environment & Coastal Resources, TCI); Rapporteur: Adam Riggs (St Helena Government)

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## Introduction

Chairing: Helena Bennett (Executive Director of the St Helena National Trust and UKOTCF Council Member)



Welcome, everyone, and thank you for the introduction. Good morning, good afternoon—wherever you're joining us from. It is a pleasure to chair today's session, which focuses on sharing experiences across territories. This theme lies at the heart of the UK Overseas Territories Conservation Forum's mission: to promote collaboration, knowledge exchange, and mutual support among the Overseas Territories and Crown Dependencies. As a representative of an Overseas Territory myself, I understand the

immense value in coming together as a network to learn from one another. These sessions provide a unique opportunity to share lessons learned, build capacity, and strengthen conservation efforts across our diverse regions.



Question-master B Naqqi Manco (TCI); Rapporteur: Adam Riggs (St Helena)

# The Manx Blue Carbon Project : Evidence, Policy, and Next Steps

Rowan Henthorn (Isle of Man Government)



Rowan Henthorn

Henthorn, R. 2025. The Manx Blue Carbon Project : Evidence, Policy, and Next Steps. pp 37-41 in *UKOTCF's 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states, 13th-16th October 2025 Proceedings* (ed. by M. Pienkowski, C. Wensink, A. Pienkowski, K. Bensusan, J. Peyton & B.N. Manco) UK Overseas Territories Conservation Forum, [www.ukotcf.org.uk](http://www.ukotcf.org.uk)

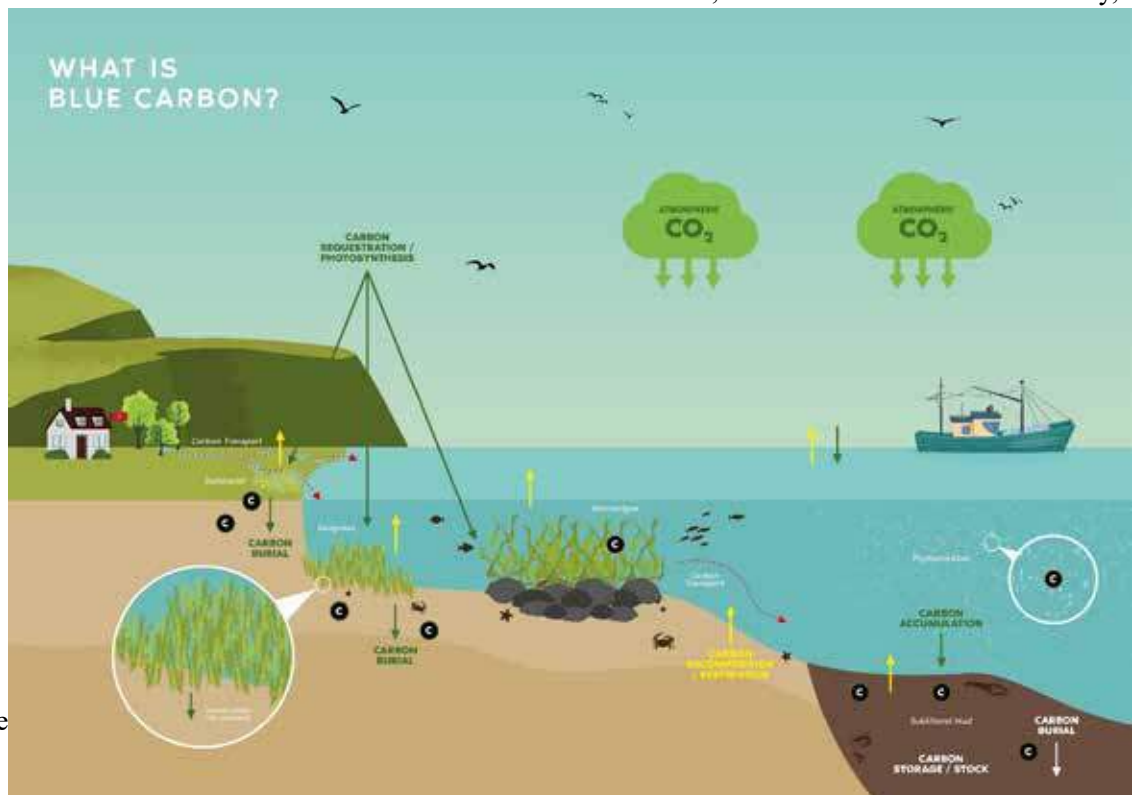
The Isle of Man's territorial waters host important blue carbon habitats, including sublittoral muds, saltmarshes, and seagrass meadows. These ecosystems play a crucial role in carbon capture and storage, contributing to climate mitigation efforts. This presentation will provide an overview of the Manx Blue Carbon Project, highlighting key findings from recent research on carbon storage and accumulation rates within these habitats. Additionally, the talk will discuss the potential impacts of human activities, such as mobile demersal fishing, on organic carbon stocks and burial rates, and explore management strategies to enhance carbon storage. The presentation will also address the integration of blue carbon considerations into existing marine conservation frameworks and policy development, emphasising the importance of interdisciplinary collaboration and data-driven decision-making. By sharing these insights, the talk aims to contribute to the broader conversation on sustainable marine management and the role of blue carbon in achieving biodiversity and climate targets in UK Overseas Territories and Crown Dependencies.

Rowan Henthorn (Isle of Man Government)

## Introduction

Blue carbon refers to the carbon captured and stored by coastal and marine ecosystems, in the same way that forests, peatlands, and grasslands capture carbon on land. These systems can store carbon for long timescales and represent a critical mechanism for supporting climate mitigation efforts. The Isle of Man, situated in the Irish Sea, is home to a range of blue carbon habitats including seagrass meadows, saltmarsh, kelp forests, muddy sediments, and biogenic reef habitats such as maerl and horse mussel beds. The Manx Blue Carbon Project was initiated

in 2022 as part of the island's response to the climate emergency, with aims to: maximise carbon captured and stored in Manx waters, maintain and restore biodiversity,







and safeguard wider ecosystem services.

### Approach

The project has taken a phased, evidence-led approach:

1. Inventory – identifying the extent of blue carbon habitats and quantifying their carbon storage capacity.
2. Threat analysis – examining pressures such as fishing and other human activities.
3. Management measures – trialling innovative approaches to marine management, informed by evidence.

Partnership with academic institutions has been central, with multiple PhD studentships and collaborations ensuring that findings are robust and relevant to policy development.

### Case Study 1: The Irish Sea Mud Belt

The Irish Sea mud belt, located west of the Isle of Man, represents a vast area of muddy and sandy-muddy habitat. It has been identified by OSPAR as one of the most heavily trawled areas in the North-East Atlantic, with significant fishing activity from nephrops trawlers. Core sampling across gradients of fishing pressure has demonstrated that the mud belt is a significant carbon store. However, results indicate a negative relationship between fishing intensity and carbon storage, with higher trawling pressure linked to lower carbon levels in the cores.

To investigate this further, a new PhD project has closed three areas of the mud belt to mobile fishing gear for a three-year period. This experiment will assess changes in carbon storage, biodiversity, and the wider impacts of fishing practices. Innovative collaborations with the

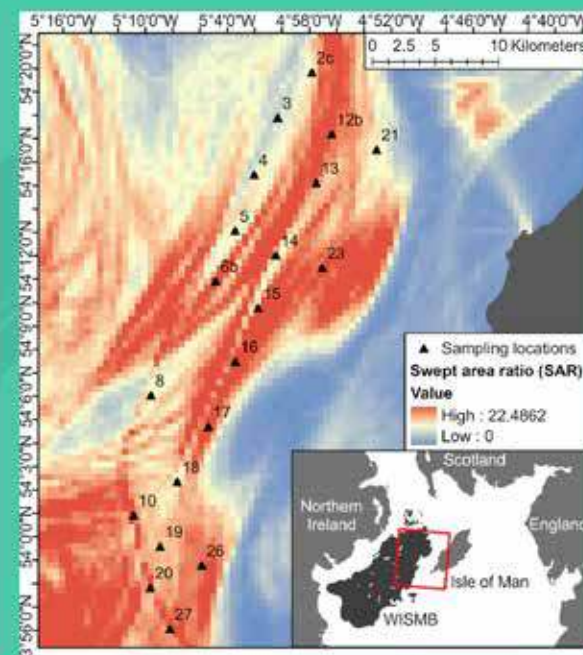
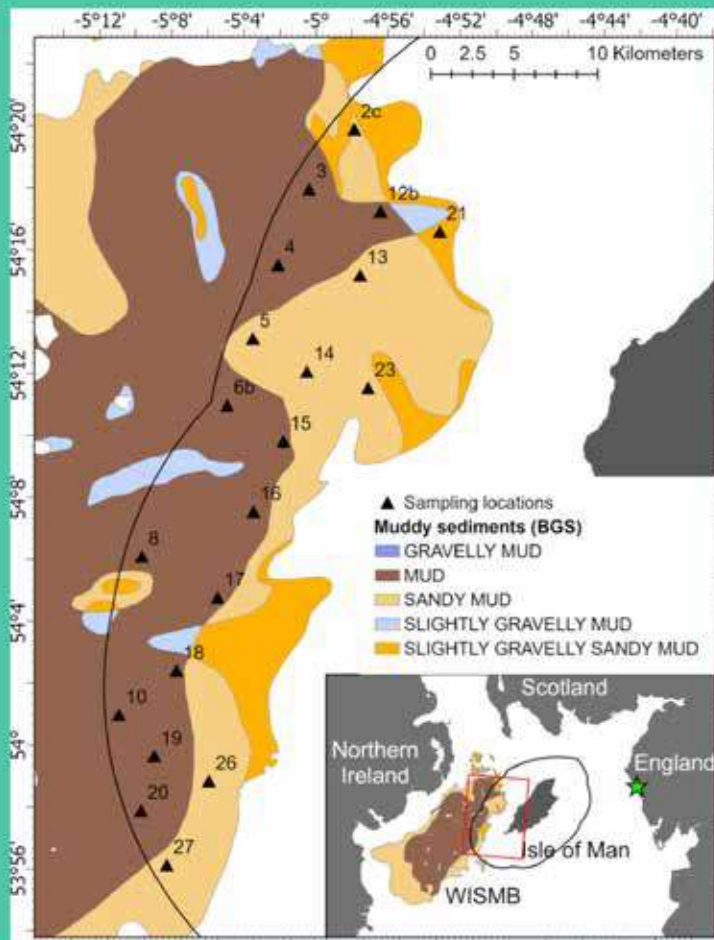


Fisheries Division have enabled the trial of a low-impact creel fishery for nephrops, providing an alternative to bottom-towed gear. Results from this work are expected in 2026.

### Case Study 2: Mapping and Protecting Eelgrass Meadows

Eelgrass meadows *Zostera marina* are a key blue carbon habitat around the Isle of Man. Mapping undertaken by

## Case Study 1: Western Irish Sea Mud Belt



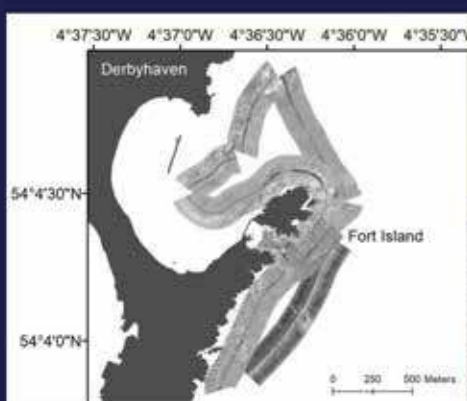
the National Oceanography Centre and Swansea University combined side-scan sonar, drone imagery, and core sampling to assess both extent and carbon storage. Findings revealed that only 40% of the island's eelgrass was protected within existing conservation zones. This evidence informed a rezoning process to expand protections, which received strong public support during consultation. Engagement also allowed the resolution of practical issues, such as working with fishers to adjust practices in ways that balanced protection and livelihoods.

### Results to Date

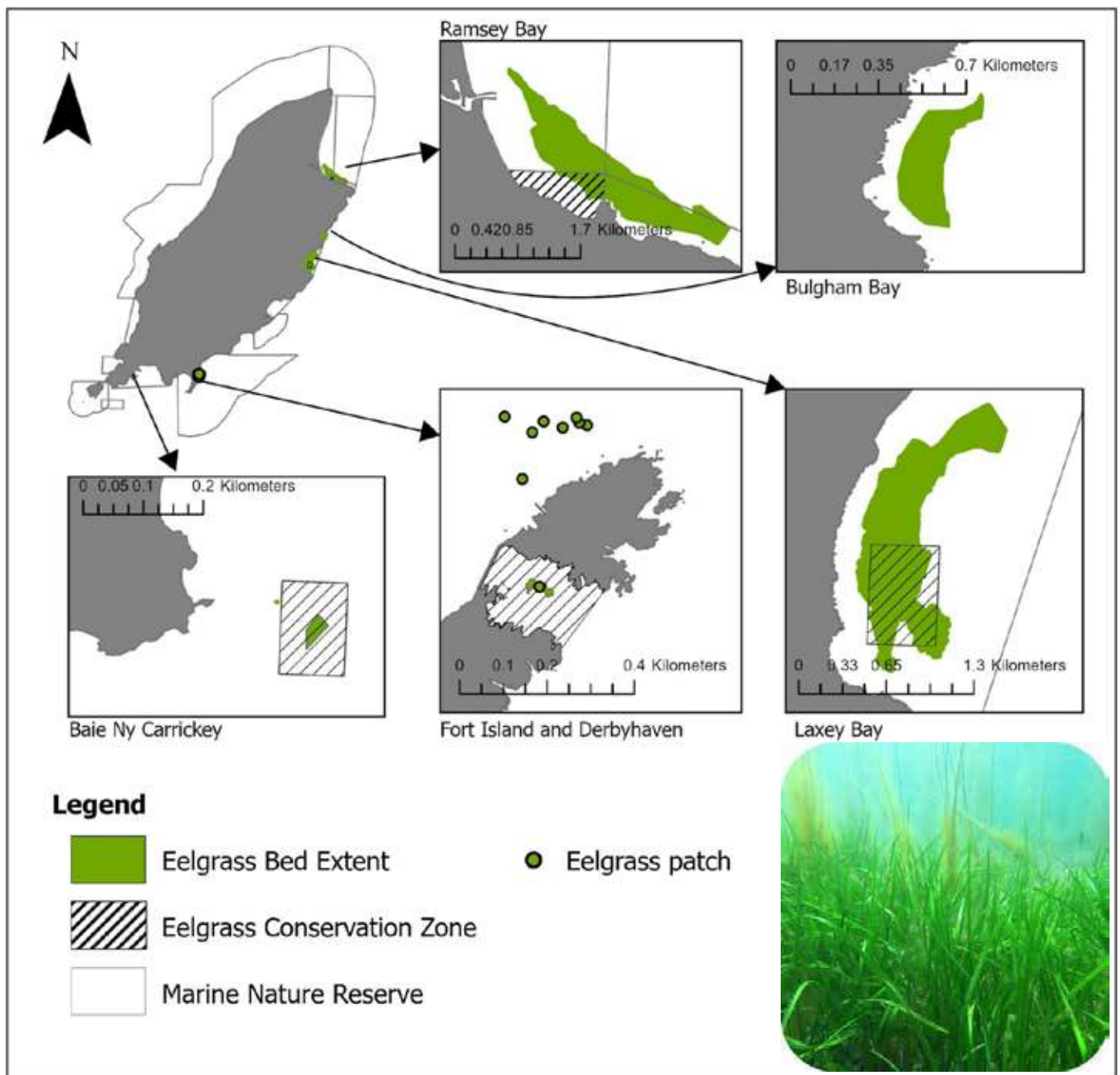
Key findings from the project so far include:

## Case study 2: Eelgrass Meadows

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- Muddy sediments are the largest blue carbon store, burying carbon equivalent to approximately 7% of the Isle of Man's annual emissions.
- Saltmarsh habitats have the highest carbon density but are limited in extent (7.4 hectares).
- Seagrass meadows have relatively low carbon density compared to other regions, likely due to local tidal, sediment, and organic input characteristics.
- Kelp, maerl, and horse mussel habitats show potential as carbon stores, but evidence is still emerging and they have not yet been included in overall estimates.

### Next Steps

The Manx Blue Carbon Project is moving into a new phase, with the forthcoming publication of a project report and action plan. Priorities include embedding

*Right: clock-wise from the top left: saltmarsh coring; kelp; horse mussel; maerl.*





evidence into policy, establishing long-term monitoring to assess habitat condition, and evaluating the potential for management interventions to enhance carbon storage. Continued emphasis will be placed on evidence-based decision-making, collaboration with stakeholders, and community engagement.

### Conclusion

The Manx Blue Carbon Project demonstrates the importance of strong evidence, academic partnerships, and community engagement in shaping effective marine management. Findings to date highlight the significant role of muddy sediments, the value of targeted habitat protection, and the potential for fisheries management to influence carbon-storage. As results continue to emerge, they will inform both local policy and wider international efforts to integrate blue-carbon into climate-strategies.

### Q&A

**Nicole Esteban:** What did you find the most effective way of working with stakeholders to change the bylaws and protection of seagrass?

**A:** Isle of Man has always tried to keep close relationship with fishers: fishers trust and have open dialogue with government. It's important take views into consideration and have open communication to establish long-term relationship and trust.

**Robert Midwinter:** We are interested in how you engage with the wider community, in particular the techniques that you have found successful.

**A:** It's always difficult to communicate the vast importance of oceans. We bring in visuals, arts, storytelling for importance and advocacy for blue-carbon

habitats, for example a short film on the surrounding sea, as we are a small maritime nation with connection to sea. The challenge is engaging other groups and not preaching to choir. We do this by focusing on school-children and other groups outside the sector to change feelings about the sea. Be varied: use different tools; use art and science to engage.

**John Pinel:** Do you have condition objectives for your condition monitoring of kelp-beds?

**A:** Kelp-bed work has been qualitative so far due to its lower carbon storage importance, but we are working to collect more data and refine the knowledge of their full impact.

**Emily Bunce:** With the diversity of blue-carbon habitats that your project explored, were any of them harder than others to advocate with communities? (I'm thinking around charismatic vs non-charismatic species, and what we perceive as 'pretty' and 'interesting'.)

**A:** Seagrass/ eelgrass is our "panda" – charismatic and well-known habitat of importance. Selling marine mud is a challenge because it is hidden offshore. Showing photos and videos of phosphorescent sea pens and economically important burrowing shrimp shows an alien world offshore (unusual = appeal). People don't always appreciate it but showing visuals helps people to connect to those habitats.



# A Recolonisation and Expansion of Masked Booby Colonies in Sandy Bay, St Helena: A Conservation Success Story

Neil Thorp, Kenickie Andrews & Jolan Henry (St Helena National Trust)



L to R: Jolan Henry, Neil Thorp and Kenickie Andrews

Thorp, N., Andrews, K. & Henry, J. 2025. A Recolonisation and Expansion of Masked Booby Colonies in Sandy Bay, St Helena: A Conservation Success Story. pp 42-44 in *UKOTCF's 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states, 13th-16th October 2025 Proceedings* (ed. by M. Pienkowski, C. Wensink, A. Pienkowski, K. Bensusan, J. Peyton & B.N. Manco) UK Overseas Territories Conservation Forum, [www.ukotcf.org.uk](http://www.ukotcf.org.uk)

Once absent from the mainland of St Helena for centuries due to overexploitation and the introduction of invasive species, the Masked Booby *Sula dactylatra* has recently demonstrated a remarkable recolonisation of the island's Sandy Bay National Conservation Area (NCA). Historical evidence and subfossil records suggest widespread nesting before human arrival, followed by declines largely attributed to predation from humans, feral cats, and rats (Bolton *et al.* 2011). In 2011, observations confirmed the first successful breeding on the mainland since the colonial decline, despite the continued presence of feral cats *Felis catus* (Bolton *et al.* 2011). Since then, colonies have steadily expanded across the NCA ridgelines. Under the 2023/24 Darwin Plus Local Grant (DPL00033), the St Helena National Trust (SHNT) and RSPB monitored 38 nests, recording a fledging success rate of 25%, consistent with post-predator control levels on similar islands (Ascension Island Government, 2019). Notably, the presence of nesting Red-footed *S. sula* and Brown *S. leucogaster* Boobies indicates a potential multispecies recovery trend. Current work includes enhanced nest monitoring through bird ringing, remote sensing using drones, and building local ornithological capacity. These actions form the foundation for adaptive conservation responses and broader ecosystem recovery in the South Atlantic (Oppel *et al.*, 2015). This resurgence reflects local conservation success and offers a replicable model for seabird restoration across tropical island ecosystems impacted by invasive predators.

Neil Thorp, Kenickie Andrews & Jolan Henry (St Helena National Trust)

## 1. Introduction

Saint Helena is a remote volcanic island in the South Atlantic Ocean, located approximately 1,800 km from the nearest continent. It is globally recognised for its significant seabird populations. Historically, before human settlement, the island supported a diverse array of seabird species, many of which declined following the arrival of humans and the accidental introduction of invasive predators such as rats and feral cats.

The first recorded human activity on the island dates back to its discovery in 1502, with permanent settlement

beginning in 1659. Over time, human exploitation and predation by rats and cats led to the reduction of seabird colonies from the mainland, forcing many surviving populations to migrate to offshore islets and sea stacks. By the 1800s, many mainland breeding colonies had disappeared.

## 2. Rediscovery and Early Surveys

In 2009, a collaborative survey conducted by the St Helena Government and RSPB, led by Mark Bolton, recorded the return of Masked Boobies to mainland sites in the Sandy Bay National Conservation Area (NCA).





Colonies were identified as having been established between 2006 and 2009, marking the first known recolonisation of this species on the mainland in recent history.

Despite the ongoing presence of feral cats and other threats, these recolonised colonies have persisted. This prompted further study, and in 2023–2024, the St Helena National Trust initiated a Darwin-funded project to revisit the initial survey-sites and investigate broader trends in seabird recovery.

### 3. 2022–2023 Monitoring and Research Initiatives

In 2022, the St Helena National Trust became the island's lead agency for seabird conservation research. A Darwin Local Project (DPLUS0033) enabled the Trust to undertake systematic monitoring of three seabird species: The Masked Booby *Sula dactylatra*, Madeiran Storm-petrel *Hydrobates castro*, and Red-billed Tropicbird *Phaethon aethereus*.

Focus was placed on the Lots Wife colony in Sandy Bay NCA, one of the first sites of Masked Booby recolonisation. During the project, 38 nests were monitored bi-weekly. A total of 72 eggs were recorded, resulting in 18 successful fledglings, which gives a fledging success rate of approximately 25%. Although this rate is low, it is consistent with fledging rates on Ascension Island, indicating a potentially natural baseline for this species under current ecological conditions in the mid-Atlantic.

This monitoring effort enabled the team to develop critical field-skills in bird ringing, handling, and sex-identification. All fledglings were ringed using British Trust for Ornithology (BTO) metal rings and Darvic plastic colour-rings, supporting future tracking and long-term population studies.

The unexpected presence of Red-footed Boobies *Sula sula* nesting within the colonies (*photo next column*) suggests also broader ecosystem changes and raises new research questions regarding interspecies interactions and habitat-suitability.

## 4. Ongoing Challenges and Threats

Despite these successes, the Masked Booby population on St Helena faces several ongoing threats, including:

- Invasive species (feral cats, rodents, Common Mynas)
- Shifts in food-availability
- Climate-change and associated environmental stressors

These factors are the subject of ongoing investigation, and future management strategies must be adaptive to mitigate their impacts.

## 5. Expansion of Conservation Efforts: The Coastal Management Plan

Building on the outcomes of the previous Darwin Local Project, the St Helena National Trust was recently awarded funding through the Darwin Plus scheme for a new initiative titled the *Integrative Coastal Monitoring and Habitat Management Programme*.

This new project adopts a multi-faceted approach to coastal and seabird monitoring, including the use of novel technologies such as drones and machine learning-based photogrammetry to survey inaccessible ridge-top colonies and broader habitat-areas, as well as *in situ* field-work and monitoring.

Survey efforts will return also to sea-stacks and offshore islets that were last assessed in 2006–2009, to evaluate changes in seabird distribution and abundance. The integration of historical data with new observations will support a more comprehensive understanding of population dynamics. This phase of research will incorporate also a refined threat-assessment to address ongoing challenges effectively. The data generated will inform a management-plan to be submitted to the St Helena Government, guiding future conservation actions and land-use planning, as well as supporting the Marine Management Plan.







*Top and above left: Masked Booby colony; above right: with Common Mynas in attendance*

## 6. Conclusion

The recolonisation of Masked Boobies in Sandy Bay signifies a significant milestone in seabird conservation for St Helena. While fledging success rates remain modest, they are consistent with similar environments, and the continued expansion of the population is encouraging.

The adoption of new technologies, alongside capacity-building within the St Helena National Trust, provides a strong foundation for long-term ecological monitoring. Future research will focus on identifying limiting factors affecting breeding success and evaluating emerging threats within the marine ecosystem.

Seabirds serve as early indicators of ocean health, and the findings from this work will be essential in shaping future marine and coastal conservation strategies on St Helena and potentially across the South Atlantic.

## Acknowledgements

This work would not have been possible without the support of the St Helena Government, Darwin Plus, the Royal Society for the Protection of Birds (RSPB), and all local and international partners involved in fieldwork, data analysis, and capacity development.

## Q&A

**B Naqqi Manco:** What are the local cultural perceptions of boobies and seabirds generally?

**A:** Locals appreciate seabirds to track fishing areas. Fishers use them to find fish. Birds are important symbols to community.

**Roland Lines:** Do you know what triggered the recolonisation in that area?

**A:** Not yet – research is inconclusive but they have been spreading across the whole valley and beyond. Future research involves coastal monitoring and on stacks, where they had been before.

**Ascension Island Conservation:** What management/conservation actions were taken in this site to promote recolonisation?

**A:** The species were already protected, and many of them already nested in protected areas. We are looking at emerging threats of human use and impact to ensure sustainable use with minimal disturbance.

# Conserving the Cloud Forest endemic invertebrates of St Helena

Liza Fowler (Invertebrate Specialist, St Helena National Trust)



Liza Fowler

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This highlights efforts to conserve the endemic invertebrates of St Helena's cloud forest, focusing on four years of invertebrate-survey results. It compares endemic fauna and species richness between different vegetation types, including invasive-dominated, endemic-dominated, and restoration sites. It explores how these results can be used to enable endemic invertebrate conservation and emphasise the importance of preserving these unique ecosystems.

*Liza Fowler, Invertebrate Specialist, St Helena National Trust*

## Introduction

The cloud-forest habitat of Peaks National Park occurs on hill-sides above 700 metres and supports numerous endemic ferns, flowering plants, and a unique invertebrate fauna. Approximately 120 endemic invertebrate species have been recorded in this habitat alone, with over 400 endemic species island-wide. Like many habitats on the island, the cloud forest is highly fragmented, necessitating focused conservation efforts.

## Methods

The project involves a combination of ecological surveys, species-monitoring and habitat-assessments. Key activities include:

- **Species Selection:** Thirty-two priority endemic invertebrate species were identified for monitoring; these included spiders, beetles, moths, and a snail.
- **Annual Surveys:** Surveys are conducted between January and May across nine sites: six on Diana's Peak, two on High Peak, and one on the Depot. One site was excluded due to pathogen concerns.
- **Ecological Studies:** Long-term monitoring of select endemic species, such as the moth *Elachista trifasciata* and the Golden Sail Spider *Argyrodes mellissi* has been conducted over a full annual cycle.
- **Plant Associations:** Invertebrate-plant interactions were documented, including associations with both endemic and non-native vegetation.

## Results

**Species Occurrence:** Eleven priority species were observed consistently each year, while others appeared intermittently.

**Abundance and Richness:** Restoration areas exhibited the highest species-richness and abundance of endemic invertebrates.

### Plant Associations:

Endemic species, such as fungus beetles, leaf harbours, the ammonite snail, and certain moths, show specific associations with endemic sedge and ferns.

Non-native plants, including New Zealand flax *Phormium tenax* and white weed *Austroeupatorium inulifolium*, supported unexpectedly high numbers of endemic invertebrates across multiple groups, including true bugs, spiders, beetles, moths, flies, snails, and grass harbours. This suggests that structurally complex plants provide diverse niches and food resources.

## Conservation and Management Implications

The findings contribute to habitat-management by identifying key plant species that support endemic invertebrate populations. Restoration efforts targeting these plant species can enhance invertebrate diversity, abundance, and overall ecosystem-resilience.

## Capacity Building

Conservation staff are trained in field on invertebrate-identification, survey-techniques, and invertebrate-monitoring methods, promoting local expertise in habitat and species management.

## Conclusion

The Cloud Forest Project demonstrates the importance of habitat-specific restoration and long-term ecological monitoring in supporting endemic invertebrate



diversity. Data from this project informs both practical conservation-management and broader ecological understanding of St Helena's unique cloud-forest ecosystem.

## Acknowledgments

The project-team thanks international collaborators and local conservation-staff for their contributions. Detailed reports and PDFs of annual surveys are available via the St Helena Tourism website link here to St Helena's Cloud Forest Project (<https://sthelenatourism.com/st-helenas-cloud-forest-project/>).

## Q&A

**Helena Bennett:** If we get rid of invasive plants that endemics are using, are they going to be displaced?

**A:** In restoration areas, ring-barking whiteweed, rather than cutting and removal, gives invertebrates time to move to other vegetation and provides habitat to wood-feeders.

**Harry Marshall:** Does the habitat-restoration favour some species, or groups of species, more than others?

**A:** It seems to so far, but we need more data.

**Richard Selman:** Are the species all recognisable from live specimens or do you need to take some for microscope work, and if so, is this challenging for rarer species?

**A:** We focus on 32 priority identifiable species, including the spiky yellow woodlouse and golden sail spider. We record everything but use those easily observable as indicators for habitat-assessment. Smaller/obscure species are recorded but not yet fully assessed. Small species like weevils present challenges because they can easily be missed. We are now reviewing the whole list and will use the full list in future to select other sites.

**Catherine Wensink:** How important do you think long-term projects are, given that your work has been going on for over a decade now?

**A:** Very important, especially with fragmented habitat. The intact habitat area is much smaller than the park, and very fragmented due to the invasive species. Also the restoration areas vary considerably in size.

**Vince Thompson:** Whiteweed is an aggressive invasive – as it hosts an array of invertebrates; is this a saving grace for the whiteweed?

**A:** Whiteweed is very out of control and very impactful to the cloud forest; and it grows in other habitats from the peaks to the lowlands. We just try to get rid of it to restore the habitat. We need more projects to take it out

elsewhere in other habitats.

**Nicole Esteban:** It was very interesting to learn about the highest abundance of invertebrates in restoration areas and not in native forest. Where did you source your plants for restoration and did you do any translocation of invertebrate species to restored areas?

**A:** We have a native plant nursery on site for the cloud forest, but we don't yet have studies on translocation of invertebrates. The invertebrates are moving back into restoration areas on their own. Some of the habitats and species ranges overlap.

**Melanie Carmichael:** How did you create the map?

**A:** The map was created on QGIS, Government manages layers and provides them for approved users.

**B Naqqi Manco:** Do inverts have any impact on fern spore distribution?

**A:** Base-line is showing a need for more work to be done on this.

# Extending our understanding of important foraging habitats for sea turtles in the Chagos Archipelago

Nicole Esteban<sup>1</sup>, Jeanne A Mortimer<sup>2,3</sup> & Graeme C Hays<sup>4</sup> (1 Department of Biosciences, Swansea University, Swansea SA2 8PP, Wales, UK; 2 Department of Biology, University of Florida, Gainesville, FL 32611, USA; 3 PO Box 1443, Victoria, Mahé, Seychelles; 4 Deakin Marine Research and Innovation Centre, Deakin University, Geelong, Victoria, Australia)



Nicole Esteban

Esteban, N., Mortimer, J.A. & Hays, G.C. 2025. Extending our understanding of important foraging habitats for sea turtles in the Chagos Archipelago. pp 47-51 in *UKOTCF's 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states, 13th-16th October 2025 Proceedings* (ed. by M. Pienkowski, C. Wensink, A. Pienkowski, K. Bensusan, J. Peyton & B.N. Manco) UK Overseas Territories Conservation Forum, [www.ukotcf.org.uk](http://www.ukotcf.org.uk)

Understanding patterns of space use allows informed decisions for biodiversity conservation, such as designation of and protected areas. For Very Large Marine Protected Areas (VLMFA > 100,000 km<sup>2</sup>) that are often in remote and poorly understood regions, such as the Chagos Archipelago MPA, marine megafauna can be important indicators of ecosystem processes, and their distributions can highlight important areas of biodiversity. Two species of sea turtle that breed and forage in Chagos are well known for their ecological engineering roles: Hawksbills *Eretmochelys imbricata* feed on sponges and soft corals; Green Turtles *Chelonia mydas* predominantly feed on seagrass. Satellite tracking of both species was conducted to assess their distributions and characterise foraging space use. Between 2012-2019, while hawksbill and green turtles were ashore nesting on the largest island of Diego Garcia, they were equipped with high resolution Fastloc-GPS-Argos satellite tags (including some with depth sensors). After migrations to foraging sites were completed, space use was estimated including home range size and dive behaviour, where possible. To assess benthos, dive and baited-camera surveys were conducted in 2016 and 2019.

Our findings highlight the importance of deep-water mesophotic reef and seagrass meadows in Chagos. Depth data relayed from hawksbills indicated that turtles foraged at mesophotic depths (modal dive depths = 35-40 m). Characterisation of foraging locations of green turtles revealed extensive seagrass meadows (23-29 m depth). Notably, 20% (n = 7 of 32) of green turtles remained in Chagos and 100% of hawksbills (of n = 22), indicating an important population of >10,000 individuals protected by the MPA. Home range sizes for all individuals were relatively small when compared to turtles elsewhere indicating high quality of foraging environments and importance of relatively unexplored habitats.

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## Introduction

This presentation includes research findings from an international collaboration working on sea turtle conservation in the Chagos Archipelago since 2012.

At the heart of our work is the understanding of space use to allow informed decision-making for biodiversity conservation, such as protection of critical habitats. This talk provides some natural history about sea turtles and their conservation status in the archipelago and wider

region as background to understand the implications of our results. I will then talk about the methods we use to study turtle space use and, finally, present some of the key results so far.

Diving into the Chagos Archipelago fully protected marine protected area (MPA) that is one of the largest MPAs globally at 640,000 km<sup>2</sup>, the MPA supports some of the largest contiguous reef areas worldwide and also surrounding offshore habitats, such as open ocean



areas and a network of seamounts (Hays *et al.* 2014). Five islanded atolls offer contrasting breeding and foraging habitats for critically endangered hawksbill and endangered green turtles across life stages, e.g., the largest atoll (in terms of island numbers: 36 of the 67 islands in Chagos, 80km coastline), smaller neighbouring atoll of Soloman (11 islands, 26 km coastline) of islands and only inhabited atoll of Diego Garcia (4 islands, 72 km coastline) that provide sandy beaches, shallow developmental habitat for immature turtles, and deeper foraging grounds (Hays *et al.* 2020a). Numbers of hawksbill and green turtle clutches have been increasing (Mortimer *et al.* 2020) on 132 km of nesting habitat across 56% of the coastline of almost all (>95%) of the islands in Chagos. Between 2011-2018 there were >6000 hawksbill and >20,000 green turtle clutches laid annually in Chagos, indicating important increases in nesting by both species since 1970, with a higher rate of increase amongst green turtles. These clutch numbers represent approx. 4000 hawksbill turtles and 3500 green turtles, noting that green turtles lay more clutches each breeding season so the overall numbers are higher. Chagos is critical for turtle conservation in Southwest Indian Ocean (SWIO) and regional estimates indicate green turtles produce ten times more egg clutches than hawksbills, and Chagos accounts for 39-51% of hawksbill and 14-20% of green turtle clutches laid in SWIO (Fig. 1; Mortimer *et al.* 2020).

## Methods

All nesting turtles were intercepted during their return to sea after nesting in the Southeastern beaches of Diego Garcia and kept in a box with open top and bottom for approximately two hours. Tags were attached using epoxy and coated with antifoul paint to prevent fouling of

sensors. We used low-profile tags with flexible antennae (Wildlife Computers Splash 10) that have a Fastloc-GPS receiver for locations accurate to 10s of metres producing home ranges that are 10-100 x smaller than Argos home ranges (Kale *et al.* 2025, Dujon *et al.* 2014). We used Fastloc-GPS-Argos tags to satellite track 35 green turtles and 23 hawksbill turtles between 2012-2019. Green turtles were tagged during nighttime between July to October 2012-2018 (Curved Carapace Length (CCL) 97.5-115cm) and hawksbill turtles were tagged during daytime between November to December 2018-2019 (74.0-87.1cm CCL). 32 green turtles and 22 hawksbill turtles were tracked to their foraging locations.

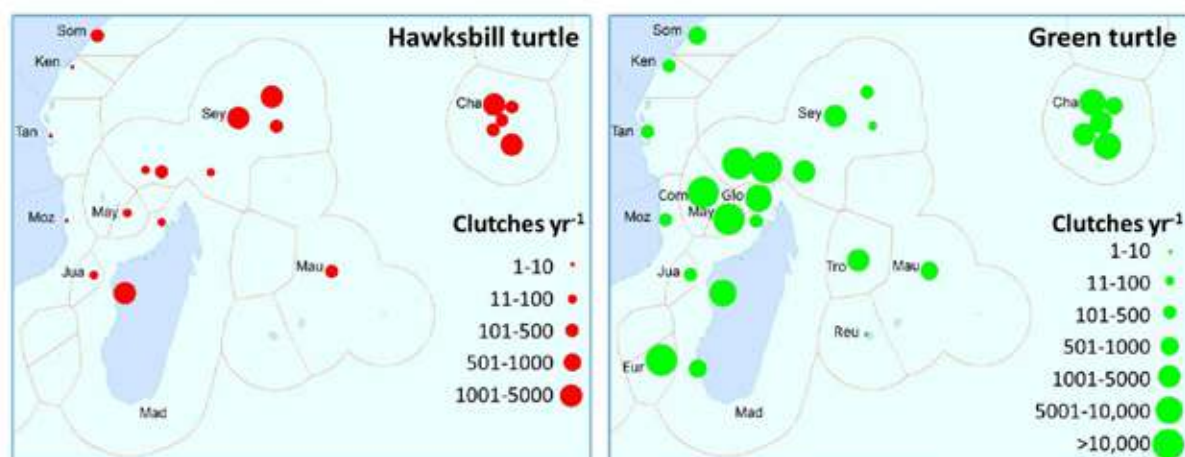
In the Chagos Archipelago, depth of foraging grounds were estimated using depth sensors included in some of the satellite tags of green turtles and hawksbill turtles. Foraging ground habitat for seven green turtles on the Great Chagos Bank was assessed using a combination of SCUBA and dropdown video camera in 2016, 2019, 2024-2025.

## Results and Discussion

### Green turtles

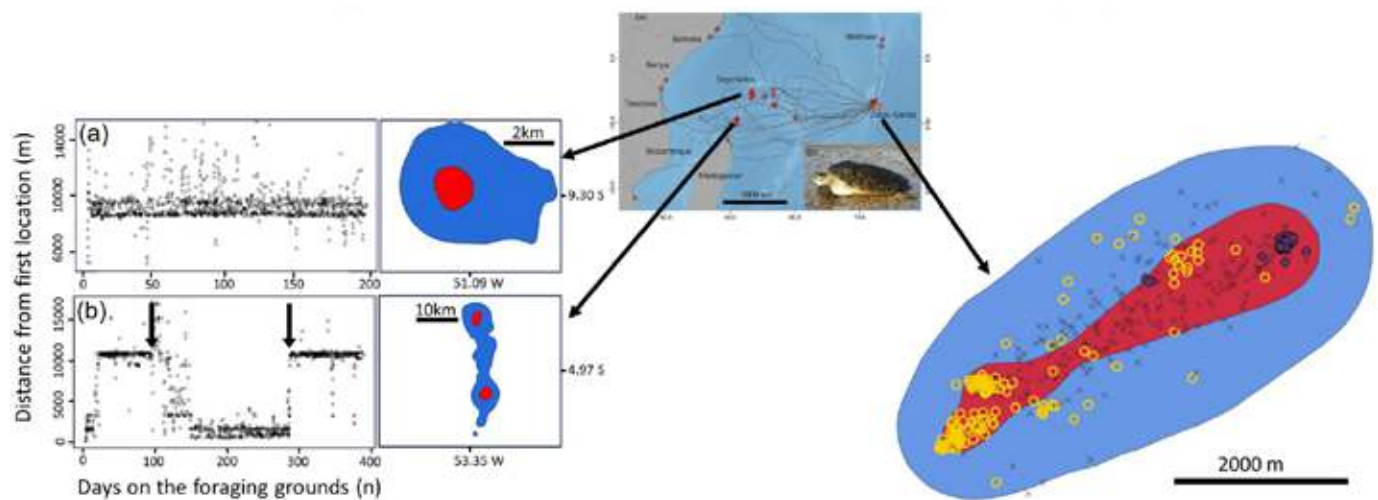
Chagos is a nesting refuge for turtles from across WIO. We reported record breaking migrations (up to 5000 km in 67 days; migration 2-108 days) to countries across the Western Indian Ocean including around 20% to East Africa (Somalia, Kenya, Mozambique), 40% to Seychelles, 20% to other islands (Madagascar, Maldives) and remote banks (Mascarene Plateau). Around 20% of turtles do not travel far, using the Great Chagos Bank only 100 km from Diego Garcia. Foraging locations have been used by the Seychelles Government to inform MPA zonation (Hays *et al.* 2014; Hays *et al.* 2020b).

## 1. Hawksbill & green turtle status in a regional context



Chagos Archipelago: >6000 hawksbill & >20,000 green turtle nests each year (2011-2018)  
Critical for conservation in SW Indian Ocean: up to 51% hawksbills and 20% green turtles

## 2. Sea turtle home-ranges indicated unexpected and high quality of foraging habitats



### Green turtles indicate high seagrass habitat quality in WIO due to:

Very small home ranges (2.4-15.4km<sup>2</sup>; UD50-95)

Few daytime re-locations compared with outside WIO (red is 50% UD, blue 95% UD)

Seagrass & reef connectivity: some long daily commutes (6km, yellow= day, grey=night)



As some of the turtles travelled to remote islands, we interrogated our data to see whether there was evidence for a magnetic map or wind-borne cues. It is thought that turtles use multiple modes of navigation using magnetic cues at greater distance and more localised cues such as wind to hone down their search. We reported evidence that turtles use a true navigation-system with open-ocean reorientation but their map-sense is coarse scale. Turtles often struggled to find isolated island targets, travelling several 100 km off direct routes to their goal before re-orientating, and didn't locate them with pinpoint accuracy (Hays *et al.* 2020b).

Green turtle foraging on the southeastern Great Chagos Bank was unexpected as seagrass, the principal dietary component of green turtles in the WIO (Esteban *et al.* 2020) had not been previously recorded there. Observations between 23-29m depth of extensive, healthy seagrass meadows of *Thalassodendron ciliatum* are unique as this species is commonly found in shallow habitats (<10m) (Esteban *et al.* 2018).

High seagrass habitat quality was estimated due to very small home ranges (2.4km<sup>2</sup> and 15.4km<sup>2</sup>; 50 and 95 utilisation distribution, UD) and few daytime re-locations compared with outside the WIO (Hays *et al.* 2024a). Figure 2 shows several examples of (a) An individual that used one focal foraging area throughout tracking. This individual was foraging in Farquhar Islands (Seychelles) with tracking data on the foraging grounds across 232 days. (b) An individual that relocated a few kilometres. This individual was foraging on the Amirante Bank (Seychelles) and was tracked for 380 days. Indicated with arrows are the times when turtles switched to a new focal site and then returned to the original site a few months later. (c) A relatively long distance between the day and night locations for an individual tracked for

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537 days foraging on the Great Chagos Bank (565 day-time locations, 359 night-time locations). Yellow open circles show daytime locations 3 h before and after local noon, and dark closed circles show night-time resting locations 3 h before and after local midnight. Crosses indicate locations from other times that were not included in analysis of diel variation in home range. Red and blue shaded areas show respectively the UD50 and UD95 for each individual for the duration of tracking. (Hays *et al.* 2024a).

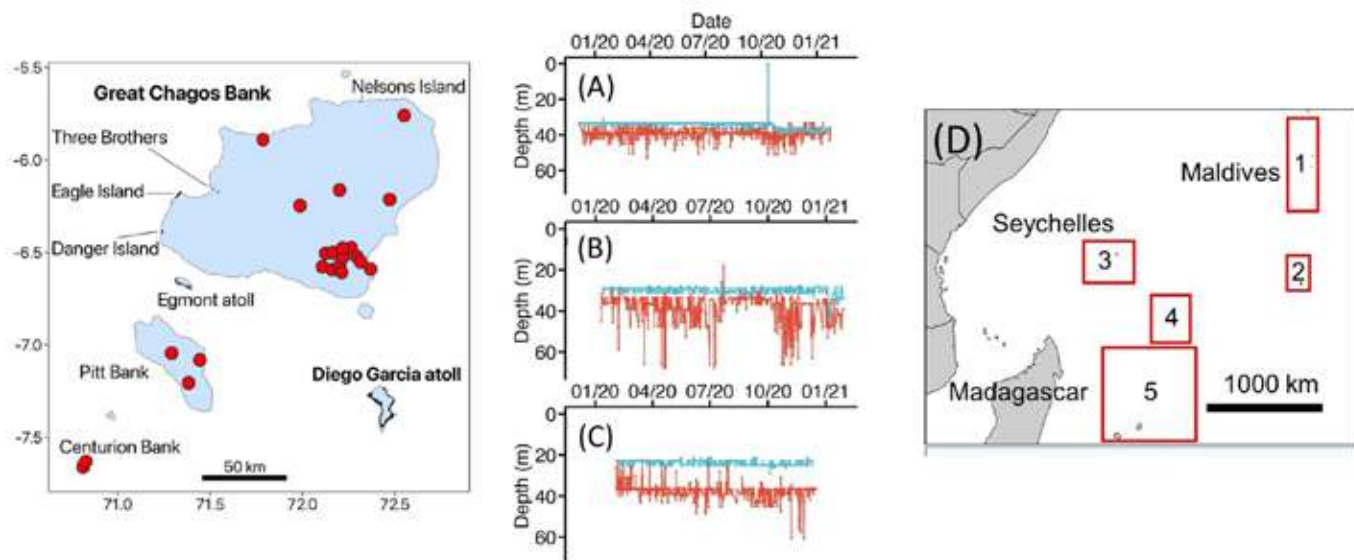
### Hawksbill turtles

Unlike other regions in the WIO where hawksbills move between island groups and East African coastline, unexpectedly, 100% of hawksbills remained in the Chagos Archipelago to foraging. Our results highlighted the importance of remote submerged banks as none of the turtles foraged on shallow reefs, as expected from common observations of hawksbills on reefs. We compared tracks of hawksbills with the predominant southwest current and showed evidence that hawksbills have a crude map sense for orientation in open ocean, with target searching in final stages of migration (Hays *et al.* 2022).

Location of hawksbill foraging sites indicated biodiverse mesophotic ecosystems at depths of 30-60m (Hays *et al.* 2024b). Figure 3 shows locations of all foraging locations in Chagos, highlighting sites across the Great Chagos Bank, Pitt Bank and Centurion Bank. The modal depth across all three tags was 34.3 m (SD: 6.2 m) and diurnal and nocturnal dive depth was significantly different, derived from the 1-hour modal depths for each of three turtles with depth-enabled tags. 95% of 1-hour modal depths were between 33.5 and 56.5 m (daytime 39.2 and 34.5 m; Fig 3a); 28.5 and 67.5 m (daytime 39.1 and 30.0 m; Fig 3b) and 22.5 and 62m (daytime 37.9 and 24.0 m;



### 3. Sea turtle home ranges indicated unexpected and high quality of foraging habitats



#### Hawksbill turtles indicate biodiverse mesophotic ecosystems at depths of 30-60 m

A-C: Modal depth of turtles in day (red) & night (blue) in 3 foraging sites (modal = 34.3m)

D: Discovery of extensive deep (reef) habitat on submerged banks up to 55,000 km² in WIO

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Fig 3b). Associated with this diel pattern of diving was usually a clear horizontal movement between daytime and nighttime areas - turtles generally transiting 1 to 2 km between their mean day and night locations (Hays *et al.* 2024b).

#### Conclusions

- Extensive seagrass meadows discovered via satellite tracking
- All foraging habitat much deeper (23-40 m modal depth) than previously observed
- Mesophotic ecosystems (>30 m depth) are key habitats to include in conservation planning
- >10,000 individuals protected by the Chagos MPA (100% hawksbills, 20% green turtles)
- Home ranges were all small compared with other regions, indicating high quality foraging habitat

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#### Q&A

**Helena Bennett:** Was there any study in other areas outside Chagos on flora and habitats?

**A:** Our team has not gone to them in person, but we are working with regional partners including Kenya, Seychelles, Mozambique and Madagascar to know more about these habitats. All findings show seagrass-beds as foraging habitats and coral reefs as night/ resting habitats across the region.

**Janet McKinnon:** How important is the Chagos marine protected area for turtle conservation?

**A:** Green turtle status has been upgraded by IUCN to Least Concern. Chagos population represents 20% of adult regional green turtle females; for hawksbill 2-3000 nesting females, which is up to 50% of the region. Chagos

is critical to the region for breeding.

**Catherine Wensink:** Are you seeing impacts of plastics on foraging sea turtles in Chagos?

**A:** Yes – on nesting beaches, we have seen plastic litter entrapping and barricading turtles and other wildlife. We haven't been able to study it in oceanic foraging turtles, but in the lagoon few impacts (two documented during study). However, Chagos beaches show a high density of plastic and microplastic pollution globally, as do many small islands.

**Amdeep Sanghera:** Thank you Nicole, excellent presentation! I missed part of your presentation due to connection, but do you think hawksbills are foraging deeper due to better habitat-quality, with shallow reefs being more degraded due to climatic effects, e.g. bleaching? We are hearing similar things anecdotally from fishers in the Caribbean UKOTs that they are seeing hawksbills much further out on deeper waters potentially due to poor habitat-quality closer to shore.

**A:** We have also heard this, but haven't seen it yet, but Chagos inshore reefs are more intact and bleaching recovers quickly; they always have a lot of good alternative habitat in Chagos. We'll be using satellite tagging (20 more adults) to learn more in November.

**Paul Edgar:** Excellent talk, thanks. I was in Australia last year and saw frightening changes taking place to nesting beaches there due to sea level rises, storms, etc. How is climate change likely to affect the BIOT turtle populations?

**A:** Two main impacts of climate change:

1) Rising sand-temperatures, affecting sex-ratio (more females); though Chagos nesting sites are relatively cool due to fringing vegetation and narrow beaches (nests under vegetation) so there is still a more balanced sex-ratio.

2) Sea-level rises: we see some extreme tides though not as severely as other areas.

**Rowan Henthon:** Do you think sea turtles could be used to map habitats such as seagrass in your region, in the same way Tiger Sharks have been in the Caribbean?

**A [later]:** Yes: certainly we have demonstrated in Chagos Archipelago and Great Barrier Reef how satellite-tracking marine megaherbivores (dugongs and green turtles) to unexplored areas can indicate previously unknown seagrass-habitat (see Hays *et al.* 2018).

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# Cultivating an appreciation and understanding of the environment through the Gibraltar Botanic Gardens

Bethany Maxwell & Elizabeth Ulloa Chaura (Gibraltar Botanic Gardens)



*Bethany Maxwell &  
Elizabeth Ulloa Chaura*

Maxwell, B. & Ulloa Chaura, E. 2025. Cultivating an appreciation and understanding of the environment through the Gibraltar Botanic Gardens. pp 52-58 in *UKOTCF's 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states, 13th-16th October 2025 Proceedings* (ed. by M. Pienkowski, C. Wensink, A. Pienkowski, K. Bensusan, J. Peyton & B.N. Manco) UK Overseas Territories Conservation Forum, [www.ukotcf.org.uk](http://www.ukotcf.org.uk)

Engaging young people in conservation from an early age is crucial for ensuring the long-term sustainability of wildlife and environmental programmes. At the Gibraltar Botanic Gardens, we have developed a diverse range of educational initiatives designed to connect children with nature while integrating topics directly from the national curriculum. This talk will explore how interactive educational tours and gardening clubs encourage an understanding of plant science, biodiversity, and sustainability among young learners. We will also discuss the findings of an educational survey and the initiatives we have implemented in response. By sharing our successes, challenges, and key takeaways, we hope to inspire other small islands and territories to strengthen conservation education within their communities.

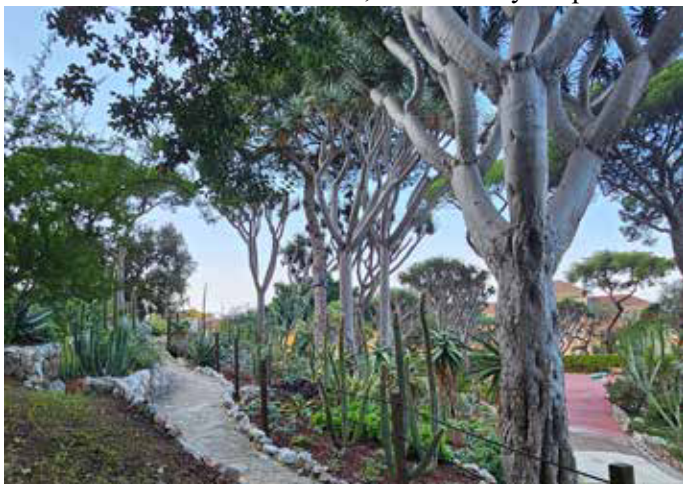
*Bethany Maxwell & Elizabeth Ulloa Chaura (Gibraltar Botanic Gardens)*

[Beth] Good afternoon, everyone. Thank you very much for having us present at this UK Overseas Territory, seventh conference on conservation and sustainability. My name is Beth Maxwell, and this is my colleague Eli, who'll be taking over the presentation a little bit later. We both work at the Gibraltar Botanic Gardens, which is locally known as the Alameda gardens, working as part of the education team here. Today, we're excited to share how the Alameda gardens have become a hub for environmental education in Gibraltar, and what that means for small territories. More broadly, we believe that if we can connect children to nature early, those connections will last a lifetime, and not only shape their

understanding of their environment, but also their sense of responsibility towards it. Throughout the presentation, we will walk you through the educational initiatives that



*Figure 2: Images of two native flora which feature in the Garden's education programme. Above: Gibraltar candytuft Iberis gibraltarica; left: Gibraltar campion Silene tomentosa*



*Figure 1: North area of the Gibraltar Botanic Gardens featuring many Cacti, Succulents and Dragon trees Dracaena draco*





Figure 3: Our “plant leaf” memory game in action. All cards are made with cuttings of real leaves of various species around the gardens. Figure 4 (below left): Learning about compost, how it works, and the creatures we may find living inside.



Figure 5 (below right): Our “leaf hunt” identification sheet for around the gardens. This helps children learn about leaf shapes.



Figure 6 (below): One of our school education tours



we’ve developed, the feedback we’ve received and some of the lessons that we’ve learned along the way that may be useful for other small territories looking to implement something similar.

In small territories like Gibraltar, conservation and education are deeply interconnected. Our native flora is both beautiful and vulnerable, for example, flora such as Gibraltar candytuft *Iberis gibraltarica* and Gibraltar campion *Silene tomentosa*. When you live in such a small place and biodiversity is so close at hand, children might see these plants growing just a few minutes from where they live. The Gibraltar Campion may only be seen at the Gibraltar Botanic Gardens, but children will

see other native species around Gibraltar and within the Reserve itself. All that closeness also means that it’s easier for species to be lost if the community isn’t aware of their value. And so, part of our mission is to make these species part of the children’s story of where they live. We don’t want them just to learn about rain forests in faraway countries, we want them to see that rare and important biodiversity exists right here at home, and that they can be active participants in protecting it. Our small size makes it easier to embed environmental awareness, especially at the community level, but it also means we must be creative with limited space and resources, and our size helps us pilot programmes and test what works quickly and effectively in terms of education as well.

Our education programmes are for everyone, but we focus and get the most interest from children ages five to 10. Engaging children from an early age does help them build a lifelong relationship with nature, especially exposing them to different wildlife and different flora, and it also ties directly into their learning, especially in science, geography and sustainability topics that are already embedded into the national curriculum. Eli will talk a little bit more about how we’ve embedded that national curriculum into the tours specifically in a short while. In Gibraltar, exposure to the natural world can be very limited for children due to the high level of development, so the gardens are one of the only highly diverse green spaces that allow children to be close to nature.

[Eli] Now we’re going to give you a brief explanation of all different activities that we hold within our education programme. Once we developed our education strategy, we decided to create some activities that will link to that



Figure 7: Our plant identification sheets that feature in one of our tours. This tour focuses on the different characteristics of different plants.



strategy. The main activities that I'm going to talk further on are the gardening club and the education tours, but we also do some ad hoc workshops. We collaborate with the local government, and we do some teacher training, considering that the schools in Gibraltar have access to gardening areas and teachers will also have limited knowledge in this area. The areas within the schools can sometimes be complicated as they are very exposed. They are usually terraces and they are on the roof, which makes it a little bit more complicated for the garden. That is when the teachers look to us for advice. We also run a summer camp, and we've done some different work experience with school students from year 12 that will be going into university soon, so they can learn more about what the different career paths within the sciences will bring. Our activities usually consist of community events, bird watching, and the very popular insect and invertebrate exploration.

Education tours are one of our main activities and run throughout the school year. At the beginning of the development of the education programme, the school tours were broader, like a general garden tour, and they were not linked to the national curriculum. When we developed the education strategy, we decided to also integrate some of these tours with the national curriculum, in this way, the tours can be used as a tool for the teachers when they visit the gardens, and it can complement what they're already learning at school.



Figure 9 (above & below): Further examples of our education tour materials and tour breakdown



Figure 8: Our insect/invertebrate exploration around the gardens



Here we can see some of the teacher feedback. It is very important for us to ask for feedback, as this is a way for us to improve our service. Please consider that it is always important to ask for feedback. Sometimes it might be a little bit scary because it might not be the answers that we're expecting, especially when we put a lot of work into this, but it is important to know that all these activities that we do, they're all adaptable and can be changed if needed.

The tours that were more popular this year were the year one and the year three. The year three being the most popular one. What do plants and animals need to grow? In this tour, we talk about what plants and animals need



Figure 10: Which tour did you participate in?

to be healthy. We start with a tour of the gardens, where we learn all about plants, and then we move into the zoo area. We have the Alameda Wildlife Conservation Park in the premises of the Botanic Garden where we look at the animals, and we look at their different diets. That's one example of all the tools that we do.

We also ask the teachers how relevant and connected to the national curriculum these tours are. Around 81 % said it was relevant, and 17 % somewhat relevant, which is still a good answer. And then how likely are they to recommend this tour, which is 83 % will highly recommend, and then a 15 % that will still recommend. I think this is all very positive feedback.

school year. So, we get to see the rewards of our work, the kids get to learn many, many different things. They learn about planting, propagating, they grow fruit and vegetables. They learn about composting, wildlife in our garden and recycling and reusing items in the garden. I think, because it runs throughout the year, it gives us the opportunity to try different things and adapt to what the kids need within the year.

Did you find the Education tour content relevant to the national curriculum or your education goals?

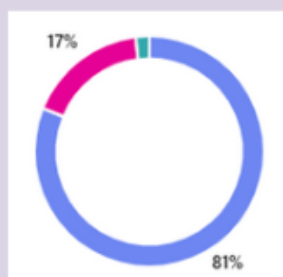


Figure 11: Did you find the education tour content relevant to the national curriculum or your education goals?

Figure 12: How likely are you to recommend our Education tours to other teachers or schools?

How likely are you to recommend our Education tours to other teachers or schools?

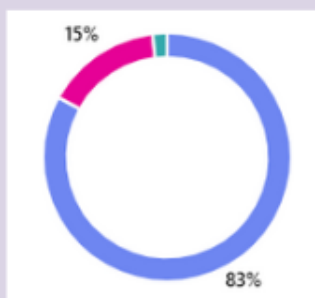


Figure 13: Example of preparing an area for planting in Gardening club

Gardening club is one of our most popular activities. We do this activity with the children throughout the entire

This is an example of activities that we do in our programme. These are free resources that we have developed. It's important to understand that we got this idea also from another butterfly park nearby in Spain, and then I thought it would be a good idea to kind of do the same activity with the garden and with the number of butterflies that we have here. It has been an activity



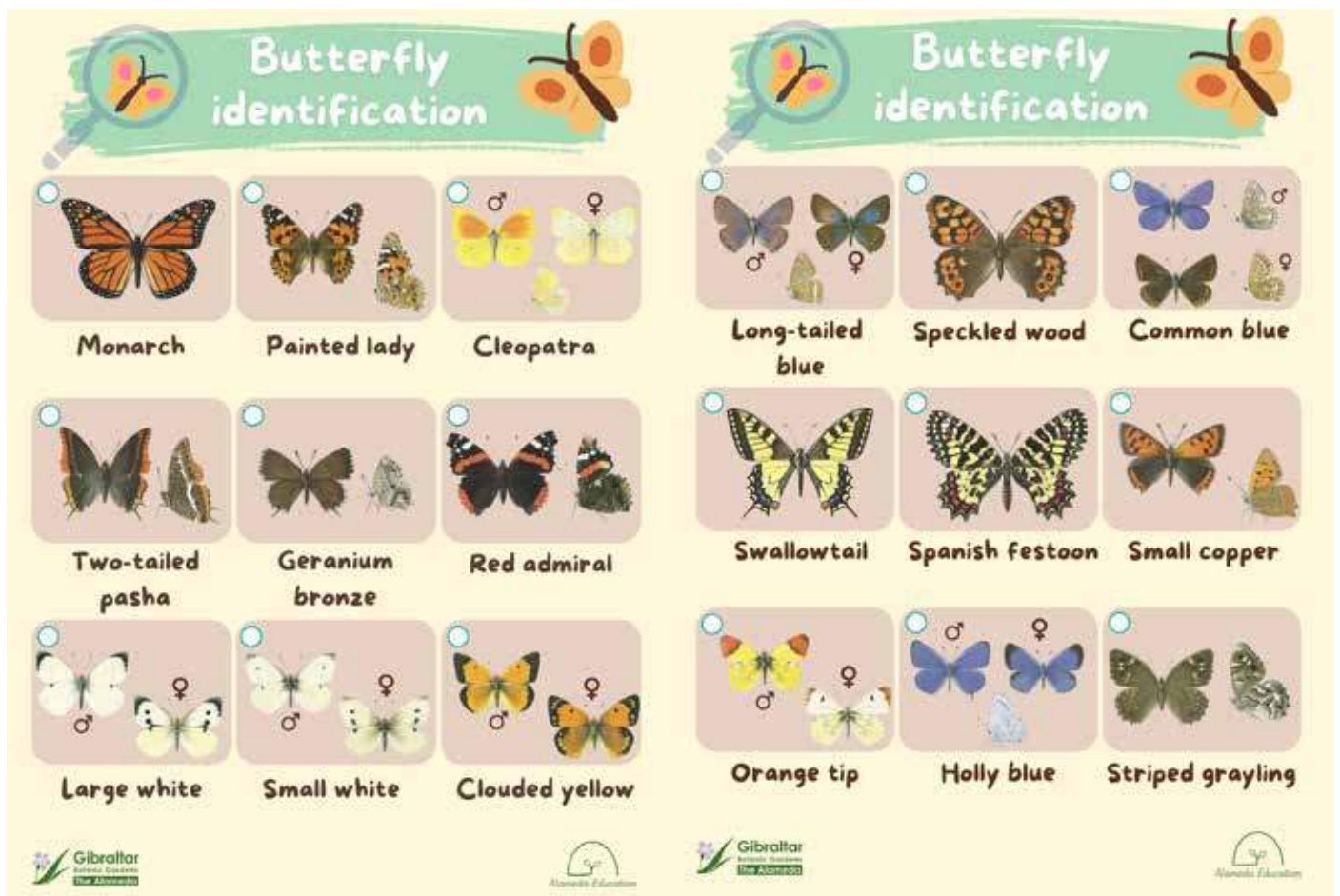
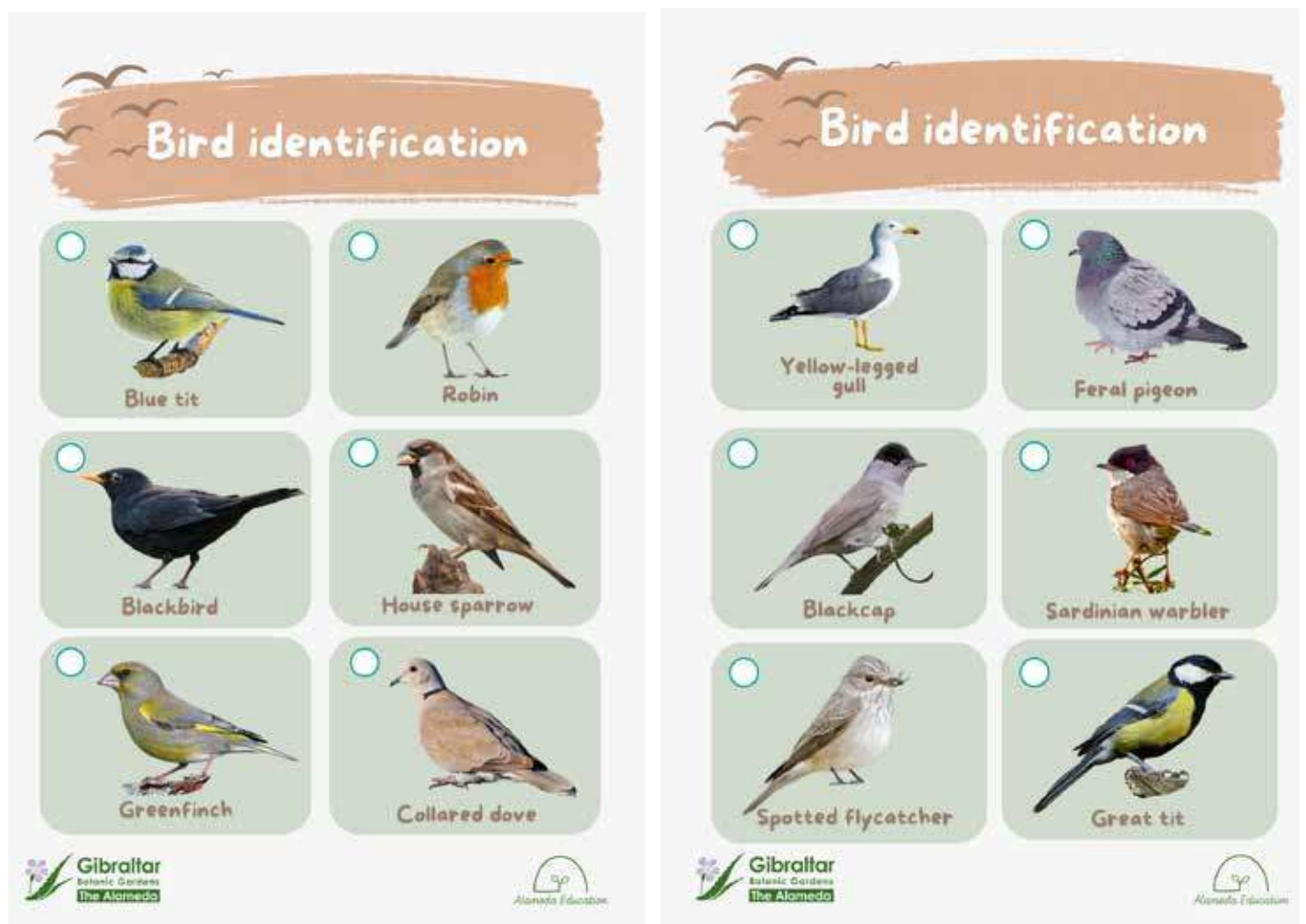


Figure 14: Butterfly identification sheet  
Figure 15: Bird identification sheet



that has been a very popular one, especially during community events.

The bird identification sheet was very popular with our gardening club this year. We had allocated one day only throughout the year to do bird watching, but we ended up doing at least three or four sessions. We got them binoculars, and they really, really enjoyed this one. Both resources are free to download via our Linktree which is on our Instagram page @alamedaedugib.



Figure 16: How interested does your child seem in topics related to gardening and nature?



Figure 17: Do you feel your child has gained knowledge about plants, gardening, and/or the environment through the club?

We can see in these parents' feedback, how interested the children are in gardening and related topics. All parents responded that their child is very interested! We also asked: do you feel that your child has gained knowledge about plants, gardening, or other environmental topics throughout the club – also 100 %. If we look at Fig. 18, we can see which topics they've gained knowledge

in. They have learned basic gardening skills and techniques. They have identified local plants, which I think for their parents might be very interesting. They also show a greater understanding in plant life cycles, as well as awareness of sustainability. And then finally, they understand environmental processes. For example, systems, photosynthesis, composting. It's important to ask for feedback to the parents, because sometimes we might not feel like the kids might be learning a lot, sometimes, especially when they're not listening to the instructions, and we sometimes feel like, well, are they really getting something out of this gardening club? So, it's good to ask their parents to know for sure that they're getting what they need from this space.

[Beth] In summary, we're going to talk about what works and what doesn't from our experience. We found that hands on experiences and collaborating with technology worked really well. As Eli said, bird watching was one of those activities that were very popular. But we also supplemented that bird watching with footage from our own bird feeder. We have got a bird feeder with a camera, and we've saved several different videos of different species, anything from blue tits, great tits, to sparrows, robins. So, we've got quite a nice bank of video. We use those to supplement the bird watching, especially if we haven't been able to see some of those birds in the garden that day. And we find that the kids really, really enjoy seeing that, and it also gives them an opportunity to practice those identification skills, even though it's on a screen. They can see and visit the physical bird feeder as well, so they know that it's in the garden and they're working with something that's real, it's not just a YouTube video, for example.

Exploration and scavenger hunt based activities worked well. When we are learning about invertebrates and insects, instead of just walking around the garden and lifting rocks and things like that, we might give each child a little bit of a goal. Find a ladybug, find a centipede. And we found that that works really well in keeping them focused.

Potting plants, growing fruits, and vegetables, and especially seeing that from the beginning, so whether it

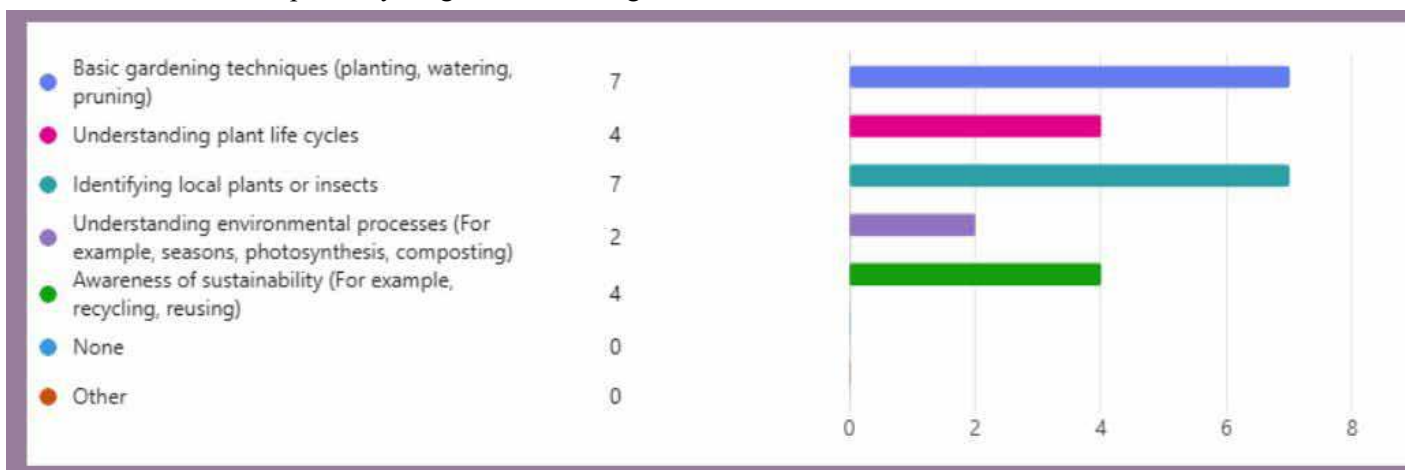


Figure 18: What new skills or knowledge, if any, do you feel your child has gained from the Gardening club?



is from seed or from a seedling, all the way up to the end, and harvesting towards the end works well. It keeps them engaged throughout the whole process. Popular games, but with a nature and educational twist also work well. We have created several bird and leaf memory games, things like Connect Four, but with predator prey concept, and we find that that works really well at engaging them.

What we found doesn't work well is instruction-heavy activities. So there have been a few craft activities, maybe that we have done that required quite a lot of steps and a little bit instruction heavy, and that seemed to lose their interest, and then also, kind of the opposite, activities without guidance. We have tried giving them a little bit more freedom, especially with crafts or with nature, and we find that they don't really explore or take an initiative on their own very well, so it needs to be not so heavy on the instructions, but also needs to have still some kind of guidance for them to be able to engage. Activities with no relevance to Gibraltar didn't really work well. We found that most of the engagement came from activities involving local flora and local wildlife as well, which was quite nice to see.

We would just like to say thank you for listening. We are also on Facebook and Instagram under Alameda Education, and @alamedaedugib. Please do not hesitate to reach out should you have any questions!

## Q&A

**Emily Bunce:** This has been an excellent presentation: it's so important to build pro-environmental values in the younger generation. I wondered if you have explored using humanities-subject based activities (e.g. art, drama, music)?

**A:** We present art and craft activities in gardening club and summer programme, e.g. pressed leaf frames for drawing favourite memories of the week.

We have produced Botanical Garden audio guides for adults in Spanish and English, and we are now developing audio guides for children with voice characters in both languages. We have been discussing ways music can be explored; e.g. using natural materials for instruments.

**St Helena Research Institute:** How do you find the best way is to engage with parents and teachers for feedback? Do you speak with them personally or use other methods such as questionnaires?

**A:** [Out of time: Response put into chat:] We use an online-based questionnaire via Microsoft forms. For teachers, at the end of the education tour, and during the kid's planned activity, we ask the teachers to scan a QR code and fill out the survey on site. For parents, we send them a link to the questionnaire via WhatsApp which is the preferred method of communication in Gibraltar. If you want to discuss further please feel free to send us an email: [eulloa@wildlife.gi](mailto:eulloa@wildlife.gi)/[bmaxwell@wildlife.gi](mailto:bmaxwell@wildlife.gi)

# From Wilderness to Stewardship: Empowering Communities for East Caicos' Conservation

Della Higgs (Turks and Caicos National Trust) & Louise Soanes (RSPB)



Della Higgs



Louise Soanes

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East Caicos is one of the largest remaining wilderness areas in the Caribbean UKOTs, boasting a vast and diverse mosaic of terrestrial and coastal habitats that sustain rare, threatened, and endemic species. East Caicos is also culturally important for local communities and is important in supporting local livelihoods. Despite its cultural, heritage and ecological significance, only 18% of the island is currently protected. This project aims to develop a locally driven, participatory resource management plan for East Caicos, fostering sustainable livelihoods and enhancing local capacity for effective stewardship. By engaging the community in decision-making, the project offers an alternative to unsustainable development, ensuring the preservation of the island's unique ecological and cultural heritage for future generations.

*Della Higgs (Turks and Caicos National Trust) & Louise Soanes (RSPB)*

This project seeks to safeguard East Caicos, the largest uninhabited island in the Caribbean UK territories from unplanned and unchecked development. The project aims to amplify the voices of local communities who have historically relied on, and continue to use, the island, while also encouraging the exploration of new nature-based opportunities. The goal is to reshape the narrative surrounding East Caicos – transitioning it from an undeveloped island waiting for development to an exceptional natural resource that offers sustainable economic opportunities for the islands of the Turks and Caicos and their people. This will be achieved through a combination of awareness-campaigns and public outreach and community and stakeholder engagement with the aim to understand better and document the cultural heritage and ecological values of East Caicos. Ultimately, this project will lead to the establishment of a community Conservation Area. This area will be recognised formally by the international Union for Conservation of Nature (IUCN) and managed by a council or committee drawn from local communities.

This initiative is particularly important because, although approximately 45% of the land area of the Turks and Caicos Islands is designated as a "Protected Area," such designations have often been imposed without input from the local communities most affected by them, resulting in a lack of legitimacy. By empowering the communities most directly impacted by the conservation

of East Caicos, the project aims to ensure that the future management of the island reflects their priorities and aspirations.

The focus of the project is to sustain East Caicos' natural ecosystems and wildlife while creating spaces for economic empowerment for residents of South, Middle and North Caicos, e.g. local entrepreneurs, fishers, cultural/immersive tour-guides, and education and research opportunities for locals.

The environment of East Caicos is an amazing place for nature. Below and overpage are just some of the more important creatures and features with whom we share this wonderful island. It is an important place for birds. Over 1,000 Flamingos were counted there in February 2024, one quarter of the TCI population.







There are only 11,000 Reddish Egrets (*bottom left*) in the world. They are really rare (though we don't think so here in TCI). They nest on East Caicos where we found almost 150 in January 2024. That's more than 1% of the world's population just on East Caicos



The limestone rock of TCI weathers easily into extensive cave systems. Many of these on East Caicos have been





visited rarely. Cave systems are home to troglodytic species – species which rarely, if ever, see the light of day. These often show adaptations to living in caves, such as losing their eyesight. The caves on East Caicos are an amazing resource and importantly, an attraction for visitors in the same way that Conch Bar Caves on Middle Caicos are. They could form an important part of an East Caicos World Heritage Site holding evidence of the earliest Caribbean peoples – the Lucayan and Taino peoples – who settled these islands.



Pool systems in caves are also a particular feature of East Caicos. These may not look as if they support much life, tucked away in the dark, but there are some species of shrimp and tiny fish (“pupfish”) found in caves elsewhere in TCI that are found nowhere else on earth. Others remain to be discovered, particularly in East Caicos caves which have been explored only rarely – an exciting prospect for the young TCI scientists of the future.



There are over 500 species of plants in TCI, and over half (so far) have been found on East Caicos. Of these, 11 are endemic to TCI (found nowhere else on earth). All 11 endemic plants of TCI are found on East Caicos.

We have just learned a little about the wildlife and natural environment of East Caicos. As the world changes and tourism becomes generic, the TCI have an opportunity to stand out, in both Caribbean and world tourism.

Studies have shown that people travel to experience differences. We have just learnt about the vast and unique wildlife that East Caicos offers; we know that most of the world has become urban spaces, leaving no room for nature. The aim of leaving this island in its natural state is to empower the people of TCI. East Caicos can attract high-end tourism; trained local guides can begin



to change the scope of tourism outside of the sun, sand, and sea narrative and demand fees that lead to upward mobility which will enhance the lives of the population.

For the most part, the island of Providenciales (Provo) has seen most of the development in the Turks and Caicos. All the major hotels and resorts are constructed on Provo, leading to the over-population of the island: now also dealing with crime and inadequate infrastructure to handle the influx of people and their needs. The people of the ‘out islands’ are left without access to jobs and modern infrastructure. The values communicated around the islands are the same for all TCI, a better way of life with access to resources that would sustain their way of life and access to upward mobility and education for their

descendants.

The Turks and Caicos Islands, steeped in slave and colonial history, is a space where the people have always depended on the environment to survive. This project made priority valuing the voices and local concerns and knowledge of the local communities. This included these immersive and interactive meetings and workshops. Our land and oceans have always provided for us – wildlife, guinea bird, fish, conch, lobster, our many varieties of fruit and vegetable, which provide sustenance and medicinal purposes for our people, still today. This was evident in these workshops and what was communicated by participants.



People listed some important values of East Caicos:

- salt industry
- the largest caves on the island were mined for bat guano during the 1880s; this was used as a fertilizer.
- paintings from Lucayan civilizations in the cave system.
- in the late 1880s, cattle-ranching was prominent on the island to source meat for the surrounding islands.

From these workshops and town meetings, we were able to construct a plan including the benefits of East Caicos to the surrounding community and begin to allow people to engage in life-changing opportunities that would help them to compete in this ever-changing world. This

brought to the forefront the history of economy in the Turks and Caicos. This contributed to a blueprint for the skills, initiatives and activities to equip the local communities.



We partnered with local schools to be a part of Career Day, where over 200 students were present to learn about East Caicos and the varied careers that can widen the scope of our tourism- and service-driven economy. In the Turks and Caicos, scientific research has always been largely externally recruited. We were able to give students access to careers which will broaden their horizons and encourage them to think about careers that they may think exist only outside of the Turks and Caicos. We hope this project has helped to achieve this and give our people access to think beyond service, sun, sand and sea,

## Q&A

**Roland Lines:** How has East Caicos escaped development so far?

**A:** There has been some development interest throughout years and there has been some political support for it but, because of location and difficulty of access, and wildlife and structure of East Caicos that would be destroyed, there has been stance against it. In the 2000s, a 20-ship cruise port proposal would have re-formed the whole island and destroyed the nature but it was not viewed as beneficial to local people. East Caicos is difficult to approach due to high coral reefs and inhospitable due to heat and mosquitoes.



# Community Voice Method - Building UKOT capacity in stakeholder engagement expertise

Amdeep Sanghera (The Marine Conservation Society, UK)



*Amdeep Sanghera*

Sanghera, A. 2025. Community Voice Method - Building UKOT capacity in stakeholder engagement expertise . pp 63-67 in *UKOTCF's 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states, 13th-16th October 2025 Proceedings* (ed. by M. Pienkowski, C. Wensink, A. Pienkowski, K. Bensusan, J. Peyton & B.N. Manco) UK Overseas Territories Conservation Forum, [www.ukotcf.org.uk](http://www.ukotcf.org.uk)

The Community Voice Method (CVM) is an innovative, research-based approach to fostering effective public consultation about important local issues. The Marine Conservation Society first used the CVM in 2009 in the Turks and Caicos Islands as part of a collaborative marine turtle project. In collaboration with other Caribbean UKOT governments, NGOs and communities, MCS have continued to employ this versatile, film-based approach to engage communities in developing holistic solutions towards marine-related issues. The methodology will be discussed along with the challenges and opportunities of its application, as well as the capacity building of UKOT departments in utilising this method to tackle their national priorities.

*Amdeep Sanghera (The Marine Conservation Society, UK)*

## Introduction

The Marine Conservation Society has been supporting Caribbean UK Overseas Territory partners in tackling their marine priorities for over 20 years. These can often be complex, multi-faceted issues which require interdisciplinary approaches. Through our collaborative initiatives, we have supported the Caribbean UK Overseas Territories through the provision of social science and stakeholder engagement support. This has primarily been delivered through the Community Voice Method (CVM), which is a research-based, documentary-film approach that aims to enable improved collective problem-solving. CVM does this through better situating natural-resource management-efforts through sensitive attention to the views, values, knowledges and histories of the communities in which stakeholder-engagement takes place.

## Justifications for developing and employing the CVM

CVM was developed by Dr Gabe Cumming and Dr Carla Norwood in 2004. It was borne out of frustrations regarding contemporary facilitation methods at the time. There were perceptions of conventional consultation methods lacking transparency: not facilitating or encouraging wider, inclusive participation; not promote reflective, inspiring and respectful dialogue; not inspiring positive perceptions of the consultation process and not attempting to build agency capacity to engage with stakeholders. These processes often led to inequitable

conservation solutions, and often undermined the solutions themselves. Therefore, Cumming and Norwood created the CVM to offer a better approach. The CVM always takes a values-based approach. This is important, as often peoples' values may be the key problem linked to environmental degradation. Values can also transcend the monetary categorisation they often get confined in, with people-environment values including spiritual, health and well-being, religious, sense of place, aesthetic and identity categorisations (not exhaustive). Values are frequently seen as 'too hard' to capture by practitioners; however, CVM provides a way to capture these values so they can be brought to the decision-making process. Also, when values are explored and discussed within group settings, it creates an openness and participants are in a better place to listen to others. In CVM settings, participants also discuss shared and plural values. This in itself generates positive dialogue, and shared values enable common ground to be established between participants even with those that may have differing or polarised views regarding the debate. Thus CVM can and has facilitated conflict resolution within natural resource management dialogue, cultivating a positive, solutions-focused ethos.

## The Community Voice Method Research Process

The CVM has a five-step research process including 1) Project Design, 2) Research, 3) Deliberation, 4) Reporting and 5) Action.



our UKOT partners. We employ purposive sampling at the initial stages (e.g. potential interviewees are contacted intentionally) and then use snowball-sampling (e.g. existing participants support recruitment of other participants among their acquaintances) to reach deeper into the community. Here is an example of an interview guide we employed as part of a collaborative turtle conservation project with Virgin Island partners. The survey works by starting with very broad questions that helps to get people relaxed and talking from the heart. This also helps to put the project focus within the local context, and it also highlights shared values among participants. As the interview progresses, it gets more focused on the issue at hand, with participants grounded and comfortable in the process.

## 1) Project Design

It is key that, at the initial Project Design stage, our UK Overseas Territory partners and communities are able to input fully into resources, including interview-guides, consent-forms and information-sheets. Ensuring the inclusion of our UKOT partners not only supports equitable processes, but also the project and its chances of success greatly increase through better understandings of local contexts and ensuring research aligns with local and national priorities. At this stage, it is important also to engage regulators on acknowledging stakeholder-views that will be generated by the CVM process.



## 2) Research

The CVM research stage has two components, the participant-filming and subsequent analysis stage. Concerning the participant-filming component, CVM involves reaching deep into a community and filming a cross-section of society discussing their values, knowledge, opinions and ambitions regarding the topic at hand. We aim for 30 film- interviewees and ensure the sample is gender representative and socially inclusive, supported by a stakeholder-mapping process led by



The second component is the data-analysis of this film-footage. The film-footage is treated as data, and interviewee-comments are transcribed, themed, coded and analysed using the qualitative data-package NVivo. We look for the most common themes discussed, and the many view-points on either side of the themes. The film-edit reflects also the range of views using the most eloquent expression, as we want people to enjoy the film and to also highlight the characters of the film-interviewees. Importantly, the film is not made to tell people what to think; rather it shows a broad range of community-views regarding a topic; this helps to create research-credibility, and stimulates thought and discussion during the workshop-screenings.

## 3) Deliberation

Once the film is informed and endorsed by our UKOT partners, we then screen the film at a series of workshops to support wider societal deliberation and input on the issue at hand. The workshops generally start with the sharing of information from the other project-specific disciplines, such as the biological research-findings and local management-contexts. This is supplemented also by relevant regional information (e.g. species-trends, IUCN Red List categorisation) that equip the workshop participants with the necessary information to support decision-making while helping to contextualise the film.



### 3 Deliberation



Peter Richardson

The CVM film is then shown to workshop-participants, highlighting the diversity of viewpoints concerning the issue at hand, with Q&A sessions enabling participants to share thoughts and questions. The workshop then shifts to the deliberation-stage, with the film stimulating

discussion. Participants are allocated to break-out groups and collectively provide input on questions that can range from specific (e.g. Do you think we need an open/closed season for sea turtles? If so, when would this be?) to broad (e.g. What is your vision for [island name]). Importantly, these break-out groups are generally facilitated by regulators and local authorities – which supports acknowledgement of community-views and can support relationship-building between the two entities.

#### 4) Reporting

There is no set way to report on the CVM, and it is heavily dependent on the focus of the project. With our UKOT projects, a common approach is that the community-feedback generated by the deliberative workshops is treated as data and is analysed qualitatively. The findings from the workshop-analysis are then considered thoroughly alongside the project's biological data, and a report including a set of draft recommendations is created by all partners that seek best to align conservation and community priorities. The draft set of recommendations is then presented to a small subset of key stakeholders for their final

### 4 Reporting



**East Caicos  
Wilderness Area:  
Protecting the  
Caribbean's largest  
uninhabited island**  
Community Voice Method  
Workshop Report

July 2025  
Anand Singh  
UKOT Conservation  
Manager



#### SHARKS AND RAYS IN ANGUILLA: LISTENING TO COMMUNITY VOICES

#### WORKSHOP RESULTS

##### WHAT DO PEOPLE VALUE ABOUT THE COAST AND SEA IN ANGUILLA?

- The sea is essential
- The sea is a place of recreation
- The sea is for transport and moving
- The sea is a place where Anguillians work
- The sea is open and free with no borders
- The sea is a source of food and medicine
- Many Anguillians rely on the sea for their jobs in fishing and tourism
- The sea is good for physical health
- The sea belongs to the people of Anguilla
- The coast and sea are important places for swimming
- Anguillians are connected with the sea
- The sea is something we can pass down to future generations

##### WAS THERE SOMETHING IN THE FILM YOU AGREED WITH?

- MANAGEMENT IS NEEDED**  
While there was very little appetite for a ban on catching sharks and rays, participants felt some acknowledgement is needed for sharks and rays. There is a need for data and clear decision-making.
- IT IS IMPORTANT TO LISTEN TO EVERYONE'S OPINION**  
Participants liked that the film gave people with different perspectives the chance to share their views. It was interesting to hear a variety of views, and where participants disagreed with opinion, they understood people's perspectives.
- ANGUILLA NEEDS A PLAN FOR SHARK AND RAY FISHERY IN THE FUTURE**  
It was felt that we need a plan for the future of sharks and rays in the future. We need a way forward that works for all stakeholders.

##### DID YOU HEAR A NEW POINT OF VIEW?

- SHARKS AND RAYS ARE IMPORTANT FOR OUR OCEANS**  
Some participants shared valuable information about sharks and rays for the local economy. They also shared how the workshop was a good first step in the importance of sharks and rays.
- SHARKS ARE NOT AS SCARY AS THEY SEEM**  
Some participants shared that they were not as scared of sharks as they thought. Although it is important to be aware of sharks, they are not as scary as they seem.
- FISHING IS AN IMPORTANT PART OF ANGUILLIAN CULTURE**  
Anguillians have a long history of fishing and it is an important part of their culture.

Dr Peter Richardson

# 5 Action



## A Marine Turtle Action Plan for Montserrat

2023 - 2028



Dr Peter Richardson

feedback. Having incorporated any minor changes, the recommendations are then finalised and presented by the project-team to the relevant UK Overseas Territory environment minister.

### 5) Action

This final Action stage is essentially the practical delivery of the solution once the relevant UKOT ministers and departments have informed, endorsed and/or enacted any resulting action-plans or new legislation. Examples of this action include the enactment of updated turtle-fishery regulations for the Turks and Caicos Islands Fisheries Protection Ordinance, and more recently a new Marine Turtle Action Plan for Montserrat.

### Challenges of CVM

- CVM is a labour-intensive method and requires human and financial resources
- CVM requires also a level of social-science training and understanding in practitioners, and this can be a barrier when working with project-partners that are

trained in a different discipline

- CVM required also a time-commitment from participants to take part in the filming process (between 60-90 minutes) as well as the workshops (approximately 3 hours).

### Benefits of CVM

- Derived from a 14-year participant evaluation of CVM implementation (Cumming *et al.* 2022), the process was found to be:
  - o Trustworthy
  - o Representative – with a range of voices considered, including marginalised voices
  - o Relevant
  - o Productive – through developing solutions.
- CVM supports accessible research dissemination through the format of film, and can overcome certain literacy barriers that may exist.
- CVM supports documentation of local ecological knowledge in the words of the knowledge-holders



- CVM can support conservation impact, with the perceived recovery of Turks and Caicos Islands' nesting turtle populations being attributed towards increased fisher compliance with the updated regulations.

## UK Overseas Territory CVM capacity-building

Having seen the success of the Community Voice Method in the Turks and Caicos, the TCI Government's Department of Environment and Coastal Resources has requested The Marine Conservation Society to train five staff members in the consultation-method. Funding has been generously provided by the John Ellerman Foundation, and is now supporting the delivery of a three-year capacity-building programme that is being led by DECR's needs, availability and interests. The anticipated outcome is to support DECR in developing skills and overall competencies so that its own personnel themselves can implement CVM to tackle their environmental priorities.

This CVM capacity-building programme will involve also DECR and MCS staff working collectively to tackle one of their marine priorities – to support improved stakeholder-understanding and acceptance of TCI's marine parks, contributing to enhanced compliance and recovery of sites. The project-team will deliver CVM film-interviews of at least 30 people, at least eight CVM film-screening workshops, with the key output being draft policy-recommendations provided to the TCI Government to support improved, better-accepted marine-park management.

You can find out more about the Community Voice Method below.

Thank you to all the UK Overseas Territory partners,



## Improved compliance and enforcement

*"Before the new turtle laws came in, fishermen would catch large turtles."*

*"But with the new regulations, that doesn't happen no more. People understand you have to protect the breeders."*

**Tommy Phillips, TCI Fisheries Enforcement Officer**

communities and funders that have made this work possible. Thank you for listening.

## References

Cumming, G., Campbell, L., Norwood, C. *et al.* (2022) Putting stakeholder engagement in its place: how situating public participation in community improves natural resource management outcomes. *GeoJournal* 87 (Suppl 2), 209–221. <https://doi.org/10.1007/s10708-020-10367-1>

## Q&A

**Helena Bennett:** It can be used for development of legislation?

**A:** Yes it has been successful; it brings typically under-represented voices to the table and encourages both easier management and compliance.

**Helena Bennett:** It really does seem a very useful mechanism for driving consensus and making all feel included. Do you think it would work in any situation?

**A:** Duke University has used CMV for land-use management. Ours was the first time CMV was used for turtles in TCI/BVI but it is now used more globally. It is potentially good for complex socioecological issues.

**Dr Della Higgs** adds: It gives voice to the voiceless in very marginalized communities surrounding East Caicos. **Louise Soanes** adds: In Anguilla, CVM is a useful tool – but for influencing policy we would also combine with ecological and biological data – all aspects from social to ecological need to be considered, and CVM is a good way to capture the social side.

Community Voice Method

Community Voice Method Explained

[www.mcsuk.org/ocean-emergency/people-and-the-sea/community-voice-method](https://www.mcsuk.org/ocean-emergency/people-and-the-sea/community-voice-method)

# Healing Landscapes: Community, Culture and Conservation in Montserrat's Botanical Heritage

Virginie Chris Sealys<sup>1</sup>, Catherine Wensink<sup>2</sup>, Dr. Jodey Peyton<sup>2</sup> & Dr. Sophie Meeus<sup>3</sup> (1. Montserrat National Trust, 2. UK Overseas Territories Conservation Forum (UKOTCF), 3. Meise Botanic Garden, Belgium)



Chris Sealys



Catherine Wensink



Dr Jodey Peyton



Dr Sofie Meeus

Sealys, C.<sup>1</sup>, Wensink, C.<sup>2</sup>, Peyton, J.<sup>2</sup> & Meeus, S.<sup>3</sup> 2025. Healing Landscapes: Community, Culture and Conservation in Montserrat's Botanical Heritage. pp 68-74 in *UKOTCF's 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states, 13th-16th October 2025 Proceedings* (ed. by M. Pienkowski, C. Wensink, A. Pienkowski, K. Bensusan, J. Peyton & B.N. Manco) UK Overseas Territories Conservation Forum, [www.ukotcf.org.uk](http://www.ukotcf.org.uk)

Montserrat, a small volcanic island in the Caribbean, possesses a rich and resilient ecological and cultural heritage, shaped by its biodiversity and the deep-rooted relationships between people and plants. This presentation explores how several recent projects, including the UK Research Institute funded project *Hidden Histories* and two UK Government-supported projects *Adopt a Home for Wildlife (DPLUS155)* and *Toolkit (DPLUS192)*, have contributed to documenting, preserving, and revitalising traditional ecological knowledge and biodiversity, with an emphasis on medicinal plants and community engagement.

The *Hidden Histories* project focused on recovering and sharing the oral histories related to 15 locally significant medicinal plants. Through interviews with elders and local knowledge-holders, the project captured stories, preparation methods, and cultural contexts surrounding the traditional use of these plants. Activities included a first island 'bioblitz', introducing the use of iNaturalist and some preliminary work towards an on-island herbarium. The initiative culminated in a publication that not only documented this knowledge but also helped to foster a renewed sense of cultural pride and intergenerational knowledge exchange. The participatory nature of this work highlighted the importance of community-led research in the stewardship of intangible cultural heritage.

Building on this foundation, the *DPLUS192* project, called the *Biodiversity and Well-being Toolkit for Montserrat*, extended the scope and impact of this work. This initiative aimed to integrate biodiversity conservation with public well-being by developing accessible resources and tools for both policy-makers and the wider public (including iNaturalist and Flower to Insect Timed Counts). Central to this was the establishment of Montserrat's first on-island herbarium, a vital infrastructure for long-term botanical research, conservation, and education. The herbarium included both physical specimens and a digital archive, enhancing access for researchers and community members alike.

Publications produced through *DPLUS192* included a guide to local grasses and an expanded, second-edition booklet featuring 30 medicinal plants, reflecting updated research and community input with illustrations from a botanic illustrator. A key feature of this project was a public consultation process to co-develop the biodiversity and well-being toolkit. This involved a cross-section of stakeholders to ensure the toolkit was relevant, grounded, and usable across different sectors.

A youth programme was also integrated into *DPLUS192*, providing training and engagement opportunities for young Montserratians. This helped to build local capacity and interest in conservation, ethnobotany, and heritage preservation, ensuring the continuity of this important work across generations.

Together, this work demonstrates how the integration of traditional knowledge with contemporary conservation practice can support both ecological sustainability and community well-being. It highlights also the importance of



participatory research, intergenerational dialogue, and the development of locally relevant tools and infrastructure. This talk will share insights, challenges, and outcomes from both projects, and offer reflections on how similar models might inform future biodiversity and heritage initiatives in other small islands.

*Virginie Chris Sealys<sup>1</sup>, Catherine Wensink<sup>2</sup>, Dr. Jodey Peyton<sup>2</sup> & Dr. Sophie Meeus<sup>3</sup>*

*1. Montserrat National Trust, 2. UK Overseas Territories Conservation Forum (UKOTCF), 3. Meise Botanic Garden, Belgium*

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## Introduction

This paper presents a collaborative narrative from three intertwined projects conducted in Montserrat, a UK Overseas Territory in the Lesser Antilles. These initiatives focus on building conservation capacity, reviving cultural and botanical heritage, and empowering youth and community engagement through innovative partnerships. By integrating traditional knowledge, scientific data, and digital tools, these projects aim to create a resilient future for Montserrat's biodiversity and the people who steward it.

Montserrat is a small island rich in biodiversity and cultural heritage. Yet, it faces growing threats from climate-change, habitat-loss, and the legacy of natural disasters such as the Soufrière Hills volcanic eruption. In this context, three complementary projects – Darwin Plus DPLUS155; Hidden Histories: Blue Iguana to Blue Vervain; and Darwin Plus DPLUS192 – were implemented to promote conservation through community-led approaches, cultural heritage, and capacity building.

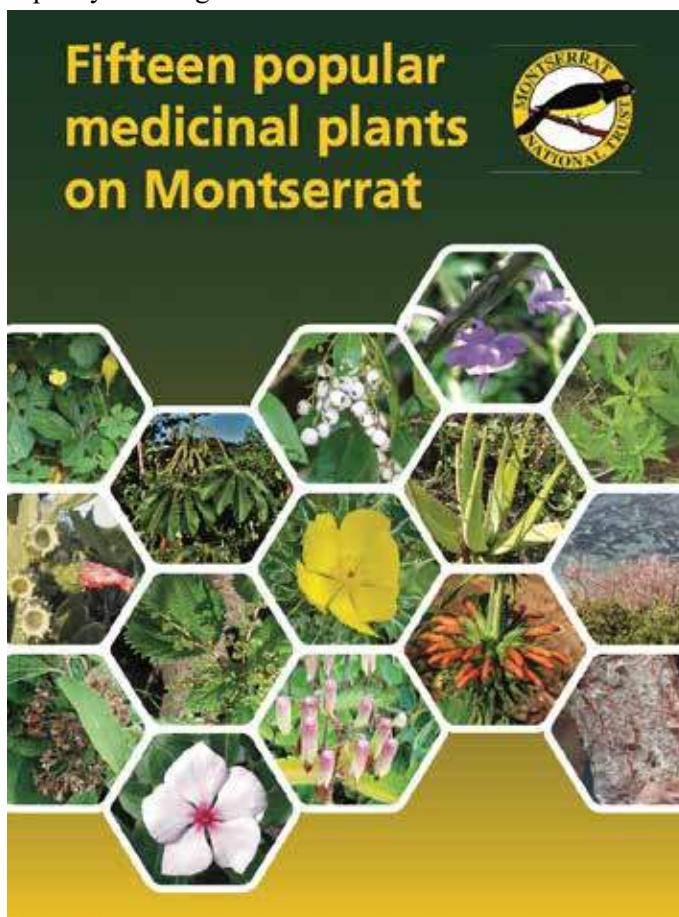


*Above: Bitter Ash illustrated by Lizzie Harper.*



*Left: Harvesting sustainability: A Montserrat garden thrives growing fresh local food and nurturing community resilience; an example of what can be achieved and highlighted in the biodiversity and well-being toolkit project (DPLUS192).*

*Below: Blackwood Allen Trail in the forested hills*



*Booklet produced by the projects*







*A collage of images from the DPLUS155 project, including community-events, radio-shows, advice-infographics, collections on invertebrates and some of the activities involving the kids' club Monty's Messengers.*

Led by UKOTCF, Montserrat National Trust (MNT), the UK Centre for Ecology and Hydrology (UKCEH) and Meise Botanic Garden, these efforts explored the connections between people, place and plants. The projects worked to elevate under-represented voices, digitise natural heritage, and strengthen local infrastructure for long-term conservation.

### **Darwin Plus DPLUS155: Botanical Heritage and Biodiversity in Action**

The Darwin Plus DPLUS155 project focused on the conservation of Montserrat's unique biodiversity – especially endangered native plant species and fragile habitats. It was grounded in a people-centred approach, empowering the Montserrat community through initiatives such as:

- Development of a botanical garden and native plant nursery
- Training in horticulture and propagation techniques
- Revitalisation of the “Monty Messengers”
- Weekly heritage radio-segments on local environmental topics
- Creation of an insect checklist for the island.

These efforts directly strengthened the institutional capacity of the Montserrat National Trust, while inspiring a new generation of environmental stewards.

### **Hidden Histories: Blue Iguana to Blue Vervain**

Led by Dr Jodey Peyton, then at UKCEH, and funded by the UK Arts & Humanities Research Council and Natural Environment Research Council, this interdisciplinary project explored the untold connections between environment, culture, and colonial legacy across Montserrat and the Cayman Islands.

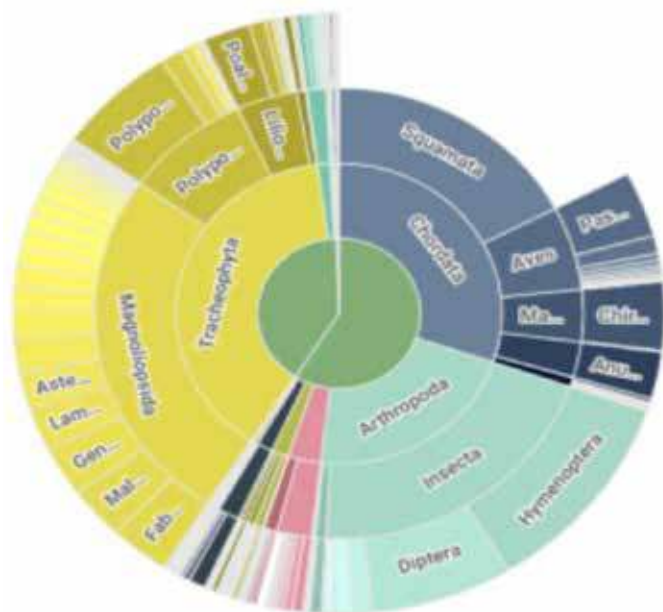
Three key research questions guided the Montserrat case-study:

1. What is the role of colonialism in shaping young people's perceptions of plants known locally as “bush” or medicinal herbs?
2. How has colonial history influenced conservation values and approaches, particularly for endemic species like the Cayman Blue Iguana?
3. How are specimens and knowledge from UK Overseas Territories represented and shared in global museum collections – and how can this be made more equitable?





Above: Museum Display  
Below: Records of Montserrat on GBIF



In Montserrat, youth were trained in oral history techniques and interviewed elders about traditional plant-use, resulting in the first locally produced booklet on medicinal plants. This initiative not only revived important cultural knowledge, but also built intergenerational understanding and a foundation for future research.

### Herbarium Development and Digitisation

Chris Sealys, Senior Conservation Officer at MNT, led the development of Montserrat's national herbarium through the "Biodiversity and Well-being toolkit project" or DPLUS192. Historically based in the old botanical



Oral history training being used in practice

station in Plymouth, the collection was partially lost due to volcanic activity. Surviving specimens have been documented, supplemented by new island-wide collections, and housed in pest-controlled, curated storage at the Montserrat National Trust.

This herbarium now serves as a permanent scientific archive, supporting:

- Environmental impact assessments (EIAs)
- Protected area planning and management
- Biosecurity and species-monitoring
- Post-disaster ecological tracking

A grant from the International Plant Taxonomy Association (IPTA) and support from Darwin Plus enhanced curation, infrastructure, and training. The herbarium is now recognised globally and listed in the Index Herbarium, integrated into the UKOTs Initiative, and a member of Botanic Gardens Conservation International (BGCI).

### Youth Engagement and Community Empowerment

Youth engagement has been a defining theme of MNT's





Viciplanche - Anthophyta - Piperaceae  
**Piper aequale Vahl**  
 Locality: Montserrat, MONTSERRAT, Montserrat, Montserrat, Centre Hills,  
 Jack Boy Hill; Jack Boy Hill.  
 Habitat: Mesc forest, with Sloanea dentata, S. masonii, palms, Heliconia,  
 Philodendron, Loam  
 Remarks: Erect herb 2m high. Plant glabrous, leaves shiny.  
 Lat.: 16.763161 Leg.: G. James, Thomas M. Heller, J.  
 Lon.: 62.181439 Greenway, 2014-09-10  
 Alt.: 522m Det.: Thomas M. Heller



*New cabinet for herbarium*

*Training events, a view of the digital herbarium and images of the trip to Meise Botanic Garden.*

- International school-exchanges (e.g. with the Isle of Man)
- Youth-led panel discussions on social media, mental health, and the environment.

These initiatives fostered curiosity, confidence, and a lasting interest in biodiversity, creating future

*Below: collection of images from the young persons programme of activities as part of DPLUS192, including the Higher Education Evening held at the National Community Centre.*

work. Through support from Darwin Plus DPLUS192 project and visiting partners, MNT has delivered dynamic programmes, including:

- “Monty’s Messengers” and “Monty’s Ambassadors” for primary and secondary students
- ‘Bioblitz’ events using apps like iNaturalist for real-time biodiversity-tracking
- Tree-planting initiatives at local schools
- Higher-education evenings, focused on conservation careers





environmental leaders rooted in their cultural heritage.

## Digitisation and Data Sharing for Global Impact

Dr Sophie Meeus, together with colleague Dr Quentin Groom, from Meise Botanic Garden, supported the digitisation of Montserrat's herbarium and provided an exchange for Mr Sealys in 2024 in combination with a visit to the Royal Botanic Gardens Kew (RBGK); a long-term supporter of botanical work on Montserrat. The PlutoF digital collection management system (a free, secure platform) was implemented, allowing:

- Remote access to specimen data
- Integration of historical collections (e.g. R.A. Howard's 1979 collection, rescued from Plymouth)
- Subcollection browsing across local and international datasets.

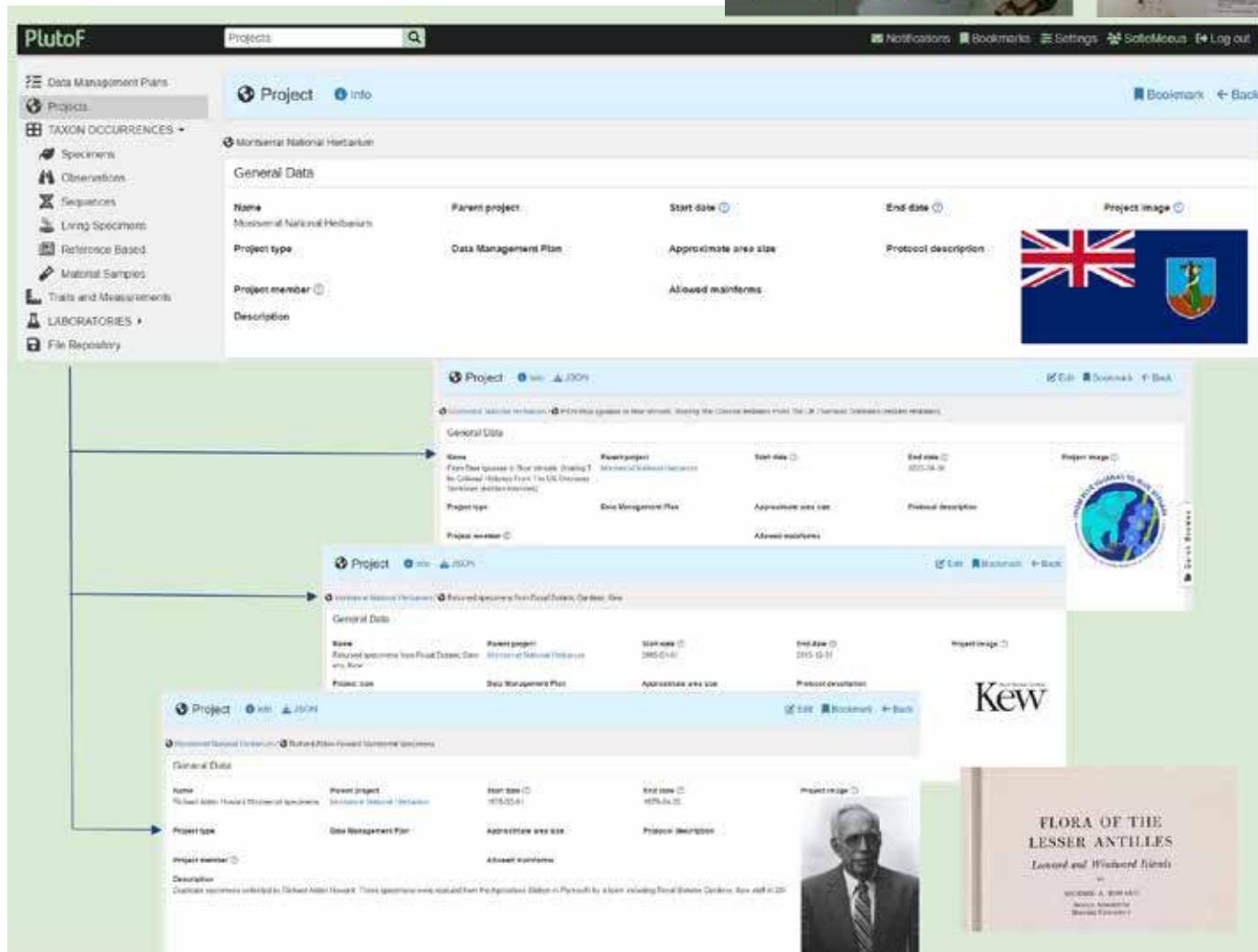
The herbarium data, combined with iNaturalist records, now feeds into the Global Biodiversity Information Facility (GBIF), making Montserrat's biodiversity visible and usable for global research and conservation planning.

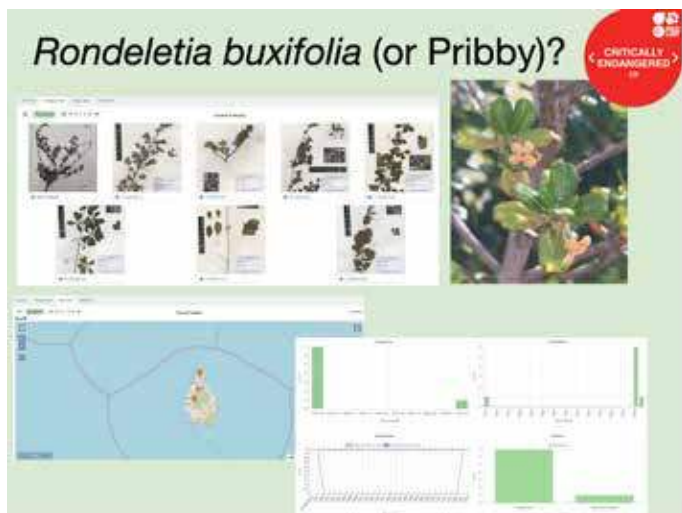
Additionally, the team is developing a GBIF-hosted biodiversity portal for

*Above: the herbarium cabinet, collections of plants on Montserrat and making these digital.*

*Right: Sofie Meeus of Meise Botanic Gardens working with Chris Sealys on the herbarium collection.*

*Below: a snapshot of the digital herbarium.*





*Uses of the digital herbarium and online open data including Red List Assessments.*



*Working towards a Global Biodiversity Information Facility data portal for Montserrat; a glimpse of what this will look like.*

Montserrat, aggregating data from field observations, digitised collections, and historic archives in one open-access platform.

## Conclusion

Together, these projects represent a holistic approach to conservation – one that honours cultural heritage, builds local capacity, empowers young people, and harnesses digital innovation. By healing landscapes and reconnecting communities to their environment, Montserrat is not only safeguarding its biodiversity, but also reclaiming narratives and creating new opportunities for resilience and sustainability.

These efforts demonstrate the power of partnership, and how conservation – when community-driven and culturally informed – can truly transform landscapes and lives.

## Q&A

**Nancy Pascoe:** What was the most challenging part of this project and how did you overcome it?

**A:** The biggest challenge is getting all participants on a time-schedule due to small population and multiple responsibilities around the island. We mitigate this problem by showing that any buy-in on the island improves outcomes and is for betterment of the country and self as a whole. We make the participating persons part of the decision-making process. We went through the island and asked: what they want to see; what they see as challenges; and ask for their ideas. The consultation impacted the direction of the project.



# Tackling plastic pollution across the UKOTs and working towards an inclusive UN Global Plastics Treaty

Jessica Vagg (Zoological Society of London. The South Atlantic Plastics Project was delivered in partnership by Ascension Island Government, St Helena National Trust, St Helena Government, and the Zoological Society of London)



Jessica Vagg

Vagg, J. 2025. Tackling plastic pollution across the UKOTs and working towards an inclusive UN Global Plastics Treaty. pp 75-77 in *UKOTCF's 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states, 13th-16th October 2025 Proceedings* (ed. by M. Pienkowski, C. Wensink, A. Pienkowski, K. Bensusan, J. Peyton & B.N. Manco) UK Overseas Territories Conservation Forum, [www.ukotcf.org.uk](http://www.ukotcf.org.uk)

The South Atlantic Plastics Project (2022-2025) worked across St Helena and Ascension Island to tackle plastic pollution from both international sources and local leakage into the environment. The project worked with the community to co-design and pilot locally appropriate interventions, to protect their natural environment, support healthier oceans, and safeguard key wildlife species.

*Jessica Vagg (Marine Projects Manager, Zoological Society of London. The South Atlantic Plastics Project was delivered in partnership by Ascension Island Government, St Helena National Trust, St Helena Government, and the Zoological Society of London) [jessica.vagg@zsl.org](mailto:jessica.vagg@zsl.org)*

## Introduction

This presentation shares the outcomes of the South Atlantic Plastics Project and the continuing work of the UK Overseas Territories (UKOTs) and Crown Dependencies (CDs) Plastic Pollution Network. The presentation highlights how island communities are experiencing disproportionate impacts of plastic pollution, the steps being taken to amplify their voices within the UN Global Plastics Treaty negotiations, and the need for greater collaboration and capacity building.

## The South Atlantic Plastics Project

The South Atlantic Plastics Project aimed to address the escalating issue of plastic pollution across the UKOTs.

The project aimed to address both plastic arriving from extrinsic sources, and that leaking into the environment from the islands. It aimed to trial and implement interventions that would benefit and empower communities to take action to protect their environment and benefit the ocean and key wildlife species by 2025. It aimed to create conditions for islanders to reduce the reliance on Single-Use Plastics (SUP); build and implement inclusive locally-developed strategies with communities to reduce plastic litter and improve associated waste management efficiency, across both islands.

The project had 4 outputs:

- Improve our understanding of importation, use and waste disposal of SUPs
- Investigate the impacts of plastic pollution on the marine environments of both islands
- Co-create socially and economically feasible solutions to improve management of SUPs
- Explore the scope to establish a network that can share learnings and best practices across UKOTs and CDs

The project delivered the above outputs across Ascension Island and St Helena, each contributing to the reduction of marine plastic pollution and working collaboratively with local actors. Output 1 focused on consolidating systems for quantifying and reducing plastic waste through extensive community-engagement, actor-mapping, and tailored diagnostics. This led to the development of locally validated interventions and a comprehensive system-map for Ascension. Output 2 involved piloting interventions in St Helena, including a bin infrastructure experiment, feasibility studies and product trials for sustainable alternatives to single-use plastics (SUPs), and educational outreach in schools. These efforts informed policy-recommendations, some of which have already been adopted by the St Helena Government. Output 3 centered on understanding the characteristics and sources of plastic pollution and its

impacts on wildlife. Shoreline and species monitoring revealed pollution pathways and hotspots, with findings now feeding into updated conservation management-plans and informing future mitigation-strategies.

The remainder of this presentation will focus on Output 4, which explores opportunities for international collaboration and scaling solutions to reduce marine plastic pollution across other UK Overseas Territories.

Output 4 was centered around exploring scope for the creation of a UKOTs and CDs Plastic Pollution Network, designed to connect representatives across the territories. Members of the network include representatives from Ascension Island, Anguilla, Bermuda, the Cayman Islands, the Falklands, Guernsey, Isle of Man, Jersey, Montserrat, St Helena, Tristan da Cunha, and several others. This network has become a platform for dialogue, collaboration, and collective campaigning.

### **Building the Network**

The first workshop was held in April 2023, marking the beginning of a wider scoping exercise to establish the network. Separate from the network, ZSL also attended the second Intergovernmental Negotiating Committee (INC-2) session of the UN Global Plastic Treaty in Paris later that year. There, the absence of UKOT and CD representation was identified, reinforcing the importance of ensuring these communities have a seat at the table. In response, ZSL partnered with Fauna & Flora and IUCN to advocate for stronger representation. Through these efforts, DEFRA's negotiation team began engaging with the Network and attended its meetings in October 2023, September 2024, and March 2025.

### **Summary of the network meetings and building the network**

#### ***April 2023***

The objective of the first UKOTs Plastic Pollution Network call was to establish connections and discuss priority-areas to tackle as a group. The project-team intentionally avoided pre-defining the goals and structure of the group, and instead used this first session to surface and explore the needs of the UKOTs, and inform the future remit. The Ascension Island Government presented at this meeting on project-activities underway at the time, including wildlife-impact studies. The key points discussed included:

- The current plastic pollution challenges faced across the UKOTs.
- Solutions and interventions are being trialled and implemented, and how we might scale and replicate these across UKOTs for the benefit of wildlife and local communities.
- How the UKOTs are integrating into global agendas

to combat plastic pollution;

- If and how it would be useful to build a UKOTs plastic pollution network, to help facilitate these discussions on a regular basis going forward.

#### ***October 2023***

AIG chaired this meeting and presented on further project activity progress. Based on feedback from the attendees of the first call and the timely significance of the UN Global Plastic Treaty, a key aim of the second call was to discuss local and international plastic pollution policy and legislation. The key points discussed included:

- Barriers and opportunities for co-designing, implementing, and monitoring local plastics policy.
- International plastics policy, namely the UN Global Plastics Treaty, where we heard from DEFRA's lead negotiator, Julius Percy, on progress to date, followed by an open Q&A to understand how these territories can be better represented in the process.

#### ***September 2024***

The third meeting of the Network focused on delivering project progress updates to the group and providing a platform for plastic intervention updates from other members. Defra's lead negotiation team provided an update on the UK's input into the UN Plastic Pollution Treaty in the lead-up to the round of negotiations held in South Korea in November 2024, with an opportunity for participants to ask questions and provide feedback. AIG was present as an attendee and contributed to discussions.

#### ***March 2025***

The final meeting of the Network within the project timeframe focused on delivering project progress updates to the group and finalising the group's Terms of Reference document. AIG was present as an attendee and contributed to discussions.

As the Network's Terms of Reference document was developed and signed off within the project timeframe, there is now certainty that the Network will continue beyond the project's lifespan as an important legacy. One key aspect of the Terms of Reference agreed to by the Network was that the role of Chair would be voluntary and rotate on a yearly basis, with the intention of fostering ownership of the Network and its activities within the UKOTs and CDs.

### **The UN Global Plastics Treaty**

The UN Global Plastics Treaty, initiated in March 2022 at the UN Environment Assembly with the support of 175 nations, is intended to establish a legally binding international framework to combat plastic pollution. While this represents a major milestone, challenges remain, particularly for remote island communities. Many territories face limited economies of scale for



waste-management solutions, and plastics often wash up from distant sources such as shipping lanes. Coastal communities are more than ten times as likely to experience plastic accumulation than inland regions, and this pollution severely impacts vital industries like tourism and fisheries.

### **Feedback from network consultation on barriers to engaging with policy**

#### ***Challenges faced by local communities re: plastic pollution***

- Limited economies of scale for solutions.
- Plastics washing up from elsewhere (eg shipping lanes); coastal communities >10 higher risk than inland of accumulated plastic pollution.
- Plastic pollution impacts tourism and fisheries sectors.
- National governments propose commitments but not fulfilled.

#### ***Challenges faced by local communities re: engaging in UN Global Plastics Treaty***

- Disconnect between community and national level dialogues.
- Limited representation at higher level, eg UK representing UKOTs and CDs.
- Sub-national authorities unclear of their remit.
- Visas / funding limit attendance at meetings
- Feeling of powerlessness - feel pressured by industry
- Inexperienced in engaging with policy
- Lack of awareness / understanding of issue.

### **Lessons Learnt**

Despite these challenges, the Network has already proven its value. There is a clear demand for it to act as a collaborative space where territories can share experiences and strategies, as well as campaign together on shared concerns. While the Network has created a pathway into the UN Global Plastics Treaty discussions, there is still significant work to do to strengthen representation. Building capacity and sharing knowledge are essential to enable communities to engage fully in treaty processes and to ensure that solutions are locally appropriate. Importantly, the needs of the UKOTs and CDs differ from those of mainland UK, and these differences must be taken into account in the treaty's design and implementation.

### **Next Steps**

Looking ahead, the final round of negotiations in Geneva in August focused on defining the treaty's scope and

ambition, with particular attention given to measures around plastic production, chemicals of concern, and the design of financial and implementation mechanisms. Although the South Atlantic Plastics Project has now concluded, the Plastic Pollution Network will continue to operate under its agreed terms of reference. The hope is that the Network will play a key role in engaging with the next stages of the treaty once the final commitments are confirmed.

### **Contact**

For more information or to explore opportunities for collaboration, Jessica Vagg can be contacted at [jessica.vagg@zsl.org](mailto:jessica.vagg@zsl.org)

### **Q&A**

**Helena Bennett:** How will this develop?

**A:** All partners have agreed to keep network up and running and put forward voices heard in plastics treaties in UK and UN.

# Managing the effects of Human Impacts on our marine environment

Leeann Henry (St Helena Government)

Henry, L. 2025. Managing the effects of Human Impacts on our marine environment. pp 78-79 in *UKOTCF's 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states, 13th-16th October 2025 Proceedings* (ed. by M. Pienkowski, C. Wensink, A. Pienkowski, K. Bensusan, J. Peyton & B.N. Manco) UK Overseas Territories Conservation Forum, [www.ukotcf.org.uk](http://www.ukotcf.org.uk)

St Helena Island is a remote British territory in the South Atlantic Ocean protected for many years by its geographical isolation and access limitations. In 2017 access to the island changed when its airport became operational. The Island's future depends on financial sustainability, and marine tourism is an area of obvious growth as the marine environment is the island's most valued asset. St Helena boasts a sustainable-use Marine Protected Area. The provision therefore of high-quality, environmentally-friendly marine tourism and marine-life interaction activities within the MPA is at the forefront of development. St Helena has introduced and is now operating a marine-tour-operator-led marine accreditation, licensing, reporting and monitoring system. The 10-year evolution of this system was not without hardship but the results thus far have been positive overall. This system ensures the necessary measures proactively to protect this valuable asset and acknowledges and mitigates the damaging effects such activities can have on the marine environment without management.

Leeann Henry, St Helena Government, [Leeann.Henry@sainthelena.gov.sh](mailto:Leeann.Henry@sainthelena.gov.sh)

## Introduction

St Helena, a 47-square-mile British territory in the South Atlantic Ocean, has historically benefited from geographical isolation and limited access, which have contributed to the protection of its marine environment. In 2017, the opening of the airport changed accessibility, increasing the potential for tourism. Developing sustainable, nature-based marine tourism is now key to the island's economic and environmental future.

## Methods

Prior to 2014, no formal policies or guidelines existed for marine tourism. Whale-shark aggregations became a catalyst for structured management, with local populations and tour-operators playing a central role.

**Stakeholder-led Management:** Local tour-operators developed voluntary guidelines on interaction-distances, time-limits, and daily visitor-caps, which were later formalised under legislation in 2023.

**Policy Development:** Stakeholders were engaged from the outset to identify issues, discuss options, review examples from other regions, and provide feedback for adaptive policy-design.

**Training and Compliance:** The government provides free training, assessment, and certification for operators, ensuring compliance with regulations and promoting

environmental stewardship.

## Results

### ***Goal 1 – Regulate Marine Tourism While Supporting Economic Growth***

Stakeholder involvement ensures practical solutions that balance conservation and tourism.

Regular reviews allow policies to adapt to changing conditions.

### ***Goal 2 – Encourage Compliance Among Stakeholders***

Operators must undergo certification, renewed every two years, supported by legislation.

With funding from the UK Government's Blue Belt Programme, accredited operators receive:

- Waterproof pocket guides;
- Accreditation stickers for vessels;
- Client-facing materials (posters, leaflets);
- Branded caps for staff.

## **Policy and Legislation Framework**

St Helena now has a comprehensive suite of regulations and policies to support sustainable marine tourism:



Environmental Protection Ordinance, 2021

Marine Regulations (Tourism and Interaction with Marine Life), 2023

Marine Tourism Policy

Species Interaction Policy

Environmental Accreditation Certification for Marine Tour Operators.

## **Future Directions**

Next steps include:

- Licensing and monitoring through a dedicated Marine Tour-Operator reporting app.
- Continued support from the Darwin Initiative, Blue Belt Programme, and Marine Management Organisation.

## **Acknowledgments**

The author acknowledges local tour-operators, stakeholders, and funding partners, including the Darwin Initiative, UK Government's Blue Belt Programme, Marine Management Organisation and St Helena Government Statistics Office.

## **Contact Information**

For further information: [Leeann.Henry@sainthelena.gov.sh](mailto:Leeann.Henry@sainthelena.gov.sh)

## **Q&A:**

**Brian Naqqi Manco:** I am interested in knowing the levels of visitor-numbers being managed, because, in TCI, their sector is definitely overtaxed at specific locations. I do wonder if the distance from another mainland, compared to TCI, makes it a little less touristed.

[Those present thought so, as the number of tourists reaching St Helena is far fewer than TCI, because of distance and cost.]

**Leann Henry (later):** Marine tourism is relatively new to the island. There are a limited number of flights - max 2 per week from November to March, with 1 weekly flight the rest of the year. Each flight carries a maximum of 98 passengers starting from either Johannesburg or Capetown. There are also a limited number of marine Tour Operators who offer marine tours (max 10) and all tours/tour-types start at the same entry point James Bay.

# The Gibraltar Biodiversity Portal – Enhancing access to The Rock’s research gems

Nell Cava & Caroline Moss-Gibbons (University of Gibraltar)



Nell Cava



Caroline Moss-Gibbons

Cava, N. & Moss-Gibbons, C. 2025. The Gibraltar Biodiversity Portal – Enhancing access to The Rock’s research gems. pp 80-82 in *UKOTCF’s 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states, 13th-16th October 2025 Proceedings* (ed. by M. Pienkowski, C. Wensink, A. Pienkowski, K. Bensusan, J. Peyton & B.N. Manco) UK Overseas Territories Conservation Forum, [www.ukotcf.org.uk](http://www.ukotcf.org.uk)

The Gibraltar Biodiversity Portal (GBP) is a cloud-based finding-aid developed to increase the visibility and accessibility of a wide variety of resources about the natural environment of The Rock. Many such resources require detailed contextual knowledge of local individuals and research institutions to locate and understand. By expanding upon conventional metadata-cataloguing, the GBP makes hard-to-find resources available to an international network of researchers, policymakers, and the public. Features include over sixty material types, extensive resource-descriptions, interlinked keywords, networks of related items, availability and contact information of holding institutions (especially useful for physical collections), and subject-relevant details such as taxonomic classification and habitat-type. Integrating local knowledge in the cataloguing process highlights key values that could be otherwise overlooked, including emphasis on the relevance of historical data in the contemporary context. These new features increase the searchability and navigability of the database to lead the user to the ‘hidden gem’ they need by taking the metadata from a handful of words to in-depth descriptions of the contents and value of the resource.

Initially funded through a Darwin Plus Local grant, the GBP continues to be developed by the Parasol Library at the University of Gibraltar. Its design provides a model for improving visibility of biodiversity resources, supporting development of research partnerships, and expanding access to environmental data.

Nell Cava (GBP Project Officer, University of Gibraltar) [nell.cava@unigib.edu.gi](mailto:nell.cava@unigib.edu.gi)

Caroline Moss-Gibbons (Parasol Librarian, University of Gibraltar) [caroline.moss-gibbons@unigib.edu.gi](mailto:caroline.moss-gibbons@unigib.edu.gi)  
<https://unigib.soutron.net/Portal/Biodiversity/>

## Key takeaway

By expanding on traditional database descriptions, creating complex networks of interconnected keywords, and utilising local knowledge to contextualise the key value of resources, the Gibraltar Biodiversity Portal increases the accessibility and impact of hard-to-find environmental data for researchers, policy-makers, and the public internationally.

## Introduction

Gibraltar has an extensive history of environmental research, much of which is held in disparate forms, both physical and web-based. Access to these resources often

requires detailed contextual knowledge of local research collections (Fig. 1). The Parasol Library at the University of Gibraltar is addressing these barriers to knowledge access through the ongoing development of the Gibraltar Biodiversity Portal (GBP). A cloud-based finding aid, the GBP increases the searchability of hard-to-find resources by expanding upon typical metadata cataloguing fields to include more contextual and substantive information (Fig. 2).

Expansions include:

- detailed summaries incorporating local knowledge and context
- 66 material types, and growing





Figure 1. A forgotten datum of the invasive species *Oxalis pes-caprae* from 1876 in the Garrison Library collection rediscovered whilst populating the GBP

- thoughtfully curated keywords specific to Gibraltar's resources
- networks of relevant related items
- biodiversity specific fields such as habitat and taxonomy
- access and contact details for resources that are not available online.

These features combined make the database comprehensively searchable and navigable, leading the user to the hidden gems they didn't even know they needed!

Figure 2. The GBP increases the typical content of metadata from a handful of fields (A) to an in-depth description of the value of the resource with interrelated keywords and cross-referencing (B).

## Gibraltar Bird Report 2001

<b>CID:</b>	1786
<b>Publisher:</b>	<a href="#">GONHS Gibraltar</a>
<b>Publication Date:</b>	2002
<b>Shelf Reference:</b>	G.598.294689 GON

## Gibraltar Bird Report 2015

<b>CID:</b>	5041
<b>Publication Status:</b>	Published
<b>Research / Material Type:</b>	Report
<b>Gibraltarian:</b>	Gibraltarian
<b>Subject Gibraltar:</b>	Yes
<b>Authors:</b>	<a href="#">Garcia, Ernest F.J.</a> <a href="#">Castello, John</a> <a href="#">Perez, Charles E.</a>
<b>Corporate Author:</b>	<a href="#">The Gibraltar Ornithological &amp; Natural History Society (GONHS)</a>
<b>Gibraltar Authors:</b>	<a href="#">Garcia, Ernest F.J.</a> <a href="#">Perez, Charles E.</a>
<b>Publication Date:</b>	2016
<b>Journal Title:</b>	Gibraltar Bird Report
<b>Volume:</b>	15
<b>Summary:</b>	<p>The 2015 edition of the Gibraltar Bird Report produced annually by the Gibraltar Ornithological and Natural History Society (GONHS). Data and photos in the report are collected from multiple volunteer and professional contributors.</p> <p>The bird report consists of an annotated species list (including English, Spanish, and Latin names), articles, counts by date and season, ringing records, and photographic accounts of birds (vagrant, local, rare, occasional, regular, common, and migrant raptor) in Gibraltar. The articles in this bird report center on the Crested Lark (<i>Galerida cristata</i>) and Thekla Lark (<i>Galerida theklae</i>), two closely related and visually similar species of bird found in Gibraltar. The report contains a written history of the lark and an identification guide to aid in their distinction from one another.</p> <p>This report is available online on the <a href="#">GONHS google drive</a> via the <a href="#">GONHS website</a>.</p>

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From the report: 'Contributing to the Gibraltar Bird Report: All records of birds seen in or from Gibraltar are welcomed for incorporation into the Society's archives and for publication in the annual reports. Records from adjacent regions of Spain are also gratefully received. Records should be sent to the Recorder, Charles E. Perez, Gibraltar Ornithological and Natural History Society, P O Box 843, Gibraltar, email [records@gonhs.org](mailto:records@gonhs.org). Records of rarities should be accompanied by a full description. The list of species for which such documentation is required may be viewed on the GONHS website.'

Membership in GONHS is welcome for a small annual fee.

The Gibraltar Ornithological & Natural History Society (2016) Gibraltar Bird Report 2015. Garcia, E.F.J. (ed). Available at: <https://drive.google.com/file/d/1f03TVbn59HTY6xJESbnH73oYQG9eChXB/view?ts=67bf0c7a> (Accessed: 26 February 2025).

[Gibraltar Biodiversity Portal](#)  
[The Gibraltar Ornithological & Natural History Society \(GONHS\)](#)  
[GONHS Bird Report](#)  
[Bird Report](#)  
[Bird Migration](#)  
[Migratory Birds](#)  
[Population dynamics](#)  
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[Aves](#)  
[Birds \(Aves\)](#)  
[English](#)  
[Gibraltar Bird Report](#)  
[Link to GONHS Gibraltar Bird Report 2015](#)  
[GONHS\\_2015\\_Bird-Report-15.pdf](#)  
26 February 2025

## Q&A

**Myles Darrell:** I am curious if you could share an example of how the portal has already helped a researcher or a policymaker or a member of the public uncover previously hard-to-find information?

**Nell Cava:** Well, for myself personally, I was able to really understand the depths of the Botanic Garden Collection in Gibraltar, which has a really rich library and insect collection. Despite having visited the Botanic Garden, I was not really aware of the vast wealth of this resource. We are still working a lot on community-outreach and trying to increase the visibility of the portal. The project so far has been largely the building of the portal itself. And we are now trying to collect data on those interactions and the usage of the portal itself.



## Isle of Man bats

### Manx Bat Group



Manx Bat Group 2025. Isle of Man bats. p 83 in *UKOTCF's 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states, 13th-16th October 2025 Proceedings* (ed. by M. Pienkowski, C. Wensink, A. Pienkowski, K. Bensusan, J. Peyton & B.N. Manco) UK Overseas Territories Conservation Forum, [www.ukotcf.org.uk](http://www.ukotcf.org.uk)

Bats are among the most ecologically important and evolutionarily unique mammals serving as sensitive indicators of insect populations and overall ecosystem health. On the Isle of Man the Manx Bat Group has recorded nine bat species, including the Lesser Horseshoe Bat and several species of Pipistrelles and Myotis bats. Through a combination of acoustic surveys trapping under licence, public engagement and conservation action, the Group has expanded its knowledge of local bat-ecology while directly supporting species-protection and habitat-management.

Key activities include public bat walks, monitoring of roost and hibernation sites and consultations on planning applications to ensure bat-welfare. The Group also runs a bat-helpline and manages rehabilitation and release efforts. As climate-change and habitat-loss continue to threaten bat-populations across the British Isles, this community-led initiative demonstrates the vital role of local expertise and citizen-science in biodiversity-conservation.

*Manx Bat Group* ([info@manxbatgroup.org](mailto:info@manxbatgroup.org))

*Catherine Wensink noted:*

Nick's was one of the posters at the Inter-Island Environment Meeting held on the Isle of Man in September. He welcomed the opportunity to be included here. His poster outlines the work of the Manx Bat Group. All UK species of bats, including those found on the Isle of Man, are insectivorous and highly sensitive to environmental changes, making them effective indicators of nocturnal-insect populations and wider ecosystem-health.

The Manx Bat Group has documented nine species on the island through regular surveys, acoustic monitoring and visual inspections. These include common species like the Common and Soprano Pipistrelle, as well as rarer finds like the Lesser Horseshoe and Nathusius's Pipistrelle.

Acoustic surveys use bat-detectors to translate ultrasonic calls into audible sounds. These calls, when recorded and analysed in spectrograms, often allow species-level identification. For more precise work, bats can be caught and examined, under license.

Beyond fieldwork, the Group is active in conservation and community-education – installing bat-boxes, advising on planning applications to protect roosts, and monitoring hibernation-sites. The members also rescue and rehabilitate bats, with 10–20 individuals cared for and released annually via their Bat Helpline.

The Group runs well-attended public bat-walks, offers

talks to schools and community-groups, and encourages public involvement through pledges – like making gardens bat-friendly or attending a walk. Regular winter meetings help train new members and build capacity for ongoing conservation.

All bat species and their roosts are legally protected under the Wildlife Act 1990, but continued conservation relies on public awareness, habitat-protection and dedicated monitoring by groups like this.

# Managing Calafate *Berberis microphylla* in the Falkland Islands: A Strategic Approach to Landscape-Scale Invasive Species Control

Michael Lavery (Operations Manager, Te Whanganui-a-Tara / Wellington, Kaitiaki o te Ngahere; and Project Team Leader, Indigena Biosecurity International)



Michael Lavery

Lavery, M. 2025. Managing Calafate *Berberis microphylla* in the Falkland Islands: A Strategic Approach to Landscape-Scale Invasive Species Control. p 84 in *UKOTCF's 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states, 13th-16th October 2025 Proceedings* (ed. by M. Pienkowski, C. Wensink, A. Pienkowski, K. Bensusan, J. Peyton & B.N. Manco) UK Overseas Territories Conservation Forum, [www.ukotcf.org.uk](http://www.ukotcf.org.uk)

My name is Michael. I work for a company in New Zealand called *Kaitiaki o Te Ngahere*, which translates roughly as Guardians of Forest. We also have an international section of our company called Indigena Biosecurity International, on behalf of which I am presenting this work.

The project we are looking at here is a large-scale landscape invasive species control project targeting *Berberis microphylla*, or locally known as calafate. It is a Barbary shrub that grows about two to four metres tall, with pointy spines and a lot of fruit that is economically valuable in Patagonia, in southern Chile and Argentina, but less so in the Falklands. It was introduced probably around 100 years ago, particularly on a set of farms on the eastern side of East Falklands. The largest infestation zone covers over a thousand hectares. The shrub occupies grazing land, alters the environment, and creates challenges for local farmers.

In 2019, Indigenous Biosecurity began running a control-programme. We operate using a restoration framework. This is a step-by-step process for managing infestations across any area. It begins normally with a survey to gauge the infestation, followed by an initial control phase, where we aim to eliminate as many mature plants as possible. This is followed by a follow-up phase, ensuring that mature plants have been removed. Next is the seed-bank-control phase, which depends on the viability and age of the seed-population. This can take anywhere from three to twenty years, depending on the species and the landscape. Finally, there is an ongoing protection-phase to prevent reintroduction.

These phases do not always have to occur sequentially. They begin with the initial control phase but, depending on seed-viability and other factors, some steps may be skipped or adapted. The total area covered so far is nearly 3,000 hectares.

This work would not be possible without the support of landowners and the Falklands Department of Agriculture. It is a long-term project, but we are making significant progress.

A common question is how long it takes to move from the first stage to forest-protection. This depends on the species. For this population, which has over 100 years of establishment, it will take some time. In low-density outer areas, we may be able to skip the seed-bank phase entirely, checking periodically to ensure no new growth has occurred. Overall, the process may take one to two decades.

Once we reach the seed-bank phase, landowners can help manage the area, as they are already present, moving sheep and monitoring the land. This reduces costs and allows us to focus on higher-priority areas.

Thank you for your attention.

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[The author opted to supply this extended abstract, rather than a full paper.]



## The Role of Communities & Citizens in Plant Invasions: The Case of Calafate in the Falkland Islands

Erica Berntsen (B Agr Sc, Agricultural Advisor – Resilience & Restoration, Department of Agriculture, Falkland Islands Government)



Erica Berntsen

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Calafate *Berberis microphylla*, an introduced shrub, has become an invasive species in the Falkland Islands, threatening native vegetation and ecosystems. Managing this invasion requires the active participation of local communities, landowners, and political support. With the majority of land privately owned, landowner-cooperation is crucial for effective control. Without their engagement, large-scale efforts risk being ineffective.

The Falkland Islands Government's Department of Agriculture has completed the first stage of the calafate-eradication programme, learning valuable lessons from the process. Political support has been essential, as the programme is fully funded by the government, ensuring long-term financial commitment to eradication, public awareness, and research into better removal techniques.

Community engagement is key to the programme's success. Citizens contribute by reporting sightings, participating in eradication efforts, and supporting ecological restoration. Tools like iNaturalist allow the public to document calafate sightings, providing valuable data for monitoring. Site-visits by members of the Legislative Assembly and funding from the Environmental Studies Budget (ESB) support these efforts.

The eradication-programme involves also close coordination with landowners to identify key control sites, while minimising disruption to agricultural activities such as sheep-farming. This collaboration has been strengthened by partnerships with companies like Indigena Biosecurity International, the New-Zealand-based firm specialising in ecological restoration.

Although cultural perceptions of calafate as a resource – such as its use in jams – complicate control, a collaborative approach that balances ecological and economic considerations is essential for sustainable calafate-management and the protection of native ecosystems.

*Erica Berntsen B Agr Sc, Agricultural Advisor – Resilience & Restoration,  
Department of Agriculture, Falkland Islands Government*

[The author has opted to supply an extended abstract, rather than a full proceedings paper.]

**Julie Thomas:** I think more can be done to talk about the hard topics not just to focus on the good news stories. How do we communicate difficult decisions?

**Amdeep Sanghera:** With all the community engagement that has been discussed here, would it be useful to develop a best practices guide / set of principles to support effective and equitable community engagement with UK OT communities?

**Helena Bennett:** Best practice guidelines can be developed to include multigenerational platforms.

I would add that Community Voice Method makes communities feel like they've been involved in the decision-making process – even if it doesn't end up as they'd prefer, they feel involved and so can better accept the decision as it feels fair (this is my experience, Amdeep might have other views).

Perhaps TED type-talks? Sort of visual radio programme. Consider including in best practice guidelines multigenerational platforms (different ages using different tools and platforms)

MCS is developing CVM resources for training in TCI but can be spread to other UKOTs (NB: Several “Yes thank you” comments followed, so there is interest).

**B Naqqi Manco:** Involving communities in Conservation: whether by way of community consultation on project direction, or adapting interpretation and outreach to all sectors of the community, it is essential to involve as much of the population as possible both to reach everyone and to share benefits with everyone. This is important on the town/ community level and the global/ regional community level, as species do not abide by human municipal and national boundaries.

Involving UKOT populations: 25 years ago, much of UKOTCF's work was involved in bringing biodiversity and conservation expertise into the UKOTs for capacity-building and stronger local management. This partnership has shown obvious success with many UKOT citizens and residents engaging directly in the work and developing the recognition of the need for the careers within the UKOTs. The partnerships forged earlier remain; many UK and other international institutions support the work which is now increasingly UKOT-led.

Investigating details, finding new questions: as always, the scientific process gives more questions than answers and these are not only being investigated, but interpreted for the wider public to appreciate.

Multifaced programmes bring success: programmes developed with inclusivity of peoples, methods, themes, subjects, media, and generations are showing that these concepts are integral to success of conservation in the UKOTs.