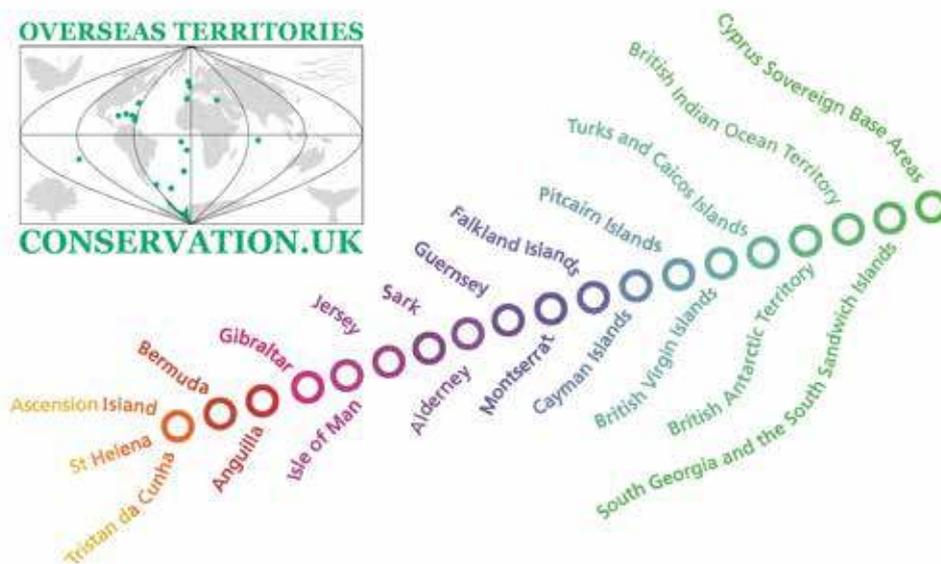
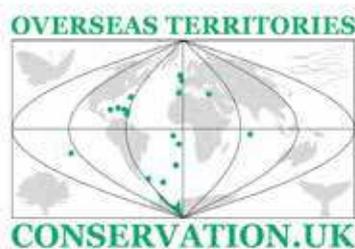


UKOTCF's 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states, 13th to 16th October 2025, by Zoom



Proceedings

Edited by Dr Mike Pienkowski, Catherine Wensink,
Ann Pienkowski, Dr Keith Bensusan,
Dr Jodey Peyton & Bryan Naqqi Manco
and published by

UK Overseas Territories Conservation Forum
2025



A tiny proportion of the images from UKOTCF's forthcoming book wildlife and conservation in the UK Overseas Territories and Crown Dependencies. For captions and explanation, see page 2.

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Captions and explanation of illustrations on page 1

A tiny proportion of the images from UKOTCF's forthcoming book on *wildlife and its conservation in the UK Overseas Territories and Crown Dependencies* (see also page 23):

top row (l-r):

Cloud forest, with tree-ferns, at the Peaks; St Helena, with a view to the nearby desert in the distance

Caicos Barking Gecko – endemic to Turks & Caicos Islands, and rediscovered during UKOTCF-led project after thought extinct

Montserrat Pribby, endemic and benefitting from UKOTCF conservation project facilitating local persons to lead on conservation

St Helena Spiky Yellow Woodlouse (© Vicky Wilkins)

bottom row (l-r):

Gentoo Penguins porpoising from feeding grounds to colony, British Antarctic Territory

Flightless Henderson Rail, one of five endemic bird species of Henderson Island, in the Pitcairn group.

Garden Pond, rich seasonal pond, Turks & Caicos Islands

Photos: © Dr Mike Pienkowski, except as indicated.

We are pleased to acknowledge financial support for this conference from anonymous donors and these following organisations:



Introduction and Opening of the Conference

CONFERENCE ORGANISING TEAM: UK Overseas Territories Conservation Forum:
Dr Keith Bensusan, Dr Jodey Peyton, Ann Pienkowski, Dr Mike Pienkowski and Catherine Wensink

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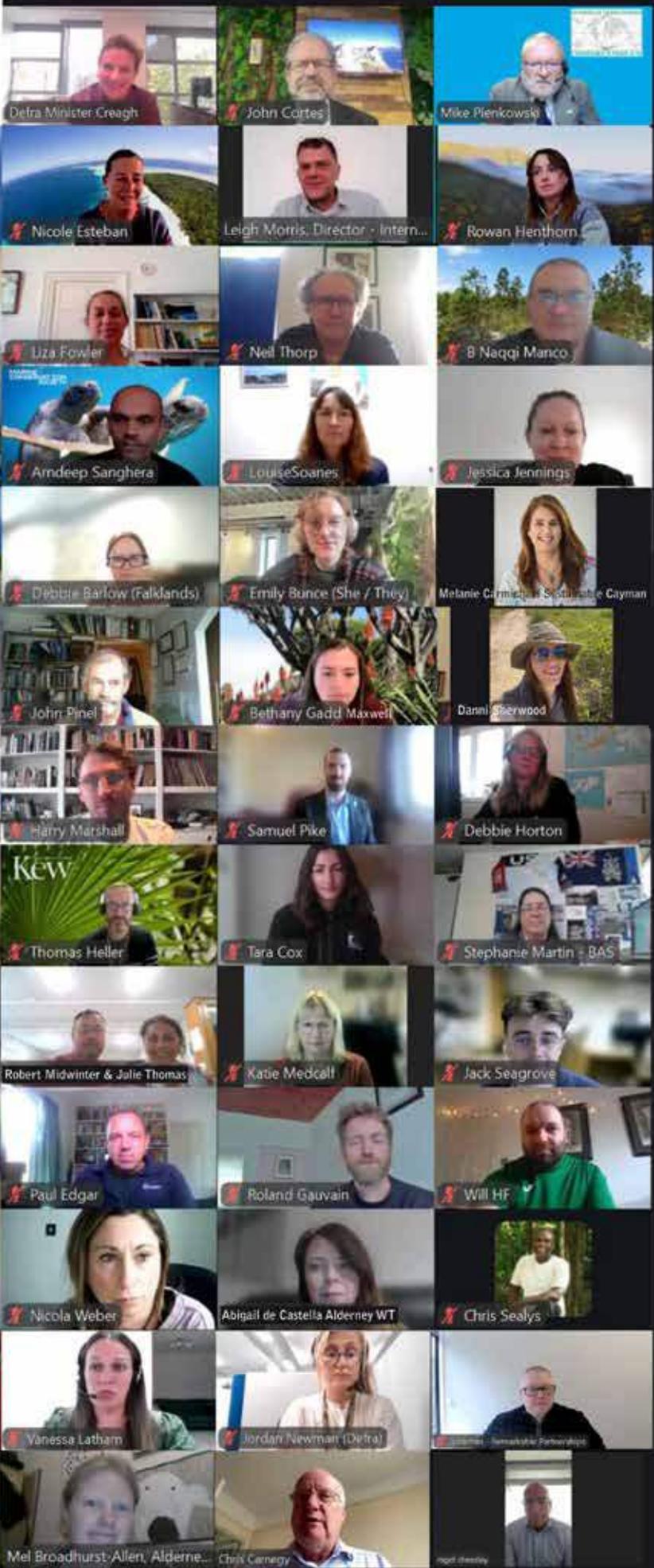
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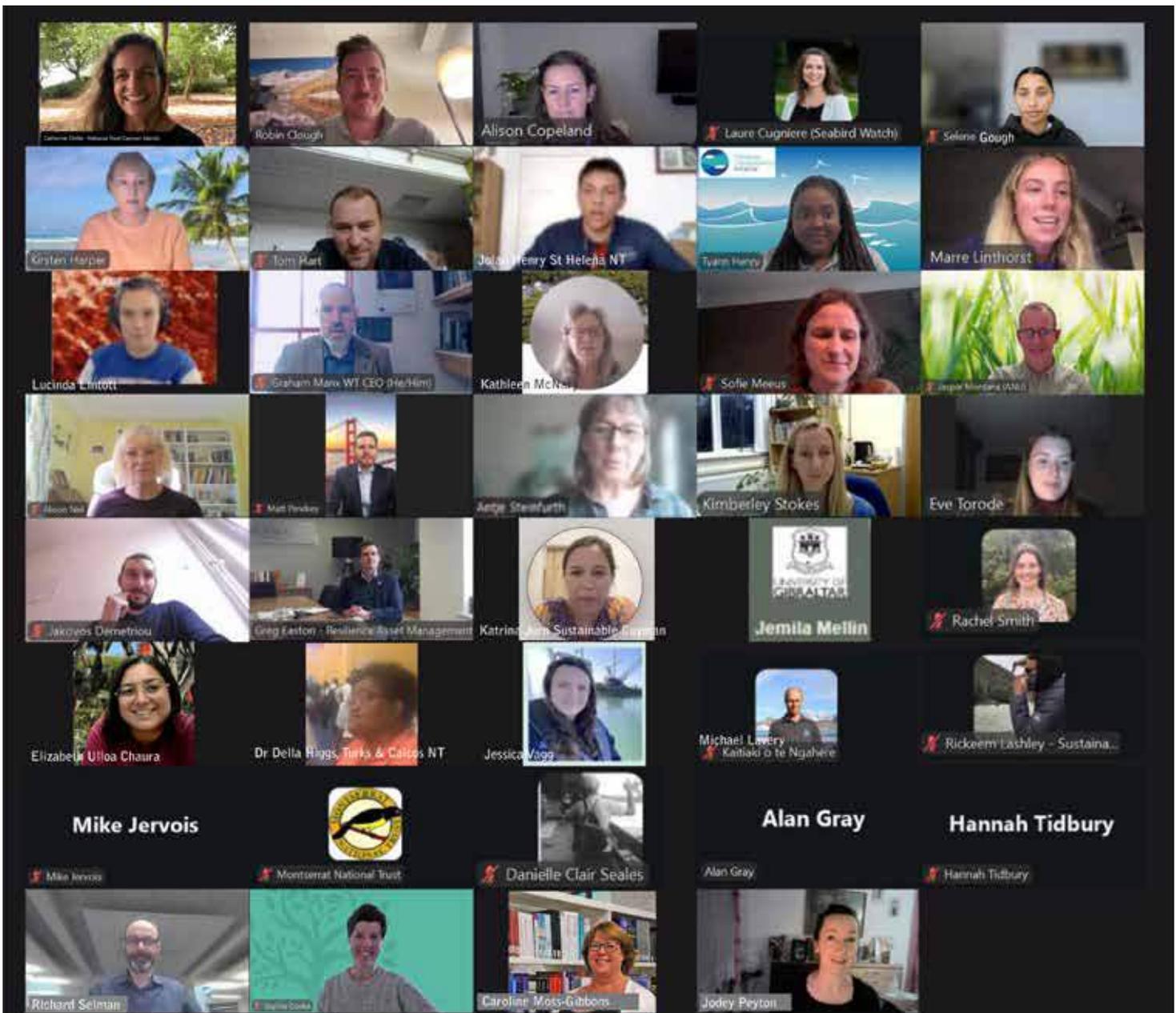
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UKOTCF's 7th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island entities
By Zoom
13th to 16th October 2025

Some Participants





Not shown are those who were not present or showing when the images were taken, and did not supply their own image, and some who registered to view the recordings.

We are pleased to acknowledge financial support for this conference from anonymous donors and these following organisations:



Editors' Introduction

In these proceedings, we try to capture as much as possible of the valuable information brought together at the conference, both as an *aide memoire* for those present and to make it available to those who were not.

In this first section, we include, immediately after this Introduction, the opening session and the ministerial segment, including remarks and answers to questions by:

- Hon. Mary Creagh, UK Minister for Nature, Department for Environment, Food & Rural Affairs; and
- Hon. Prof. John Cortés, Gibraltar Minister for Education, the Environment, Sustainability, Climate Change, Heritage, Technical Services and Transport; and Chair of the Council of Environment Ministers (or equivalents) of UK Overseas Territories and Crown Dependencies,

We continue with the recommendations resulting from the conference. These were drafted initially several months in advance by a team bringing together personnel from across almost all the territories, taking account of the information in the abstracts and other ideas from talk and poster authors, the conclusions of earlier conferences, and discussions in UKOTCF regional working groups and elsewhere. As explained in that section, successive drafts were circulated widely during the four months prior to the conference to those registered by the time of each circulation, for comment. By the draft prior to the conference, no further comments were received, and the conference sessions confirmed that final draft.

This approach was modelled on that used successfully at the 2015 Gibraltar conference and the 2021 online conference. (In Appendix 4, the recommendations are presented in an alternative form, divided between the target audiences.) Of course, the recommendations do not commit anyone to anything. They are simply well-informed conclusions by a widely drawn group of experienced specialists working on these subjects. Those from previous conferences have been found useful by a wide range of bodies, and the UKOT/CD Environment Ministers' Council welcomed these at their meeting in the month after the conference, and incorporated aspects of many of them into their own Statement.

This time, we have added a separate set of less formal key take-aways from conference discussions, and these follow the recommendations.

We then pick up some items from the closing session, notably an outline of UKOTCF's forthcoming book on

UKOTCF 2025. Editors' Introduction. pp 10-11 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

wildlife and conservation in the UKOTs and CDs, and then the thanks for those making the conference happen.

The following sections then address each topic of the conference, combining in one place any sessions split in time. Generally, the sequence of topics follows the sequence of the programme, except as noted above and that we start with the 3rd Sir Richard and Lady Dace Ground Lecture, by Myles Darrell from Bermuda National Trust.

Posters are included in the section to which they were allocated, but we do note briefly Topic 4 where authors of posters had the opportunity to make brief presentations and answer questions. The posters remained available throughout the conference, and voting on them stayed open to the morning of the final day of the conference.

For those posters for which the authors supplied also a conventional publication text and illustrations as requested, we included their material in these proceedings.

Where authors of talks have supplied the requested text and illustrations for their talk (either, as required, before the conference or even a few days after), we have published these. In some other cases, we have constructed the published version from the notes and illustrations from the presentation Powerpoints or other material. Occasionally, we have resorted to working from the video recordings of the session but, for some presentations, this proved impracticable.

Because we wanted to give the maximum number of presenters a chance to contribute, we had to limit talks to 15 minutes, followed by 5 minutes of questions (which time speakers were advised they could not commandeer). However, authors were advised that the proceedings were a chance to include more material if they wished. Lead authors were allowed to revise their conference text for a short period after the conference.

For each paper (whether based on a talk or a poster) for which the information was available, we have included an abstract and a main text, supported by illustrations where appropriate and available. In a few cases, lack of availability prevented inclusion of some items. For some items, explanatory notes not in the authors' words needed to be added; the distinction is made clear.

Where we have an image of the presenting author (usually, in the case of talks, a screen-grab), we have included this. We have included photos of co-authors where these were available.

In reporting the question-and-answer sessions and general discussions, we combined overlapping material from the video recordings, the chat-box and other notes (and thank one question-master who managed not only to keep the discussion going but also made a full note of questions and answers). In some cases, we have adjusted the

sequence of these to put related material together, so as to aid clarity. Some texts have been sub-edited for clarity, especially given the difficulty in representing in text the information implied in the spoken word and visual impression.

In some cases, questions on individual talks continued in the general discussion. In some cases, these have been transferred to the Q&A periods after the relevant individual talks.

A large part of each session was deliberately devoted to discussions, to facilitate taking issues forward in an integrated way.

Authors were supplied with proof copies of their proceedings items for checking. Most responded, and we thank them. The editors have proof-checked the proceedings several times. To allow prompt publication, we stopped after these several checks. Some errors will remain; they always do. We apologise for these.

The Proceedings end with several Appendices, which include the final published programme, including a list of interval music kindly made available, the list of participants, the feedback received from participants, and the alternative forms of the extracted Recommendations noted earlier.

Many people have helped in producing these proceedings. We will not repeat the thanks to all those involved in making the conference happen – but we, of course, stress those. In the editing of the proceedings, we thank additionally all the authors of papers and posters and others supplying additional material. Our thanks for this are not reduced by the fact that we have to say that not all of these followed the instructions for submission of written versions and supporting illustrations! And we confess that we may perhaps not always have been totally content with the several who delivered material many weeks after the original deadlines, but we are nonetheless grateful for these eventual receipts. We did our best to include items also from those who did not supply the agreed material.

These proceedings are presented in several forms, to aid downloading or viewing. If the whole proceedings are downloaded as one file, the links in the Contents list to individual items will work. If, however, they are downloaded in the small units, corresponding for example to individual topic sessions, the links in the main Contents list will work only in that first section, even if the separate files are recombined. To help overcome this, we have added separate Contents lists at the start of each topic session.

The conference outputs do not stop with the conference, as these proceedings and many other things show. In this context, we want to thank participants for letting us know about subsequent press articles and broadcast items. It is valuable to know about these, not least when trying to resource future conferences. Therefore, please keep us

informed of further outputs or other consequences.

Although these conferences require a very great deal of work to be successful, we are cheered by the very positive response from participants (see Appendix 3) and we hope to find the resources to continue this series of conferences, both online and physically.

The Editors

Opening of the conference

Welcome and conference arrangements, by Dr Mike Pienkowski, UKOTCF Chairman



UKOTCF's Chairman, Dr Mike Pienkowski, welcomed all to the conference, noting UKOTCF's role as a federation of bodies, from across the territories and beyond, involved with conservation in UK Overseas Territories and Crown Dependencies, and indeed an even wider network of experienced and committed individual supporters:

Good morning/afternoon/evening everyone and welcome to UKOTCF's seventh conference – or possibly 8th if one includes the 1999 London conference which FCO asked UKOTCF to step in to run. The others were 2000 in Gibraltar, 2003 in Bermuda, 2006 in Jersey, 2009 in Cayman, 2015 in Gibraltar again and 2021 online.

I am pleased to say that we have 147 [167 by the end of the conference] people registered, and that includes representation in one form or another of all territories. By “territories”, I include both UKOTs and CDs. It is not a competition but, if it were, in a last-minute surge, St Helena would just have beaten Gibraltar by one. By my calculations, all territories but two are represented in presentations – and I suspect that those two are included too, but I do not know the full content of all presentations. Again, if we imagine a competition, this time Gibraltar would get its revenge by just beating St Helena – but this is not an exact study!

I will have lots of people to thank later in the conference, but now I would like to acknowledge the financial support from JNCC, the Garfield Weston Foundation, the University of Gibraltar, UKOTCF itself and its member and associate bodies Amphibian & Reptile Conservation, Bermuda National Trust, Gibraltar Ornithological & Natural History Society, Manx Wildlife Trust, the National Parks Trust of the Virgin Islands, and St Helena National Trust.

I return to a few practical points. Most presentations have been pre-recorded, but a few will be given live. As questions occur to you during a talk, please type them into the Chat-box. Each session will have a Question-master who will select and put the question for you and, if present, the speaker or their colleague will offer an answer. If there is no representative, we will note the question and try to get it answered in the proceedings.

The speakers and session officers will be on the “panel” in Zoom terms. That means that they can switch on their cameras and microphones. Please switch on your cameras during live-presentations, Q&A sessions and general discussions. Especially if you are speaking, please ensure that your camera is on; otherwise, the recording has a rather off-putting blank screen. Please also make sure that your name is amended, if necessary, to show your preferred first name and your surname (or organisation if in a group) – otherwise the job of session officers and organisers is very difficult. Please be aware that (when your camera and mic are on) all participants (not just those on the panel) can see and hear you.

This session is divided by a ministerial segment. During that, Topic 1 panel members please keep your cameras on, but mics off, so that the ministers can see something of the audience.

More technical stuff later when we need it, but now I have pleasure in handing over to the officers for the first session

Later, in the ministerial segment, Dr Pienkowski expressed his pleasure and honour to introduce Hon. Mary Creagh, UK Minister for Nature, Department for Environment, Food & Rural Affairs, and Hon. Prof. John Cortés, Gibraltar Minister for Education, the Environment, Sustainability, Climate Change, Heritage, Technical Services and Transport; and Chair of the Council of Environment Ministers (or equivalents) of UK Overseas Territories and Crown Dependencies.

Pienkowski, M. 2025. Welcome and conference arrangements. p 12 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

Remarks by Hon. Mary Creagh, UK Minister for Nature, Department for Environment, Food & Rural Affairs; and Hon. Prof. John Cortés, Gibraltar Minister for Education, the Environment, Sustainability, Climate Change, Heritage, Technical Services and Transport; and Chair of the Council of Environment Ministers (or equivalents) of UK Overseas Territories and Crown Dependencies

Dr Mike Pienkowski:

Great to have you all here. We're delighted to be joined in this session by Minister for Nature, Mary Creagh MP, and also Minister John Cortés, Environment Minister for Gibraltar.

We are in touch with Minister Mary Creagh's officials, and they are just getting things sorted. Thank you to them. In this session I am going to do my best to chair and our Executive Director, Catherine Wensink, is going to be the Question Master. And our Council Member Keith Bensusan is the Rapporteur. So welcome Minister John Cortés as a regular to these meetings and thank you for flying about to get here in time to be able to do this.

So I am just checking the messages as we go along. So what we are going to do shortly is the UK Minister for Nature, Mary Creagh, is going to make a few remarks and then I expect that Minister John Cortés, from Gibraltar and the Chair of the UK Overseas Territories and Crown Dependencies Environment Ministers Council, will be making a few brief comments too, and then we have questions to the UK Minister for Nature and then we might get some more remarks from Minister Cortés, and questions to him. I think that is what is going to happen – predicting is always a dangerous game.

So I am just checking to get a list of the people joining. Ah, I think we have the Minister for Nature. Ah yes, I think sound is coming on.

Welcome Minister. The technology gets us there in the end. Thank you very much indeed for finding time to join us. As you will see, we have Minister Cortés from Gibraltar with us as well. I think people are busy thinking up questions for you but, in the meanwhile, could I invite you to make any initial comments you would like.

Minister Mary Creagh MP



Thanks Mike. It's good to join you.

Well, first of all it's brilliant to join you on the opening day of this really important conference. The UK Government stands firmly behind our British Overseas Territories and Crown Dependencies.

Thank you, Mike, for inviting me to speak and to share the stage with Professor John Cortés, my friend for many years now.

As the Minister for Nature, I never tire of telling people that Nature is a monopoly provider of everything that we need to live. And everybody's environment starts at their very own front door, so I am thrilled to be here and be amongst so many people who are passionate about conservation and about tackling climate-change.

At home here in England, we have taken steps to protect our natural heritage. We have licensed the first wild beaver release since they were hunted to extinction around 400 years ago. We have announced the creation of a new national forest, the Western Forest, which will stretch across the West Country from the Forest of Dean in the Cotswolds right down to the Mendip Hills in Somerset. We have banned bee-killing pesticides to protect pollinators and we have launched landscape-scale recovery projects to connect and protect habitat across the country. These are not just policies; these are our promises to future generations.

And as far as overseas is concerned I am delighted to announce that the Convention on Biological Diversity, which 196 countries are party to, has recently been extended to Guernsey. This milestone was only made possible through collaboration between officials from the States of Guernsey and the UK Government. Under the CBD, we have committed to play our part as a Nation in halting and reversing biodiversity loss by 2030. It is a bold ambition and it will take all of us, and we have agreed to achieve all 23 targets of that framework at

Craig, M. 2025. Statement by Hon. Mary Creagh MP, UK Minister for Nature, Department for Environment, Food & Rural Affairs. pp 13-17 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

home. This is hugely ambitious. In February this year, the UK published our National Biodiversity Strategy and Action Plan – the beautifully titled NBAP which sets out our commitments and path to meeting each target. It was developed in collaboration with the Joint Nature Conservation Committee and I am very pleased to say that the plan includes contributions from our OTs and Crown Dependencies.

This collaboration is continuing as we prepare our 7th national report which will feed into a global review of progress to be adopted at COP17 on Biodiversity next year in Armenia. Together, the UK, our Overseas Territories and Crown Dependencies are making important contributions to our global progress and we look forward to continuing that with you.

As you will all be aware, DEFRA's Darwin Plus programme previously awarded funding to more than 340 biodiversity and conservation projects of benefit to the UK's Overseas Territories, and I am delighted that we have been able to add to this figure, just announced last Thursday, by funding more than 40 new projects with total lifetime-costs of over £7million. They range from restoring rich seabird habitats in the Falklands, to educating and training the next generation of conservationists and climate-advocates in Montserrat. And, of course, St Helena is benefitting from funding that we are putting into the Cloud Forest, which will protect the fresh-water supply for the people who live on that island, something that I discussed with the Minister there at the Biological Diversity COP in Cali, Columbia, last year. So we announced that, with His Majesty the King and the Prince of Wales, last week at the Natural History Museum. So that was a really important moment.

We've also got a forthcoming Overseas Territories Biodiversity Strategy which was shaped through Territory stakeholders inputting into extensive consultations. I know that it has been a long time coming; some of that is to do with the push and pull of the democratic process taking place. I am grateful for your collaboration, really pleased to confirm all Territories have now cleared that strategy and we are making every effort to publish it as soon as possible.

On plastic pollution, one of the greatest environmental threats of our time, we are committed to an ambitious global treaty. For too long plastic has littered our ocean and threatened our wildlife, and it has been found everywhere in our oceans from plankton through to Polar Bears at the North Pole. The UK was a founding member of the highly ambitious coalition to end plastic pollution. We were disappointed that we were unable to reach agreement at the latest international intergovernmental negotiating committee in August. But we are committed, as a government, to reaching an ambitious, effective treaty to end plastic pollution and to turn back the plastic tide. I will be working on that; I have had meetings on it when I was in New York in the United Nations General Assembly. I will be travelling to Belem, Brazil, for the Climate COP,

and I will be travelling to Nairobi in Kenya in December for the United Nations Environment Ministers Meeting. We are going to have this as top of our agenda going forward this autumn. I want to thank you all for your engagement on this topic and all the work that you have done to date.

Finally, next month we are looking forward to hosting environment ministers and leaders from the Overseas Territories for the annual Joint Ministerial Council. I missed it last year – very sorry to miss it because of my travels to Columbia, but I am looking forward to attending it this year, to attending the Environment and Climate Plenary on the Wednesday, and I am also attending Thursday night's evening reception, to meet many of you there.

So let me finish by saying this: you are custodians of over 90% of the UK's biodiversity, whether that is on land or at sea, and we are acutely conscious that you are our pioneers, and you are on the front line of the climate and nature crisis, and we stand ready as a government to help you, even in these difficult financial times, to make sure that the beautiful and incredible natural heritage to which you are custodians is treasured and cherished for years to come. Thank you.

Dr Mike Pienkowski: Thank you very much Minister Creagh. Minister Cortés do you want to make a few remarks at this point?

Minister John Cortés (Gibraltar)



Mike, first of all to thank you not just for your invitation today but for the work you have been doing for decades now in promoting this collaboration on environmental issues in the Overseas Territories and Crown Dependencies. It is an honour and a pleasure for me to follow my friend the Minister for Nature. As the Minister has said, we have

Cortés, J. 2025. Statement by Hon. Prof. John Cortés, Gibraltar Minister for Education, the Environment, Sustainability, Climate Change, Heritage, Technical Services and Transport; and Chair of the Council of Environment Ministers (or equivalents) of UK Overseas Territories and Crown Dependencies. pp 14-18 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

been friends for many years and we have had several meetings and discussions since she came into Government last year, and I think that the support and the interest and the encouragement that she brings to this post are palpable from her contribution today, and I for one am very grateful for the friendship and the support. I am sure we are all looking forward to continuing to work with the Minister.

The Minister has given me a cue to continue on the theme of our Territories having over 90% of the UK's biodiversity and we feel it is important from our angle, and we know that it is important for the United Kingdom. Indeed, Mike, when we started these meetings, several decades ago, we would have been extremely excited to have a Minister with us for the amount of time that the Minister is going to be with us. Now we are almost – but not quite – taking it for granted that the interest has increased tremendously through the decades. And I think it is through the hard work of everybody involved in UKOTCF, UKOTA and, indeed, the Environment Ministers' Council.

I don't have to say to people here today how we acknowledge our shared environmental challenges, climate-change, invasive species, limited resources, including limited resources in space which are challenges for us. So the challenges of small-island ecosystems are great, but there are opportunities – opportunities to help us with our economy, for example in tourism – but challenges in dealing with our energy requirements, waste-disposal and water are things that we share. There are similarities and differences, but I always say that our Territories are enriched by our diversity.

I think that we must remember that conservation is both ecological and political; it is tied to our identity and our resilience, and we must not forget either the importance of NGOs, academic institutions, and government in the Territories working together for our common aims. Protecting nature in the territories is not a side-issue; it is central to the UK family's global environmental responsibility which we all share. And that's it, for now. Thank you very much for the opportunity.

Dr Mike Pienkowski: Thank you both Ministers. I am now going to hand over to my colleague, our Executive Director Catherine Wensink, to be question-master for this session. So Catherine, please get the questions going.

Catherine Wensink: Hello, thank you, yes. So the first question we have is from **Melanie Carmichael** from Sustainable Cayman. She asks: "With the recent lifting of interim protections for the Blue Iguana's critical habitat in the Cayman Islands, the urgency of addressing the biodiversity crisis in the Overseas Territories (UKOTs) has never been more pressing for us. Will His Majesty's Government provide support and funding to the UKOTs to consider ratifying the Kunming-Montreal Agreement (or the 30-by-30 target) in the UKOTs, in time-frames

that would be realistic for the UKOTs? Such a step would help to plan and implement the global minimum standard for biodiversity-conservation, providing much-needed certainty for our communities, businesses and governments, by establishing a sustainable, climate-resilient framework for our UKOTs?"

Minister Creagh: Thank you for that. As a party to the United Nations Convention on Biological Diversity, the UK is already committed to the goals and targets of the Kunming-Montreal Global Biodiversity framework, so our National Biodiversity Plan, which I mentioned in my speech and which we published in February, includes commitments to each part of the UK including those Overseas Territories and Crown Dependencies which have had the CBD extended to them on their request. Now I don't have the details as to whether Cayman has had the Convention extended to them but we can certainly get back to you [It has – Eds] . I have officials with me in the room on that. Of course, all activities that support nature do contribute to one of those 23 targets in there. And we are working with the Joint Nature Conservation Committee to ensure a co-ordinated approach to implementing our NBAP which is our kind of Biological Diversity Action Plan and to report accurately on the activities underway in each part of the UK, of the Overseas Territories and the Crown Dependencies. And, of course, we will have to report back to the Secretariat as part of our turning up in Armenia next year. We can't just turn up and say we have done great things; we have to show, not tell. So there will be a big collection of what we are doing and the gathering of evidence to submit as part of our participation in Armenia next year.

Catherine Wensink: Thank you. The second question is related to that, target 19 which was about mobilising resources. And again from **Melanie Carmichael** of Sustainable Cayman, but this is also echoed by **Nicole Esteban** from the University of Swansea. "Will the Minister commit to maintaining Darwin Plus funding at a minimum of £12.8m per year, indexed to inflation, under a multi-year settlement, to give UKOT projects the certainty they need?"

Minister Creagh: I do understand how hard it is for stakeholders in OTs, but also across the country to have clarity in future years. We do have the benefit of having a 3-year financial settlement but that settlement has to go through business-planning processes. We have a new Secretary of State, as you will have seen in the reshuffle, who has been in post 3 weeks. And, of course, we were able to announce some of the funding for Darwin Plus as part of our road-to-COP launch last week at the Natural History Museum. But we are just going to have to wait to give you more detail on the future funding round.

Catherine Wensink: Thank you.

Minister Creagh: Can I just say one other thing about that? We are not going to be able to provide all of the finance that

nature needs through public funding. And I think we are looking, with Foreign Office officials, thinking creatively to try to identify any potential new approaches that we could take. For example, crowd-funding and philanthropic funding or private-sector funding – which is something that we are starting to see in the UK. So we have got large companies like Aviva, for example, committing a million pounds to restoration of temperate Atlantic rain-forest over the next ten years: one hundred thousand pounds per year. So these types of approaches that are quite innovative, new financing coming in. But we also know that the FCDO Blue Belt Programme provides advice and assistance on sustainable finance to territories, OTs, by identifying potential funding sources and sustainable-business opportunities. So we are hoping to share an update on the OTs' requests for specific climate-funding at that JMC meeting in about 5 weeks' time.

Catherine Wensink: Thank you, and that actually answers a question from **Samuel Pike** from Environment Systems: “Minister, what innovative approaches can the UK Government explore (or is exploring), beyond traditional financing tools such as DPLUS, to help the Overseas Territories deliver Nature-based Solutions that strengthen resilience and safeguard biodiversity?”

Minister Creagh: This was a hot topic at New York climate-week. I was sitting there with businesses and they were asking “What shall we do? We don't want to do something and then it is the wrong thing.” And I think that the task-force for nature-related financial disclosure, getting companies to look down their supply-chains, work out what needs changing and try to rectify, either avoid the damage or bake into their supply-chains the sort of mitigation is really important. In the same way that we have seen from climate-change related discussions in making companies much more aware of their impact on the climate, and of the climate's impact on them. I think that is one area. But the two areas that I said to companies related to zero-regret investment. The two zero-regret investments are in forests and in marine. These are the two mega-ecosystems that are too big to fail, so crowding funding into those areas is where I think businesses are going to start thinking much more creatively.

Catherine Wensink: Thank you. A question from **Joan Walley:** “As a former chair of the Environmental Audit Select Committee, we undertook an inquiry into the need for government to have far greater regard to the biodiversity of UKOTs. How can this conference best support you to secure UK government priority so urgently needed for this priceless biodiversity?”

Minister Creagh: Well I think it is important that we take the OTs out of the OT niche if you like. So, for example, Cayman did a film which was shown at Speaker's House and I know that the Speaker of the House of Commons is very interested in supporting the Overseas Territories, and I know Minister Doughty, who is the Minister for the Overseas Territories at the Foreign Office, is extremely

keen that we have joined-up strategy across government. There's lots of people who fund this, education etc., and trying to make the funding more than the sum of its parts is quite important, and I think that work is underway at the Foreign Office. But I think the best way is to show, again, and a picture says a thousand words. It is important to talk to MPs who can be your amplifiers, and work out who has got connections with you, and who visited, and then to build on those visits and connections.

Over half of the Parliament is new. And that makes it incredibly challenging for me, even though I am one of the newbies. They have recycled me. I did 16 years before that, until my enforced sabbatical in 2019, when I lost my seat. So there's a lot of new people to educate and initiate into Overseas Territories, and I think that it is really important that you are not seen as a niche but people's understanding of what you are and how important you are to us is spread across all parties at every level.

Catherine Wensink: Thank you. And I think that answers a question from **Andy Pearce:** “The rare and beautiful wildlife and plants of the Overseas Territories are a tremendous asset and responsibility for the UK and the OTs. How does the Minister feel our collective awareness, pride and engagement can be increased?”

A question from **Brian Naqqi Manco.** He asks: “The small size of our territories and in some of our cases globally disproportionate land-values, it has been nearly impossible to purchase land for conservation purposes. Is this an aspect of funding that could be considered by UK Government in the future?”

And I think that speaks to your mention of the Aviva temperate rain forest project.

Minister Creagh: Well, this is an issue in the UK as well, where we are trying to get land to plant trees on. It is agricultural land, and it is in competition for housing, is in competition for trees. I think what you need to do is to purchase smart. Not every bit of land is as valuable as others, so you want to buy cheap and then tell a story about what you are doing. I don't have an answer. This is public money purchasing land for conservation and you are in competition with house-builders, second-home builders, hotel-chains etc. in some of our OTs. I am afraid I don't have any quick fixes there. We have very similar problems in England.

Catherine Wensink: Thank you. The next question we have is from **Janet Mackinnon:** “How will environmental governance be prioritised in the transfer of Chagos Archipelago sovereignty to Mauritius?”

Minister Creagh: We will collaborate with Mauritius on environmental protection and that will include establishment of a Mauritian Marine Protected Area, and we will work in partnership with them to ensure that this happens.

Catherine Wensink: Thank you for that. And there's quite a long question from **Roland Gauvain:** "The value of Darwin Plus to enabling the UKOTs to work towards the understanding, protection and restoration of their extraordinary diverse natural environment seems clear. Whilst the link between the UK and its Crown Dependencies is perhaps more complex, the support given by UK Government to Guernsey in helping the island adopt CBD clearly demonstrates the role the UK can play in supporting the Dependencies. Whilst the larger Dependencies have had a level of independence and resource to support them in taking their own actions towards commitments such as 30-by-30, would the Minister consider how UK Government might support the smaller CD's develop their own responses? We would not want to see this take away from the resources available through Darwin to the UKOTs."

Minister Creagh: We have worked closely with Governments of Guernsey officials to extend membership of the Convention on Biological Diversity to their territory. And we are working with Jersey and the Isle of Man to implement the UK's National Biodiversity Strategy and Action Plan. We will try to work with the Crown Dependencies on policy areas. I know that, on the Isle of Man, there are plans for big offshore wind-arrays, and to share best practices and lessons learnt if this would be useful. But the UK Government does not fund Crown Dependencies. They are Crown Dependencies because they are responsible for their own domestic affairs and do not receive money from the UK exchequer, I'm afraid. I am not sure that there will be any changes to that.

Catherine Wensink: OK, I think that comes to the end of the questions online.

Dr Mike Pienkowski: I think we are at the end of the time of the Minister's availability. Correct me if I am wrong, Minister or your officials. Thank you very much indeed for joining us and for taking the fire of a range of questions. Your answers are much appreciated.

Minister Creagh: Thank you very much indeed, I have been well briefed by my officials. Lovely to see you all and look forward to meeting many of you in person.

Dr Mike Pienkowski: We still have, though, Minister John Cortés and you may, John, want to make a few more remarks now.

Minister John Cortés:

OK, thank you Mike. Just a few, almost random thoughts that I have noted down. Just to share with this incredible full collective that we have here today. I much prefer meeting in person, but the range of participants that we can gather by doing it this way is much greater. And it really is wonderful looking at the list of contributors and the range of subjects covered.

If I may just go back over some of the points that I made earlier, I think there are a few things that I could spend a little bit more time talking about. And that's the challenges and opportunities of our small territories. I've been in the job as Minister for Environment for 14 years now, and consider how it is possible if you have the right agenda and the right intentions to combine economic progress and development with the protection of nature and the enhancement of the environment – of our urban environment as well as our natural environment.

There are clearly, and as I said we all recognise, challenges: challenges of space, and challenges in relation to energy. In Gibraltar, we are struggling too, with the transition to renewable energy, because of our lack of space but we feel committed to it. We have important targets in our climate-change strategy. We are about to publish our 25-year plan and we are often asked is it worth it because our contribution to global carbon is infinitesimal. And my answer is always 'Yes', because we have a responsibility to the global community, but also very often renewable energy has the side-effect of improving our air-quality, so these are issues that are debatable. Is it worth us wanting to arrive at net-zero in our small communities, and this I think is an important debate. I mentioned also the challenge of waste-disposal as one which is significant in island-communities.

Gibraltar is not geographically an island but in many ways, for a number of historical and political reasons, we have to act as if we were. And these are all challenges that we are wanting to overcome. And also, to share our experiences and opportunities, like the one given by this conference are to be seized. The Minister made a very interesting comment about having to come out of our Overseas Territories niche. I am not sure whether I captured exactly what she meant, but my interpretation is, actually, that I totally agree with that. We are a collective; we work together, more than we ever have done, and we exchange views and so on. But we are also territories and countries in our own right and we shouldn't feel in any way inhibited by the fact that we are small. And part of this collective, if anything, is that it should empower us further and promote our own ambitions and our own successes in our own right as well as a collective.

One other thing that I think I must comment on. Looking back almost to the precursor of the Forum and thinking back to Sara Oldfield's *Fragments of Paradise* back in 1987, is how we have come a long way since then. And one of the main aims, other than sharing experiences and expertise, was capacity-building in territories; looking at the contributors to this conference, to that extent, that is capacity-built. The amount of work being done in the territories by both UK-based, but increasingly by territory-based, researchers is impressive if you compare it to several decades ago when I started this journey.

One example I can give you in my home city of Gibraltar, is the University of Gibraltar's contribution to this

conference, and the work that it is doing, I am very proud as a Professor of that University to mention this. But I think that is a success and the University is very young, about 10 years old now, so this capacity-building I think is one way in which the Forum and the various collectives of the Overseas Territories and Crown Dependencies have managed to succeed.

I think that is really all I want to say at this point. Just, once again, to thank and congratulate the Forum for keeping at it. And to those of you here who are involved on the political side, and who are contributing as officials or politicians to the Overseas Territories and Crown Dependencies Environment Ministers' Council, just to encourage you to join us at the next Council meeting which Mike is co-ordinating. And if you are going to be at the Joint Ministerial Council in November, I hope to be there, and I look forward to seeing you. All I can say is keep up the good work. I think we have made tremendous progress: a lot more to do, a lot of challenges ahead, but always opportunities too. Thank you.

Dr Mike Pienkowski: Thank you very much John, and thank you for your leadership in many aspects of this work.

Minister Cortés has indicated that he too is prepared to answer any questions. He is hesitating now.

Minister Cortés: I just don't know what questions they may want to ask. But I am very happy to.

Dr Mike Pienkowski: Apart from your Gibraltar role you are the Chair of the Environment Ministers' Council of UK Overseas Territories and Crown Dependencies so you might have some. I don't know. They may all be questioned-out. Have you got any questions, question master.

Catherine Wensink: There are no questions coming through just yet.

Minister Cortés: Let me just say, in order to keep the conversation going, I think that the Minister mentioned that the Biodiversity Strategy had landed and, as those of us involved in it know, it has had involvement from all the different territories. I am sitting here with my CEO, Stephen Warr, who will be known to some of you, and he has contributed. And, as the Minister said, we are trying to find the right moment to publish it. But I think that should happen quite soon. And I think it is an important statement, precisely because it has got contributions from everyone.

There used to be a time, and Mike you will remember when, decades ago, there was a hesitation from the territories because most of these strategies were imposed from above and there was a lot of, I think justified, resistance. But I must say the relationship has changed completely and there has been a tremendous transformation, certainly within the aspect that we cover on environment and biodiversity in the relationship. A lot more to do, as usual, but I think we

can all pat ourselves on the back for having made a lot of progress over the years.

Catherine Wensink: We do have one question. From Janet Mackinnon: "What is the role of spatial planning in UKOTs for both nature conservation and sustainable development?"

Minister Cortés: I don't know whether that question really is for me. Perhaps it would have been better answered by Minister Creagh. In the sense that each territory will have its own autonomy in this sort of area. Certainly in the case of Gibraltar we are very conscious, first of all, of our limited space. So I can talk about Gibraltar, I can't really talk about the other territories. But I suspect it is similar.

We are at the moment, for example, in the middle of a revised town planning and development plan. And we have consultants on board, who are looking at the whole question of spatial planning – and the challenges of having positive planning in this respect in small territories, where there is a large demand for space, for housing for example, as well as wanting to protect our natural areas. There is a big role in Gibraltar. At the moment we are in the middle of developing our latest plan which is informed by our various environmental strategies, our climate-change strategy.

Our active travel-strategy is another very big aspect that we have not mentioned so far: active travel and reduction of the use of vehicles. And also informed by our 25-year plan, which is published as a draft and will soon be formally launched. And so I can speak about Gibraltar's involvement in this, and our own way ahead, but every territory will be different, and my Chairing the Environment Ministers Council does not mean that I have an overview, because we all have very different needs, requirements and strategies.

Dr Mike Pienkowski: Thank you very much.

Recommendations

Introduction

Throughout our series of conservation conferences for UKOT and CD practitioners, the UKOTCF network members have been keen to reach conclusions and recommendations to progress conservation, rather than just learn from an interesting series of talks, posters and discussions. At each UKOTCF conference (from 1999) participants have been encouraged to contribute towards conclusions and recommendations. Some of the uses of these include, but are not limited to:

- Advising on UK reports to CoPs of international conventions etc
- UK Parliamentary inquiries and spending reviews relating to the UKOTs and CDs
- UK calls for evidence on matters relating to UKOTs & CDs
- Provision of briefings on UKOT/CD matters including to UK MPs, Ministers, officials etc
- Funding bids requiring background and scene-setting
- Encouraging funding from other sources
- Communications material based on conference (e.g. newsletters, blogs, websites etc)
- Informing UKOTCF's own actions and those of other organisations/institutions

Starting from a blank page at the conference would not make the best use of time. Instead, the conference is used as an opportunity to share work, discuss ideas and provide a critical mass of persons coming together to highlight progress and opportunities while at the same time providing a clear summary of achievements, future needs etc. Over the past 20 years, our conferences have evolved to meet these and other needs.

Through its own work, including working groups, meetings, projects, preparing publications etc, UKOTCF maintains contact with those working on environmental matters in the UKOTs and CDs between conferences.

For our last couple of conferences, UKOTCF recruited voluntary teams, one for each topic, to draft conclusions for that topic. Copies of an evolving series of these drafts were widely circulated in the months before the conference and the comments used to refine the drafts. As a consequence, the final draft could be approved rapidly at the conference.

This year's topics were developed via consultations within the UKOTCF network over the last couple of years. The recommendations are grouped under the topics, in the order that we expect the topics to be addressed in the conference.

This year, we have streamlined further this process of developing recommendations, by having one team to develop recommendations across all topics. The drafting

team includes UKOTCF Council members and other senior officers, together with others invited to bring in a full range of territories and wider expertise. We invited persons from almost all territories, and acceptances meant that the final team included persons from Ascension, Bermuda, British Virgin Islands, Falkland Islands, Gibraltar, Isle of Man, Jersey, Montserrat, St Helena, Sark, Turks & Caicos Islands, as well as some who had worked in Alderney, Anguilla, British Antarctic Territory, Cayman Islands, Chagos Islands, Cyprus Sovereign Base Areas, Guernsey, Pitcairn Islands, South Georgia and Tristan da Cunha. These included personnel from government, NGOs and other conservation practitioners.

This year, we aimed to limit the total number of recommendations to about 20, and rather fewer addressed to any one category of organisations.

In June 2025, we circulated this draft to everyone registered for the conference since registrations had opened in April 2025, for comment. A second draft, taking account of all comments, was circulated for comment in early August to all by-then registered. A third draft, taking account of the few further comments affecting only small points in two draft recommendations, was circulated for comment in early September to all by then registered, and again in late September to all who had registered since the first circulation of this draft. The fourth draft, dealing with these comments, was circulated to all by-then registered in the conference booklet, in early October, over a week before the conference. No comments were received on this.

Confirmation of the acceptability of the recommendations was confirmed in the relevant sessions of the conference.

We thank the drafting team and all those who commented in any of the rounds of consultations.

The recommendations sought to draw consensus from the conference participants involved in conservation in the UK Overseas Territories and Crown Dependencies, but it should be noted that not all points apply to all Territories, such is the diversity among the Territories and the unique challenges they face, in addition to those shared. In all cases, the recommendations are just that, from online discussions of experienced, informed and concerned persons and organisations. We try to indicate to whom each recommendation is directed, whether this be UK Government, territory governments, NGOs, funding bodies or others. Clearly, they are not binding on any of these bodies, even where the body concerned has personnel participating in the conference.

UKOTCF 2025. Recommendations from the 2025 conference. pp 19-22 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

In this document, ‘UKOTs’ means UK Overseas Territories, ‘CDs’ means Crown Dependencies, and ‘territories’ means UKOTs & CDs. The main target-type of each recommendation is in bold italics.

Recommendations

Main topic 1: Sharing Experiences across territories

A. Territories are advised to learn lessons from each other in techniques for conservation, and to develop closer conservation-based relationships with neighbouring countries – to encourage shared learning and technical exchanges. [*Conservation workers and authorities in Territories*]

B. NGOs and their networks are important to UK Government because they help deliver its international commitments, through expert help with some issues that UK Government may lack the capacity to address alone. FCDO is advised to re-strengthen its relationship with NGOs and partners working with the UKOTs, including UKOTCF which, for example, it used to invite, alongside other territory and umbrella bodies, to brief Governors-designate and FCDO’s own personnel, and to networking events such as linked to the annual Joint Ministerial Council. [*UK Government*]

Topic 3: Achieving Biodiversity & Sustainability targets

C. Conference asks UK Government: to ensure that it consults official and NGO bodies in the UKOTs and CDs at the start in planning conservation policies, rather than at the end when positions are already firm and time short; and to invite and support UKOT and CD representation as part of UK delegations to COPs. [*UK Government*]

D. Policy mechanisms that recognise formally, and incorporate, local expertise and community-generated data into environmental governance frameworks, ensuring that conservation actions are contextually appropriate and socially inclusive, should be supported. Biodiversity and sustainability targets should be clear, concise, meaningful, tailored to the situation, but be mindful of broader, international targets. When governments develop new policy, whether Multilateral Environmental Agreements or Local Biodiversity Action Plans, accurate targets can help to ensure that the policy delivers what it is intended to do, and fit-for-purpose monitoring protocols are needed also. Policy development should consider also the reporting requirements as most territories have little capacity for lengthy and time-consuming reporting. [*UK & Territory Governments*]

E. Any project should have a range of targets, including those which are specific to project outcomes, but which also prompt the organisation to ensure that delivery is being achieved, funding is sufficient, that policies are

appropriate and that senior management has a stake in the outcome. Targets should be ambitious, but achievable without overly relying on factors outside of the control of the practitioner. Where partnerships exist, targets should assign clear responsibility to the person(s) or organisation(s) who are responsible for delivery. Appropriate budgets (where applicable) should be set, over a multi-year time-scale (when long-term targets are set) to ensure delivery over an extended period of time. Funding for staff must be sufficient to ensure longevity and continuity of staff through the duration of the targets. This ensures that projects do not fail due to poor planning and resource-provision. [*Project-managers and their senior colleagues*]

F. Territories should ensure that they know which of their species and habitats need protecting and recovery/restoration and, ideally, all endemic species should be IUCN Red-listed. All at-risk species and habitats should at least be integrated fully into National Biodiversity Strategies or, ideally, have focused individual Action Plans/Strategies that are adequately resourced. To achieve this, Territories should have sufficient baseline-data, covering species of animals and plants, habitats and land-ownership. [*Territory Governments*]

G. UK and Territory governments should provide the financial resources and other support necessary to acquire good data and maintain good records of species, habitats, threats and applied conservation work in the Territories. [*UK and Territory governments*]

H. For Territory residents to be able to invest in alternative energy, green-energy equipment needs to be affordable; so Territory Governments need to incentivise this and reduce tax on these imported products. [*Territory Governments*]

I. Our Territories are so small that blue-carbon has been seen to be a better option than some others, but quantifying suitable areas through mapping projects is required first and then there is the need for ongoing monitoring to assure that these sites are still performing as suitable blue-carbon sites – so resources must be allocated to this. [*UK & Territory Governments*]

J. Island and ecosystem restoration programmes should be highlighted as currently one of the most important conservation measures. It should also be highlighted that effective restoration can be extremely complex and requires a long-term commitment of funding, staff-capacity, resources and monitoring. [*Conservation-managers, NGOs and governments*]

Topic 5: Using technology and data to guide conservation

K. Conference notes some Territories’ success in using technology to overcome some challenges in conservation, including: remote sensing, satellite-imagery and drones, particularly with the addition of multispectral image-processing to help management of protected areas, including identification of land-clearance monitoring

and ecosystem-health (e.g. spread of invasive species or plant-disease); and DNA to identify unknown plant-species. Environmental DNA (eDNA) and bioacoustic surveys have the potential to be useful in conducting more routine biodiversity-monitoring or biosecurity-surveillance. *[Territory governments and NGO land-managers]*

L. Conference notes successes in the deployment of conservation detection dogs across the UKOTs, expanding on work started in South Georgia. Uses include avoiding arrival of invasive species, and finding nest-sites of critically endangered species, such as rock iguana and sea turtles (in Cayman) so that hatchlings can be placed in protected facilities until mature enough to resist predation. Thermal drones are also a new technology that can assist with tracking animals, particularly those that form colonies – but in hot countries there are challenges with the heat-signals and the ground temperature, so more work in this area is needed. *[Conservation-managers]*

M. Use of combined approaches gets the most out of available data, showing the value of sharing data and technical expertise to add value to analyses and give long-term benefits. Technological advancements make more accessible novel approaches, such as genomic tools and spatial modelling. Care should be taken when introducing novel techniques as they may be complementary to traditional monitoring rather than a replacement methodology. Side-by-side validation can help determine whether new technology provides consistent results in long-term monitoring. *[Conservation-managers]*

Topic 6: Identifying and preparing for future challenges and opportunities

N. Horizon-scanning for potential known and novel threats has been undertaken and may continue to be useful for governments and NGOs *[Territory governments and NGOs]*

O. Knowledge-sharing of current problems, future risks and support opportunities between governments and with NGOs and neighbouring countries is essential to learn from experience and best practice. *[Territory governments and NGOs]*

P. Emergency funding for active responses to critical threats, whether from invasive non-native species, natural disasters and or human or animal pathogens should be identified and provided ahead of any real-time issues or in the immediate aftermath. Known challenges, e.g. resilience to sea-level rise, and adaptation to extreme heat-events, such as the impacts of climate-change, must be addressed before they reach problematic levels. *[UK & territory governments]*

Q. Governments, including with corporate funds, should be forward-planning for opportunities to restore nature, including opportunities such as strategic land-purchases

for nature reserves, to linking existing sites through the development of habitat-corridors; they should ensure that new development does not compromise existing good practice, including by purchase of private land in Protected Areas to return this to public ownership, or preferably, to the inalienable ownership afforded in National Trust Ordinances where these apply. This idea can be expanded to incorporate networks of protected areas for terrestrial conservation as well as for linking Marine Protected Areas. *[Territory governments]*

R. Good climate-models are powerful tools when designing, managing and communicating the importance of protected areas. Their use can help maintain the biodiversity of the islands for the future. Sharing data and information across projects can increase greatly the robustness of the models. Modelling climate-change can be very helpful by looking at historical data and predictions within a very local scale – so real change can be seen across small islands and then identifying what ecosystem-services areas are providing, then using this as a justification for protection as national parks or for development restrictions. This can be cross-referenced with local weather-data and ground-truthed satellite-imagery. *[Territory governments]*

Topic 7: Resourcing Conservation

S. As agreed in the Environment Charters, the UK Government must support the UKOTs in: joining UK's ratification of international environmental agreements protecting species and ecosystems; reaching international targets for biodiversity including the Global Biodiversity Framework Targets (GBF) and the Sustainable Development Goals in UKOTs and CDs; the designation and management of Ramsar Convention Wetlands of International Importance and World Heritage Sites; and in shared high ambitions in combating and adapting to climate-change. Attention is drawn to the inability of CDs to benefit from UK-sourced funding. *[UK Government]*

T. Conference asks that both the Darwin Plus and Blue Belt funding programmes be maintained (the latter with increased open access by non-government organisations that provide so much technical and practical support) as, without these, nature conservation in the UKOTs would be extremely restricted. Even with the maintenance of these schemes, sources of conservation funding for the UKOTs remain limited compared to the UK. Therefore, Conference also strongly recommends: the establishment of an equivalent “Green-Dot” funding scheme for the conservation of terrestrial wildlife (which includes most UKOT endemics); open access to Lottery funding for UKOT conservation projects; and exploring opportunities to support research through UK Research Institute (UKRI) funding. *[UK Government]*

U. UK Government is asked to reduce bureaucracy in the environmental project application process and make some criteria less rigid to take account of the very different situations of the UKOTs. UK Government is also asked to extend support for building on projects that are proving

successful, rather than requiring funded projects to be totally innovative. Also, territories have pointed out that the time-limit of one year, or less, of Darwin Local grants does not allow for the time-scales needed for decisions in UKOTs (many of which follow UK slow practices of former decades). A restoration is needed of support for umbrella and networking bodies of which UKOT and CD bodies are members/associates, e.g. by funding conferences organised by umbrella bodies as well as crucial networking (on par with EU COST actions and to which UKOTs now have limited access). **[UK Government]**

V. Corporate businesses and conservation NGOs are encouraged to use tools for example, EcoMatch, so that environmental, social, and governance (ESG) commitments can be met by effective conservation actions in support of the most internationally important biodiversity for which UK and its Territories are

responsible. **[Corporate businesses and conservation NGOs]**

W. Generating revenue from services has potential - park rentals for events, filming and photography, and a range of products and merchandise, including clothing, water-bags, stuffed toys etc. Branding items also market the organisation's image and unique species and habitats.

[Territory NGOs]

X. Conference advises all to remain alert to the pressures on ministers and officials in those several territories whose main source of government income is from taxes accruing from the built development of land; and that this can be a perverse incentive against implementation of the Sustainable Development Goals and environmental conservation, despite the natural environment being a key asset supporting the economies. **[UK and Territory Governments and NGOs]**

Key Take-aways from conference discussions

In the closing session, discussions identified some key take-aways additional to the recommendations. These are noted below

1. Scaling Up Restoration – There was interest in scaling up restoration efforts in a number of UKOTs and resourcing these through innovative partnerships.
2. Corporate Volunteering – Corporate days and charging for these could be replicated in some UKOTs & CDs. This needs to be supported by staff-members to coordinate volunteer efforts potentially by corporate partners.
3. Remote-sensing Workshop – There was broad support for a follow up workshop to look at remote sensing and analysis across the UKOTs & CDs with at least 6 territories signed up. Others welcome to indicate interest (at https://docs.google.com/document/d/1R6fwAFw19bQDjH8miRTIELLjWGX1_IJE7M4r3osc-zo/edit?tab=t.0).
4. Community Engagement – Community-engagement (such as story-telling), including via the Community Voice Method, can build support for policy; this, and capacity-building, are key to long-lasting conservation. Projects support this type of work, as well as for environmental monitoring, should be long-term.
5. Power of Partnerships – Partnerships, including those with researchers, are key (as are advances, such as in conservation genetics, including analysis of genetic diversity and population structure). They can take time to build up, but ultimately can have long-

lasting results (e.g NPTVI and Kew; St Helena and researchers)

6. Engaging Tools – Information sources, such as the National Trust for the Cayman Islands app, are important for engaging with communities and visitors alike. The NTCI app has been created in such a way that the template can be adapted to other UKOTs. The NCTI Heritage Heroes is a good example of blending arts, culture and environment.
7. Open Data for Equity – Open-sourced data (including earth-observation, both free and some paid for) are complimentary to herbaria and expert-surveys, and could help to fill data-gaps and lead to more equitable conservation. Global Biodiversity Information Facility GBIF (and hosted portals) should be an ultimate aim for hosting such data. Even where sensitive data from UKOTs & CDs that should not be shared, there are guidelines from GBIF on this.

UKOTCF 2025. Key Take-aways from conference discussions. p 22 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

Forthcoming UKOTCF book on UKOT & CD wildlife & conservation

In the closing session, Dr Mike Pienkowski outlined a forthcoming major book.

In 1987, Sara Oldfield's review of wildlife in the UKOTs and its conservation needs, *Fragments of Paradise* was published; this resulted in the formation of what became UKOTCF. 30 years on: the review in *Forum News* 46 (2017) (ukotcf.org.uk/newsletters/) showed a lot of progress – but also lots left to do.

For more than 4 years, a team has been working on a new book. This consists of a well-referenced text (nearly complete) and very many high-quality photos (which will take up about half of the space); collation of these is over half complete. Publication is expected in 2026.

The expected title is: *The Nature of Britain's Fragments of Paradise: wildlife and its conservation in UK Overseas Territories and Crown Dependencies*, edited by Mike Pienkowski & Sara Oldfield, assisted by Catherine Wensink, Ann Pienkowski, Keith Bensusan, Adam Riggs & Jodey Peyton. The chapters and lead-authors are:

Foreword by Hon. Professor John Cortés, Gibraltar Minister for Education, the Environment, Sustainability, Climate Change, Heritage, Technical Services and Transport; and Chair of the Council of Environment Ministers (or equivalents) of UK Overseas Territories and Crown Dependencies

Chapter 1. Introduction, by Mike Pienkowski & Catherine Wensink

Chapter 2. Flora – diversity, endemism, rarity and threats, by Sara Oldfield

Chapter 3. Terrestrial invertebrate diversity and endemism, by Vicky Wilkins (Species Recovery Trust and IUCN Atlantic Islands Invertebrate Specialist Group) and Liza Fowler (St Helena National Trust), with 12 case-studies by territory authors

Chapter 4. Reptiles and Amphibians, by Paul Edgar, with sections by Frederic J Burton (Cayman) and Cerys Joshua (St Helena)

Chapter 5. Birds – flagships for global conservation, by Mike Pienkowski

Chapter 6. Marine Diversity, by Adam Riggs (St Helena) & Kathleen McNary (Turks & Caicos Is)

Chapter 7. Conservation arrangements and mechanisms, by Mike Pienkowski & Catherine Wensink

Chapter 8. Human Communities in the UKOTs: sustainable livelihoods, challenges and opportunities, by Catherine Wensink & John Pinel (Jersey)

Chapter 9. Tackling invasive non-native species & -----

UKOTCF 2025. Forthcoming UKOTCF book on UKOT & CD wildlife & conservation. p 23 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

restoring ecosystems, by Rebecca Cairns-Wicks (St Helena), Jodey Peyton & Alan Gray, with 8 territory case-studies, including by Alison Neil (South Georgia Heritage Trust), Bryan Naqqi Manco (Turks & Caicos Islands), Grant Munroe, Ben Taylor & Darnell Christie (Falklands) & Bermuda

Chapter 10. Managing Marine Resources, by Adam Riggs (St Helena) & Alizée Zimmermann (Turks & Caicos Reef Fund)

Chapter 11. Global Connectivity & Global Climate Change, by Sara Oldfield & Keith Bensusan (Gibraltar)

Chapter 12. Looking ahead, by Catherine Wensink, with contributions from school students in a UK Overseas Territory and a Crown Dependency

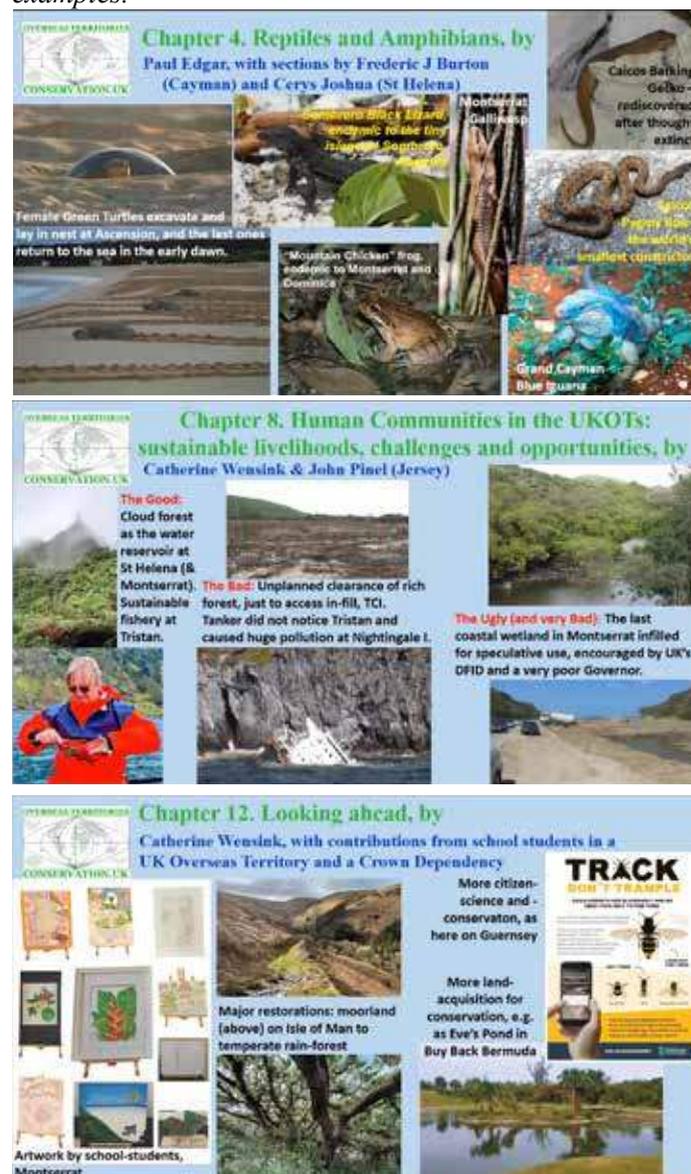
References (sorted and formatted by Keith Bensusan)

Glossary

Conservation bodies in UKOTs and CDs

Visiting the territories.

Here are just a few of the several hundred photos which will illustrate the book, using just a few chapters as examples.



Acknowledgements

In closing the conference, Dr Mike Pienkowski said:

A conference is a team effort; I guess that I am echoing a key message of our Ground Lecturer here! I would like to credit some of this team – and apologies to any whom inadvertently omit.

I would like to start by acknowledging the financial support from JNCC, the Garfield Weston Foundation, the University of Gibraltar, UKOTCF itself and its member and associate bodies Amphibian & Reptile Conservation, Bermuda National Trust, Gibraltar Ornithological & Natural History Society, Manx Wildlife Trust, the National Parks Trust of the Virgin Islands, and St Helena National Trust.

I would like to thank Myles Darrell for his inspirational Sir Richard and Lady Dace Ground Lecture. This was partnered by a great number of great talks and posters – and we thank all speakers and poster-presenters, and their colleagues who helped in preparation of these. Apologies to poster-presenters for a technical fault which I am told has now been overcome.

Many of the talks restored my hope that the knowledge of how to make slides is not yet dead. At the last couple of conferences of other organisations (which will remain nameless) that I attended, I wished that I had taken binoculars in with me, as the speakers seemed to have forgotten that slides are intended to convey information, rather than be so stuffed with material in micro-sized fonts that nothing can be read. I was so pleased that most of the speakers at this conference did not fall into that fault. So, the knowledge is merely widely Endangered, rather than Extinct.

Of course, I should remind those few speakers or poster-presenters who have not yet supplied the texts and illustrations of their presentations for the proceedings to do so this week. Any speaker or poster-presenter who wants to amend proceedings material already supplied should get the amended version to me by Monday.

The Session officers (chair-person, question-master & rapporteur) have thankless tasks, serving as the much-battered buffers between participants, speakers and organisers. It takes a lot of preparation time and, for rapporteur and some question-masters, follow-up. We thank them deeply.

UKOTCF 2025. Acknowledgements. p 24 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

We are very grateful also to the cross-territory panel who worked for months before the conference to draft the initial version of the recommendations and work on the revisions –and, of course, to all who commented during the consultations.

We thank all those who asked questions or made comments on the talks and, indeed, also in the lively poster session.

We thank in advance those who will help in disseminating the results, including the preparation of the proceedings.

Our lives have been enriched and our hearts lifted by the musicians and their organisations supplying their work and allowing it to be played in the breaks.

Making this happen takes a lot of preparation and frantic activity during and after. I am grateful to my colleagues on the organising team for dividing up these tasks. They are Catherine Wensink, Jodey Peyton, Keith Bensusan and Ann Pienkowski – and, for the Funding session today, Leigh Morris and Jonathan Andrews. The core team also usefully proved that I am not needed by keeping the show on the road for two hours on Monday when Vodafone knocked out my internet and all my communications.

And finally, and most importantly, all you participants (at least 167 registered, including some involved in all UKOTs and CDs) – there can be no conference without you.

Thank you all

Dr Keith Bensusan added:

Almost everyone has been thanked, but I would like to say that the name Mike Pienkowski is indivisible from the subject of conservation on the Overseas Territories; so thank you so much, not just for your organisational skills, but for all the support you have given and continue to give to all the territories.

Mike Pienkowski:

Thank you: you have a nice turn of phrase, Keith!

So, I think we are all conferenced-out – for a day or two at least. And now, we are going to close with some natural night-time sounds from Montserrat.

3rd Sir Richard and Lady Ground Lecture on Nature Conservation in UK Overseas Territories and Crown Dependencies [Main Topic 2]

Introduction to the Lecture series

Dr Mike Pienkowski (Chairman, UK Overseas Territories Conservation Forum)



UKOTCF is honoured to be hosting the third in its series of occasional high-level lectures on nature conservation in the UK Overseas Territories and Crown Dependencies named after the long-term supporters of such conservation and of UKOTCF, Sir Richard and Lady Dace Ground.

After working mainly in media law, Richard Ground left London in 1983 for the Cayman Islands where he served as Crown Counsel, and from 1987 as Attorney General. In 1986 Richard married Dace McCoy, whom he had met in the Cayman Islands. Richard and Dace continued to live in Caribbean UK Overseas Territories until 2012. Dace McCoy Ground is a Harvard-trained American lawyer, who worked for City governments in Los Angeles and Seattle. After a further degree in marine studies, she was hired in 1985 by the Cayman Islands Government as Marine Parks Coordinator, responsible for establishing a marine parks system for those islands, a pioneer for the region. She worked closely with Gina Ebanks-Petrie, who was our first Ground Lecturer at our 2021 conference. Dace then became founding Executive Director of the National Trust for the Cayman Islands.

Outside his legal and judicial work, Sir Richard was a keen and talented wildlife photographer and became passionate about the natural world. He published his first book of photographs in Cayman in 1989, *Creator's Glory*. As part of a productive partnership, Dace undertook the layout and publication of the book, and such combined and complementary efforts continued throughout. Sir Richard became Judge of the Supreme Court of Bermuda,

from 1992 to 1998. In Bermuda, Dace worked for the Bermuda National Trust as Director of Development.

In 1998, Sir Richard was appointed Chief Justice of the Turks and Caicos Islands. At the time of the Grounds' arrival, UKOTCF had recently started a major programme of work over several years to help the Turks & Caicos National Trust recover from an almost impossible position that it had been left in by a previous mentoring organisation. Dace's history brought them into contact with UKOTCF around this project, and much subsequent conservation progress has flowed from this coming together. The Richard and Dace publishing team



Sir Richard and Lady (Dace) Ground at the Haulover Field-Road (nature trail), set up by UK Overseas Territories Conservation Forum and Turks & Caicos National Trust. They are holding copies of the trail guides designed by Dace for UKOTCF and featuring Richard's bird photographs.

Photo: Dr Mike Pienkowski

Pienkowski, M. 2025. Sir Richard and Lady Ground Lecture on Nature Conservation in UK Overseas Territories and Crown Dependencies: Introduction to the Lecture series. pp 25-26 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

leapt into action again, with the production in 2001 of the superb photographic *Birds of the Turks and Caicos Islands* – a book which still sells today, with proceeds donated to conservation.

During this period, in 1999, jointly with Turks & Caicos Islands colleagues, I first recruited Bryan Naqqi Manco for the position of Project Manager for the Darwin Initiative-funded project to develop a management plan for the area centred on the Ramsar Convention Wetland of International Importance of North, Middle and East Caicos. Naqqi was already a frequent visitor to TCI, where his mother lived and worked.

Dace worked with myself of UKOTCF and Michelle Fulford-Gardiner, TCI's Acting Director of Environment and Coastal Resources, to facilitate cross-sectoral workshops and related consultations and analyses to help local players produce TCI's strategy to implement the 2001 Environment Charter between UK and TCI. This served as the pilot for similar exercises in other UKOTs, until UK Government ended funding, only having to restart it in another guise some years later. Dace joined UKOTCF Council and, working with UKOTCF, also undertook the design and layout for FCO and DFID for their then new Overseas Territories Environment Programme (OTEP), the then funding mechanism for the Environment Charters. Following their departure from TCI, Dace (with Richard making his excellent photographs available) continued support for TCI. This included layout of the pioneering trail guides and environmental information centre display-boards, developed and implemented by UKOTCF for the Turks & Caicos Island, led locally by Bryan Naqqi Manco, who was our second Ground Lecturer.

From 2004 until 2012, Richard was Chief Justice of Bermuda. While still maintaining her voluntary work for UKOTCF, back in Bermuda, Dace again became very active volunteering for Bermuda National Trust and other conservation bodies on the island. In 2011, the Bermuda National Trust awarded her its Silver Palmetto Award, the Trust's highest honour, to acknowledge her many years of exemplary service. Richard and Dace moved to live in Derbyshire, UK, an area they had come to know and love during many vacations spent trout fishing in the Derbyshire Wye, and not so far from Richard's original family home in Lincolnshire. Their support for UKOTCF continued, including participation at several high-level events. Richard was made a Knight Bachelor in the Birthday Honours list 2012 for his services to justice in Bermuda. Tragically, Richard died in February 2014 after an illness. By 2015, Dace felt able to take on the Chair of UKOTCF's Wider Caribbean Working Group, from which she has just retired after 10 years of service. She also resumed her Council duties, and continues in that role.

Dace herself proposed today's Lecturer, and was looking forward to introducing him. However, Dace has been taken ill and is receiving treatment. I am sure that we all wish her well for a speedy recovery.

Instead, to introduce our Lecturer, I am going to hand over to Ann Pienkowski, who has just stood down after 15 years as Wider Caribbean WG Secretary (a role that she took up on a temporary basis), including a decade working with Dace, but has agreed to chair WCWG jointly with Andy Pearce.

Introduction to the third Ground Lecturer

Ann Pienkowski



He is widely respected, not just in Bermuda, for his expertise and enthusiasm. And he will share these with us, in his talk titled *Whose environment is it anyway? Essential roles of our stewards of today, the guardians of tomorrow, and how we can help them.*

Dace was delighted that Myles agreed to give the 3rd Sir Richard and Lady Ground Lecture, after she proposed him for this.

The Head of Natural Heritage at the Bermuda National Trust, Myles is a horticultural enthusiast and environmentalist with a commitment to environmental protection and conservation. He also has a keen interest in the traditions of agriculture, gardening, and growth and a passion for his island home.

Most recently Myles' primary focus has been on the conservation of Bermuda's native and endemic flora, including advocacy for their unique habitats. Engagement of the community in conservation work is also a key part of his role, and in this capacity he regularly leads field work for corporate volunteer groups, community groups and students of all ages. His hope is that promoting knowledge of the environment will translate into caring for our natural heritage to protect it for future generations.

Myles was voted a Bermudian of the Year in 2023 for these works and his dedication to the community. In 2024, he was honoured as the Bermuda College Roche Science Week Speaker.

His BSc degree in biology – with a strong focus on co-constructed, contextualized environmental science learning – was followed by a graduate diploma of teaching secondary science from Waikato University in New Zealand.

When he is not working in the community, Myles spends time in the garden and enjoying his family, wife Sara and their two teenage daughters, who he says are his greatest source of motivation.

Pienkowski, A. 2025. Introduction to the third Ground Lecturer. p 27 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

The third Sir Richard and Lady Ground Lecture on Nature Conservation in UK Overseas Territories and Crown Dependencies: Whose environment is it anyway? Essential roles of our stewards of today, the guardians of tomorrow and how we can help them

Myles Darrell, Head of Natural Heritage, Bermuda National Trust



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Young people are generally concerned about their environment – and they want to do something about it. Older people are also worried – but they feel guilty; they don't believe they can do anything about it.

This talk explores Myles Darrell's experiences and conclusions from working with volunteers across the demographic spectrum. His presentation explains the critical and growing role that students are playing in the management, preservation and future of Bermuda's open spaces. Based on his position as Head of Natural Heritage at the Bermuda National Trust (BNT), he provides insight into the work of the BNT and Buy Back Bermuda, a joint venture of two leading environmental organisation to acquire and protect the island's diminishing open spaces.

He has found that far from being passive observers, students have become active stewards of Bermuda's natural heritage — contributing time, energy, creativity and leadership to on-the-ground conservation efforts.

Drawing on real-life examples, this lecture highlights how student engagement has helped shape habitat-restoration projects, biodiversity monitoring, invasive-species management and public outreach. These on-the-ground experiences are not only contributing to the health of our ecosystems but are more importantly cultivating a new generation of environmental leaders.

In addition, Myles will provide insight into the broader mission of Buy Back Bermuda, and how student-driven projects and school-based fundraising initiatives are helping to support the acquisition and restoration of threatened open spaces. Attendees will gain a deeper understanding of how education, volunteerism and conservation-finance intersect to protect Bermuda's environment – and how empowering young people is essential to sustaining this work for the long term.

And yes, he talks about how those feelings of guilt among more mature members of the community can be turned into action!

Myles Darrell, Head of Natural Heritage, Bermuda National Trust



Whose Environment Is It?
Models of Intergenerational Stewardship in Bermuda



Young people today are energised, aware, and ready to act. They're not waiting for permission – they're showing up with purpose.

Meanwhile, older generations – my own included – often carry a deep sense of concern, even guilt. We look at the state of the planet, the pace of development, the loss of green space, and wonder if we've done enough.

Here's what I have come to understand: It doesn't have to be one or the other. Young people and older people aren't on opposite ends of this problem. They're both essential to the solution.

Good day everyone.

I want to begin with a story — one that stuck with me, not because it was dramatic, but because it was honest.

A few months ago, I was at Spittal Pond for a native-tree planting-event. Dozens of volunteers had shown up – school kids, retirees, young professionals, conservation staff – all with shovels in hand, ready to dig. As I was helping unload some seedlings from the truck, I noticed a grandmother and her granddaughter arriving together, a bit unsure of where to start.

Neither of them had planted a tree before. The granddaughter, maybe around 11 or 12 years old, was buzzing with excitement – asking questions, grabbing tools, picking out the spot she thought was best. Her grandmother moved more slowly, more cautiously. But after they planted their first tree together – a young Bermuda cedar – the grandmother paused, looked around, and quietly said: "I didn't grow up doing anything like this... I wish we had. We just didn't know. But I'm glad she gets to be part of the solution."

That moment has stayed with me – because it captures something I think many of us feel when it comes to the environment.



Guilt Into Action: Engaging Older Adults

At the Bermuda National Trust, we manage about 300

acres of land across 20 nature reserves (*map above*), including those owned by Buy Back Bermuda. These reserves are living classrooms as much as they are sanctuaries. They provide the framework where our volunteers – and especially our young people – can connect, contribute, and lead.

Today, I want to share what we at the Bermuda National Trust have learned about mobilising volunteers across the generations – with a particular focus on young people. Students are not just "the future." They are active stewards right now. And their contributions, when structured well, can drive substantive conservation outcomes while shaping a culture of leadership.

What Young People Are Doing Right Now

At the Bermuda National Trust, students form a strong part of our volunteer-base. Every student in Bermuda is required to complete at least twenty-five hours of service each year. We have built systems with schools, teachers and parents to ensure those hours translate into meaningful experiences.

Through partnerships with other NGOs and charities, we connect student-work to the bigger picture of protecting Bermuda. The results are substantial:

- Propagating critically endangered species such as the Bermuda bean and our iconic cedar.
- Clearing invasive species from nature reserves.
- Monitoring biodiversity and supporting science.
- Removing litter and plastics from mangroves and coastlines.

Young People as Active Stewards



Case Study Collage (planting, litter cleanup, propagation)

Bluebird Monitoring

Each Friday, students follow a trail of bluebird nest boxes, using the Cornell Lab’s NestWatch app to record data on birth and fledgling success-rates. This project demonstrates how structured citizen-science engages students while generating reliable ecological data that contributes to global monitoring.



Bluebird nest box, and app screenshot

We are also seeing spillover effects. Students take what they learn and apply it beyond our reserves – creating school- or home-based “micro-forests” with native and endemic species. These projects show how service hours, if designed well, become a seed for long-term stewardship.

Student Leadership (Hydroponics & Pollinator Garden)



From Service Hours to Leadership

Youth-led projects can scale into community restoration.



We don’t claim to “build” leaders. What we do is create opportunities for young people to see themselves as leaders. When they take ownership of their community and environment, leadership emerges naturally.

Sam’s story → service hours into hydroponics and mentoring

There was a young man, Sam, who came to us wanting to complete his service hours for the Gold Duke of Edinburgh Award. At first, he didn’t seem all that interested in heritage or conservation.

But after only a few visits, something shifted. He wasn’t just showing up – he was bringing other young people along with him, drawing them in as part of the team. Sam developed a hydroponic garden where he grew herbs and strawberries, and each week he arrived eager to see what was sprouting. What’s more, he wanted to share – to show other students how they could grow food too. By recognizing that he had skills to contribute, his confidence grew. And when his hours were finished, he didn’t walk away – he kept coming, kept giving back, and kept sharing what he had learned.

Charlotte’s story → pollinator garden into class-wide engagement

And then there’s Charlotte. She had a vision of creating a haven for butterflies, and she was curious to learn everything she could about pollinators and their host-plants. What began as her idea quickly became a project that at least ten other young people joined in. Together, they transformed an area at our head office, Waterville, that had been over-run with invasives, into a thriving pollinator garden. Now, on any given day, when we step outside, butterflies are fluttering across the space that she once dreamed up. But the story doesn’t end there – Charlotte went on to bring her whole class to see the garden, teaching them about the plants and pollinators she had come to know so well. The pride she felt was unmistakable.

The lesson: youth leadership emerges when institutions provide responsibility, resources, and support.

Institutional Role

Individual action is powerful, but institutions scale impact.

Buy Back Bermuda, a partnership between the Trust and the Bermuda Audubon Society, has safeguarded mangroves, woodlands, and coastal dunes. These spaces serve ecological, cultural, and climate resilience functions – while also becoming accessible community assets.

Students are integrated into these projects at every stage. For example, Somersfield Academy has



Eve's Pond restoration

adopted Eve's Pond Reserve — helping to restore an ecosystem neglected for 80 years.

We've also seen young people turn personal milestones into conservation opportunities — asking for donations to Buy Back Bermuda in place of birthday gifts. These small acts, added to larger community support, make land acquisition and restoration possible

How Do We Make It Happen?

None of this happens by chance. We intentionally weave support for young people into our planning, partnerships, and funding.



How we make it happen

Management Planning → Community and youth engaged from the outset, active in monitoring.

Adoption Packages → Corporate sponsors fund reserve management and create community links.

Corporate Team Days → Employees restore sites, schools follow up to sustain progress.

Youth Programmes + Volunteer Data

Alongside these frameworks, we run programmes like:

- Waterville Garden Club
- Friday Eco Club
- Monthly Saturday Community Days
- Cross-territory invertebrate study and Bioblitz surveys

We teach science classes at private and public schools, Middle years to College age, sometimes at their schools but often taking them into the wild.

On average, we work with 400–500 volunteers annually – about 25% youth from high school to university.

And the results speak for themselves. Last year, with significant student help, we:

- Planted over 2,200 native and endemic plants
- Propagated 700 seedlings
- Built 6 new bluebird boxes
- Collected 1,500 invertebrates

These numbers represent ecosystems restored and knowledge built – with young people at the centre.

Turning Guilt into Action – Engaging Older Generations

Many older adults express guilt about environmental decline, often saying: “It’s too late for me.” But guilt is not weakness – it is a signal of care. And it can be redirected into action.

Older adults bring perspective, skills, and resources. Their role can include: mentoring, sharing history of the land, or contributing time, money, and space.

Bridging Generations



Bridging Generations (student & elder working together)

Examples:

- Governor allows use of slat house at Government House
- Stop-gap restoration crops → Students grow food crops that support both ecosystems and senior homes.
- Mentoring moments → Parents or elders sharing carpentry or gardening skills alongside youth.

These practices reduce workload, strengthen community bonds, and make stewardship a shared, collective effort.

So, Whose Environment Is It?

We began with a question: Whose environment is it?

After examining the role of youth, institutions and older adults, the answer is clear:

It's ours. All of ours. Now and forever.



Bermuda landscape

Three Principles

Three principles for organisations seeking to replicate this work:

- Empower youth as present leaders.
- Redirect guilt into structured opportunities for older adults.
- Build systems where everyone has something to give — and something to gain.



Any organisation can adapt this model: engage youth in management planning, link corporate support with education, and create intergenerational spaces for mentoring. When institutions align conservation, education, and finance, we don't just protect places — we build cultures of stewardship that last.

So, whose environment is it?

It's ours. All of ours. And it will be — if we choose it, together.

“Stewardship is not the work of a few — it is the shared responsibility of all generations, shaping an environment that is ours, now and forever.”



Q&A

Mike Pienkowski: Thank you very much, Myles: that was really inspirational. I am going to ramble on a little bit while people think up questions. I am particularly attracted to an idea which parallels something I have thought for a long time. Although organisations do run projects, the really good organisations, as you describe, are ones which allow people, small groups of people, individuals, to think up things and give them the conditions and support to make them work. And that's where the really successful projects come from. In a similar way, your point about responsibilities is great. Responsibility is a mentored thing; it builds up. People think that one day you will reach an age and become responsible, it doesn't quite work that way. I think that is a really key point.

So do we have any questions?

Julie Thomas: What a way to finish a wonderful day – absolutely powerful and inspiring. You, along with our very own National Trust, do so much work that moves our respective islands forward. Congratulations and well done!

Mike Pienkowski: Can I ask: one of the big challenges in Bermuda is its high human population-density and the long period of settlement are obviously factors in the invasives problem. Do you think that high population gives you the chance to work and clear invasives in patches and get the natives back. Can you scale that up as well?

A: I think there's a couple of things there. I think having numbers on the ground definitely does help, as does being really clear about where we are going and what we are doing. We are not just clearing for no purpose and all those invasives are just going to grow back. There is a clear transition occurring. Being really clear about what we are trying to achieve. The numbers help that certainly is important, but I don't think in Bermuda we can scale up much more than where we are at currently because, as much as we have got all these volunteers in place, there's still only a few of us here at the Trust to be able to manage them, the volunteers, and that's one of the things we have learnt. It really is a team of two here in our department, managing 300 acres and 500 volunteers. That's a lot of relationships you need to maintain and engage, and their needs are all very different. So scaling-up is difficult. I think we are reaching our plateau. I think the key point here is the principles and the framework that you are really going to need to focus on if you are going to get more people. Once we have more donors in place, then maybe we could scale-up our staff a little bit. Then I think we would be looking at taking on some more volunteers. We are not currently able to meet the corporate requests. More people want to partner with us than we are actually able to meet with currently. On the screen right now I've got a section of our corporate and partnership volunteering schemes so people will get an



PARTNER WITH US FOR A BETTER BERMUDA

Corporate Volunteer Days

Volunteers can help by removing invasive species, planting native and endemic trees and shrubs, nurturing previous plantings, maintaining pathways and clearing litter. As well as getting their hands dirty and reconnecting with nature, your team will learn about Bermuda's natural heritage. They will get satisfaction from knowing they have helped mitigate climate change and enhanced Bermuda's biodiversity.

Overseeing volunteer days requires professional knowledge and experience, as do some conservation tasks. That's why we ask our corporate sponsors to please support us not just physically but financially. Your contributions pay for materials and our own expert staff who facilitate and guide the volunteer work, as well as supporting ongoing care of the nature reserves year-round. See the chart below for suggested donation levels.

Number of volunteers	Donation for Half Day (4 hours)	Donation for Full Day
Up to 10 volunteers	\$1,500	\$2,000
11 – 25 volunteers	\$2,500	\$3,500
26 and more volunteers	\$3,500	\$5,000

To book a corporate volunteer day in one of our nature reserves, please contact Head of Natural Heritage Myles Darrell at myles.darrell@bnt.bm.

Adopt a Nature Reserve

Adopting a nature reserve is a great option for a company looking to make a long-term and meaningful commitment to Bermuda's environment. With assured support for two or more years, we can embark on a conservation management plan knowing that we will be able to follow through with the after care that is necessary to ensure the success of new plantings, prevent the regrowth of invasive species, manage the impact of hurricanes and maintain any man-made amenities.



Adoption can also include volunteer sessions for company staff, with the chance to build an ongoing relationship and the satisfaction of seeing positive progress over time. Branded signage at the reserve is included.

To discuss potential nature reserve adoptions, please contact Head of Development, Dörte Horsfield at dhorsfield@bnt.bm.

Buy Back Bermuda

Buy Back Bermuda (BBB) is a joint initiative by the Bermuda Audubon Society and the Bermuda National Trust to purchase and conserve our precious open space for the enjoyment of everyone, forever.



Since the first campaign in 2004, BBB has acquired four properties to conserve habitats for biodiversity, natural open space for human health and enjoyment, and to mitigate climate change. Campaign One raised \$2 million and saved 2.96 acres from a condominium development, resulting in the beautiful Somerset Long Bay East Nature Reserve which opened in 2006. Campaign Two raised \$2.5 million and resulted in two new nature reserves. The 8-acre Vesey Nature Reserve in Southampton opened to the public in 2013 and the 3.5-acre Eve's Pond Nature Reserve on Shelly Bay stretch in Hamilton Parish opened in April 2022.

Campaign Three is now underway, with the goal to raise \$1.5 million to create a public nature reserve at the recently acquired 10-acre property at High Point in Southampton, and to maintain it and other Buy Back Bermuda nature reserves for the enjoyment of all.

For more information on Buy Back Bermuda and how your company can support Campaign Three, visit www.buybackbermuda.bm or email BBB chair Jennifer Gray at jmermaidgray@gmail.com.

VISIT OUR WEBSITE WWW.BNT.BM

idea of what is going on, and if you are interested I can share that with you (*at top of page*).

Mike Pienkowski: Thank you. Let me ask Brian Naqqi Manco to put his mic on and ask his question.

Brian Naqqi Manco: I had the great fortune to visit Myles in Bermuda in 2023, I believe, on the habitat-restoration programme focusing on Bermuda Cedar and other native plants. I was impressed with how well supplied Bermuda is with volunteers. Visiting areas which didn't have anyone working at them at the moment, it was obvious that there was an enormous amount of work going on. It's not easy to get people in Turks and Caicos to come out; volunteering is still not a popular thing to do here. And I am wondering how much that has to do with the correlation of the scholastic requirements in place and how long that has been in place, and how it is co-ordinated.

A: That's a really good point. Students are required to do 25 hours of volunteering. I think it does make a difference. We are not the only country. I have found this in another island on a trip last year. I would encourage all governments to do it. It aligns with the STEM changes that we are seeing here in general across education. And a lot of people, not just me, feel that this integrated contextualised learning approach suits many of our learners, and not just in Bermuda; people

of colour, specifically, really identify with, and want to connect with, this. I do think having the 25 hours is a policy that could really help improve the volunteering. You came to Bermuda and visited one of our EcoClubs, and the students are still talking about you. They are still amazed that this guy came and told us everything about Sago Palms that I didn't know. We bring every visitor that comes here into that space. I think that you made it fun and we make it fun. The draw isn't just achieving the hours; it starts with the hours but, once it's here, they stay here, and they want to keep coming and they want to bring friends. So I think it's a good start.

Mike Pienkowski: Thank you. We have some other comments here. **Andy Pearce** says: Thank you very much, Myles, for such a thoughtful set of observations. Humanity and hope born of deep experience. No better way to finish our first day.

And **Janet Mackinnon** says: Thank you for a day of fascinating presentations and inspirational lecture.

There is a question here from **Helena Bennett**: "When you talk about corporate funders, are they on-island?"

A: Yes, that's a really good question. All of the corporate sponsors I am working with are on-island. Sometimes they reach out to us. Sometimes I go to them. Bermuda is small. We all know each other. We have social gatherings. And they might say "Could you come and

tell us about what you are doing.” And usually it will start with a meeting where I share what we do but they also share what are their ESG goals, environmental and sustainability and governance goals, that they want to reach. What I try and do is present ways to meet those goals and at the same time meet our goals. It works in that way. They totally appreciate where we are going; it is full transparency, I didn’t want to avoid talking about colonial issues and funding issues. They are quintessential and what’s really changed for us is that high-level transparency of really telling people. You see it. And we charge for a full day with 26 volunteers \$5000 to come and spend the day. I have heard people say: that’s crazy; why would people pay you to come and volunteer, but actually we give a lot. I often give talks, to let them see what they are getting for that dollar; how they are making a difference in the community; what every dollar is spent on. Clearly we don’t make any money and how that affects cultures. We are giving them clearly a lot of buy-in. We are not in a position to, or have the capacity to, take on much as the call is.

Mike Pienkowski: Thank you. **Katie Medcalf** says “Thank you that was a great talk, very inspiring.”

Nicholas Watts says “It’s a joy to see the inspiration of an intergenerational approach, a beautifully modulated presentation; thank you. You did not avoid the issues of colonial legacy or of funding issues. I would be interested in any comment you may have on the impact of UK cuts in funding to the Darwin Plus programme?”

A: The issue of colonial legacy, that’s the one I picked up. Regarding impact of UK cuts in funding to the Darwin Plus programme, just to be clear, yes. The Darwin Plus programme and the Darwin Initiative are quintessential to the work that we are doing here in Bermuda. These cuts are having an impact on us, but we are still working with donors and sponsors and corporate groups to find that money. To be honest, the example that I used at Spittal Pond was part of a Darwin Plus grant, which helped to bring people together and it was cultural and environmental heritage that we were addressing. What we have found is being able to pull these volunteers together and have really solid plans is what better positions us to get Darwin grants if they are available, they are quintessential to make a big difference.

Mike Pienkowski: Thank you.

Catherine Wensink: Do you get the feeling that BNT could do even more if there were a few more extra staff members that were paid continuously to work with volunteers? Because there is a cost to that, isn’t there? And do you think corporate businesses on Bermuda would be supportive of that? I know that this has happened in the Isle of Man, for example, where corporate sponsors have paid for a staff member to work on island.

A: It hasn’t come about yet. And the way that I am managing it, I’ve asked – I am not too proud to ask for

almost anything, really. The way that we have been able to get the first staff member that we have now was through building up the adoptions. An increase in the corporate days was key – because I was doing it all on my own, and that was taking a lot, and I have done groups of 80. It does take more people but, through getting enough adoptions and enough corporate days, we have built enough money packaged in there to hire another person. My hope is now we have just found an adopter for Spittal Pond, our largest nature reserve that I talked about. I am working on 2 more adoptions right now. If I could get those adoptions done and maybe 2 more corporate days, then I could probably pull from that and extract enough money to hire another person. So we are kind of going that route in a roundabout way. We are almost self-sustaining. We are almost there.

Mike Pienkowski: Melanie Carmichael says “Hello Myles – absolutely love this. We managed to scale a small pocket park in Grand Cayman last year with a Darwin Plus Local grant, and just did our first corporate-volunteer planting day. Seeing this in a leaflet is super helpful. Would be great if we can connect and share it with us directly: info@sustainablecayman.org”

Mike Pienkowski: I am sure Myles would like to, and I am sure we can put that leaflet in the publication (*see previous page*).

A: I will definitely reach out to Cayman because I am excited about your Pocket Park poster; it was really well done. We also had a Darwin Plus Grant to do a similar thing, which we called *Micro-Forests*. I think we have built more than 25-30 across the island already, and they are very similar to what you have been doing with your pocket parks, so I would love to connect, and I look forward to looking at the posters together tomorrow.

Mike Pienkowski: Nicholas Watts says: “I saw the remarkable achievement of the Anguilla National Trust Fountain Reserve on Anguilla in June, but five of seven staff are at risk as dependent on external (largely UK) funding.”

I might make a comment myself, Myles, before you pick it up. One of the things we have been going at for a long time for UK grant funding, even before it was under Darwin – before that it was OTEP and EFOT – was that why should you have to be so novel. If something is working, why can’t you give grants to build on what you have done – which would allow that sort of thing. We will keep going at that but the more people that raise that issue the better.

A: I really totally agree with what you have just said. Having now been to Anguilla, and I want to be clear: what the Anguilla National Trust group have done is amazing. An amazing group of people doing amazing things on a very small budget, like us. I felt that the work they were doing surpasses even what we have done, and they have had significant challenges like Category 5 hurricanes. So I learnt a lot from them, to be honest,

and they definitely need the staff. I am not sure, with an island with such a small population, that building out in the way that we have done is going to work. They don't have that corporate base that we have, and they are really dependant on Darwin grants and other UK funding opportunities. That is why it is so important that we work together to ensure that the Darwin Plus programme not only continues but expands.

Mike Pienkowski: Thank you. Anymore comments or questions coming in? If not, then I think I can say that it is quite clear from the enthusiasm and the questions that have come in how inspired people have been by your talk, Myles. And also shows what a good choice Dace made in recommending you for this lecture. So thanks to her as well.

So, if nobody is coming in, let me thank you again for this brilliant lecture. Next time we do this we will have to find somebody who is as brilliant.

A: It has been great to talk here, and thank you so much for having me. I love sharing anything I can about what we are doing here in at the Bermuda National Trust. It's a special team; it's a special work; and it's all actually inspired by all of you. I see Helena Bennett there, and the work they are doing in St Helena is an inspiration for me. Brian Manco is like a mentor; the guru, that's what we call him here. He knew every plant, and that goes for everybody really. People like Alison Copeland from here in Bermuda, although she is now in the UK. I hope she was able to make it today. She is my own personal inspiration. So thank you to you all. And thank you to Dace especially and I hope she gets well very soon.

Oh, Alison is here. These are all my own personal inspirations – the work that I see you all doing. I had read about the Grand Cayman park poster and I thought that's a great idea.

So thank you all for coming, and thank you for listening. And continue to do the work you are doing

Mike Pienkowski: Thank you very much Myles. We now have some more nice comments:

Nancy Pascoe says "Well done Myles, great work and we need to charge for corporate volunteer days too in the BVI!"

A: I'll be in touch Nancy.

Alison Copeland says "Well done Myles!"

Julie Thomas: Myles - how does your Trust engage with your Government?

A: We work really closely. It is a difficult relationship in some ways and it's really positive in others. So the team at the Department of Environment and Natural Resources, which included Dr Alison Copeland and Dr Mark Outterbridge: we are part of the same team really. So we have this amazing working relationship. I'm currently writing a really large management-plan

for one of our National Parks and I do it in conjunction with them. So we have this great relationship, but it is also a difficult relationship at times because of some awkward approaches to managing issues on our island, particularly at the time of dealing with invasives.

We have a tested relationship at all times, historically The Trust – and I am going back to Dace's time here – was receiving about \$300,000 annually from the Government to do the work that we do but, for the last 15 years, I don't think we have received anything. So we get no support from the Bermuda Government anymore which is why I have really come into a space, When I arrived here we had no adoptions, no volunteer days; we hadn't planted a tree in about 5 years. We have really had to build it up; not waiting for Government anymore, we are going to do this ourselves.

Mike Pienkowski: Very good. They might like to copy by example.

A: That was what I was trying to get across by some of the story-telling. I think that Karen and the Executive Council do a great job at that: leading from behind and allowing us to lead in our own way and just keeping us focussed on our goals. That's what I would really like to see from Government but it is not what we are seeing today.

Mike Pienkowski: Thank you very much. You have been questioned, and answered, for quite a chunk of time now, so I will let you go. But we will see you tomorrow as question-master for the poster session!

A: I'm looking forward to it.

Mike Pienkowski: Thank you Catherine, for the music and for keeping the presentations running as well.

It is with profound sadness that UKOTCF notes that our friend, colleague and UKOTCF Council-member Lady Margarita Candace (Dace) McCoy Ground did not recover from the hospitalised illness that prevented her from participating in the conference, although she was advised of the brilliance of Myles' Ground Lecture. Dace died on 31st October 2025. Dace made huge, pioneering impacts on conservation, a few of which are mentioned above in the background to this Lecture series. All found her a most supportive, positive and generous friend – who will be sorely missed. It is UKOTCF's intention, with the encouragement of Dace's family, to continue the series of Sir Richard and Lady Dace Ground Lectures, as a continuing tribute and memorial to this inspirational couple.

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)

Introduction (The numbers before each title below are links to that item.)
1-01 The Manx Blue Carbon Project <i>Rowan Henthorn (Isle of Man Government)</i>
1-02 Recolonisation and Expansion of Masked Booby Colonies in Sandy Bay, St Helena: A Conservation Success Story <i>Neil Thorp, Kenickie Andrews & Jolan Henry (St Helena National Trust)</i>
1-03 Conserving the Cloud Forest endemic invertebrates of St Helena <i>Liza Fowler (St Helena National Trust)</i>
1-04 Extending our understanding of important foraging habitats for sea turtles in the Chagos Archipelago <i>Nicole Esteban¹, Jeanne A Mortimer^{2,3} & Graeme C Hays⁴ (1 Department of Biosciences, Swansea University, Wales; 2 Department of Biology, University of Florida, Gainesville, USA; 3 Victoria, Mahé, Seychelles; 4 Deakin Marine Research and Innovation Centre, Deakin University, Geelong, Victoria, Australia)</i>
1-05 Cultivating an appreciation and understanding of the environment through the Gibraltar Botanic Gardens <i>Bethany Maxwell & Elizabeth Ulloa Chaura (Gibraltar Botanic Gardens)</i>
1-06 From Wilderness to Stewardship: Empowering Communities for East Caicos' Conservation <i>Della Higgs (Turks & Caicos National Trust) & Louise Soanes (RSPB)</i>
1-07 The Community Voice Method - Building UKOT capacity in stakeholder engagement expertise <i>Amdeep Sanghera (Marine Conservation Society)</i>
1-08 Healing Landscapes: Community, Culture, and Conservation in Montserrat's Botanical Heritage <i>Chris Sealys¹, Dr Jodey Peyton², Dr Sofie Meeus³ and Catherine Wensink² (1. Montserrat National Trust; 2. UK Overseas Territories Conservation Forum; 3. Meise Botanic Garden, Belgium)</i>
1-09 Tackling plastic pollution across the UKOTs and working towards an inclusive UN Global Plastics Treaty <i>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, Zoological Society of London)</i>
Posters in this session
1-10P Managing the effects of Human Impacts on our marine environment <i>Leeann Henry (St Helena Government)</i>
1-11P The Gibraltar Biodiversity Portal – Enhancing access to The Rock's research gems <i>Nell Cava & Caroline Moss-Gibbons (University of Gibraltar)</i>
1-12P Isle of Man bats <i>Nick Pinder (Manx Bat Group)</i>
1-13P Managing Calafate <i>Berberis microphylla</i> in the Falkland Islands: A Strategic Approach to Landscape-Scale Invasive Species Control. <i>M. Lavery (Operations Manager, Te Whanganui-a-Tara / Wellington, Kaitiaki o te Ngahere; and Project Team Leader, Indigena Biosecurity International)</i>
1-14P The Role of Communities & Citizens in Plant Invasions: The Case of Calafate in the Falkland Islands <i>Erica Berntsen (Assistant Agricultural Advisor, Department of Agriculture, Falkland Islands Government)</i>
1-15 General topic discussion

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

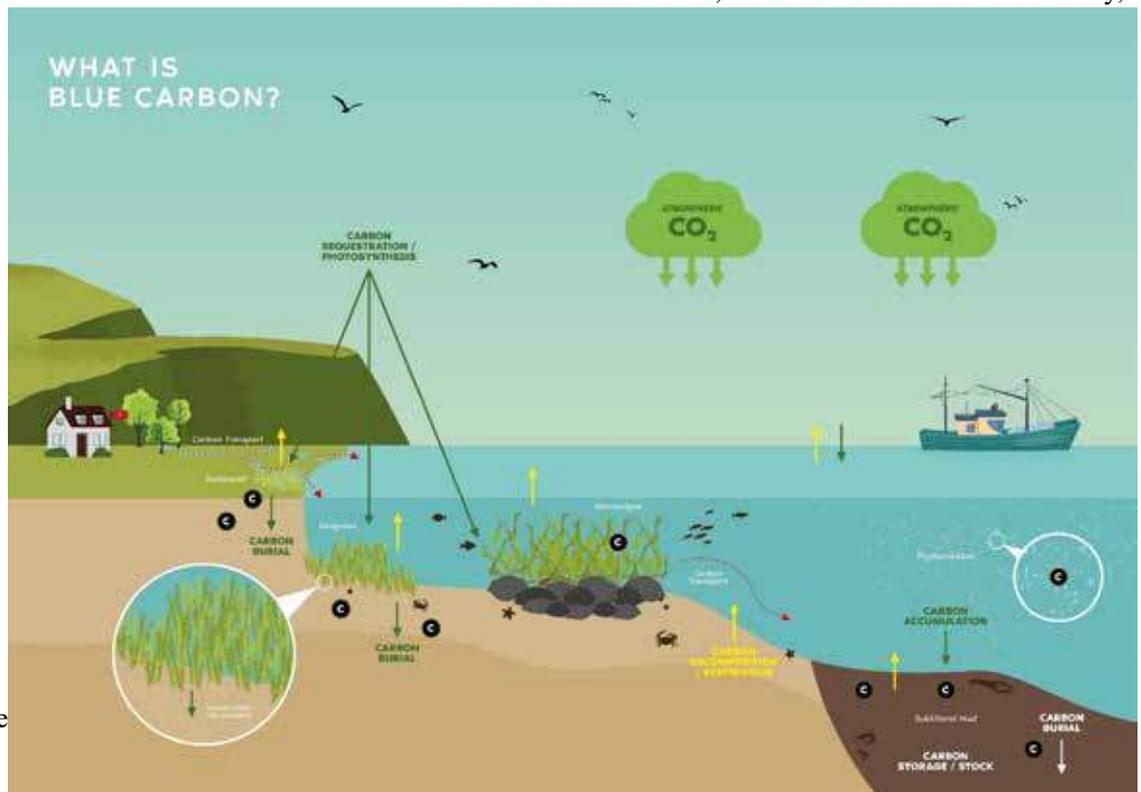
The Isle of Man's territorial waters host important blue carbon habitats, including sublittoral muds, saltmarshes, and seagrass meadows. These ecosystems play a crucial role in carbon capture and storage, contributing to climate mitigation efforts. This presentation will provide an overview of the Manx 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.

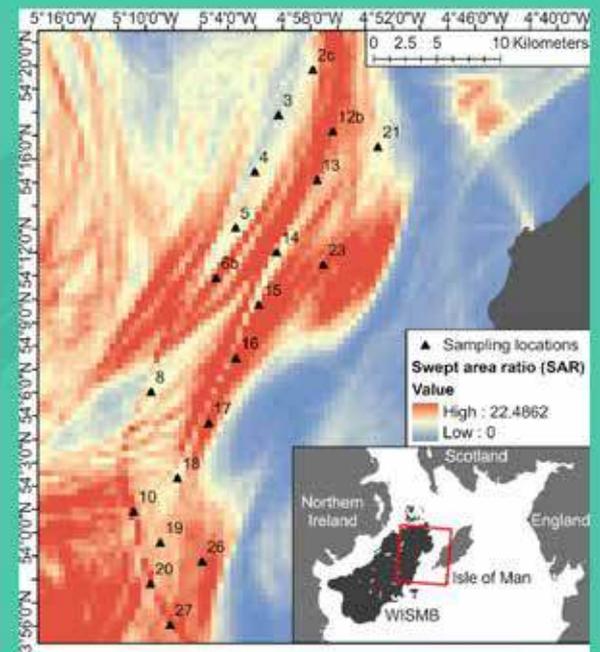
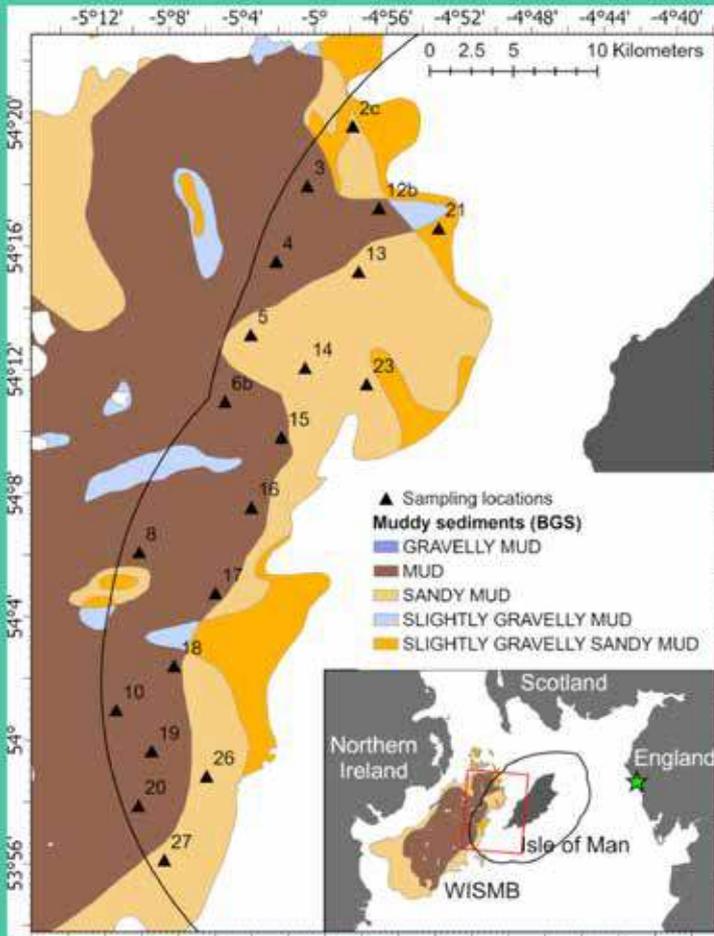


Results from this work are expected in 2026.

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:

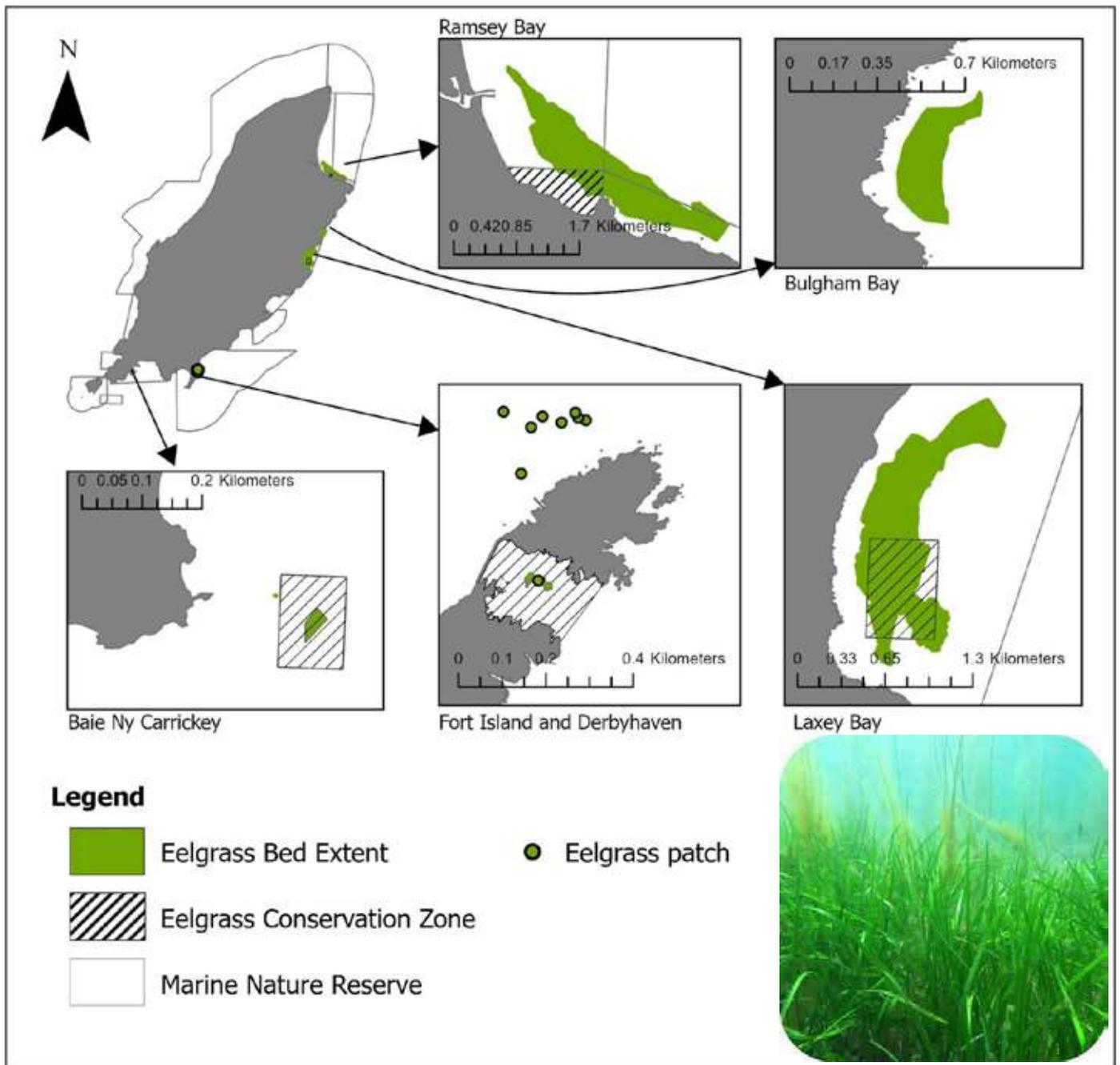
Case study 2: Eelgrass Meadows

NET ZERO ISLE OF MAN

An aerial photograph showing the eelgrass meadows in Derbyhaven and Fort Island. The meadows are visible as green and brown patches in the water. A scale bar indicates 0, 250, and 500 meters. The map is bounded by longitudes from 4°37'30"W to 4°35'30"W and latitudes from 54°4'30"N to 54°4'0"N.

A photograph of a yellow boat on the water, likely used for the eelgrass meadow study.

A photograph of a square plot in a meadow, likely used for the eelgrass meadow study.



- 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

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).





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.

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.

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

Fowler, L. 2025. Conserving the Cloud Forest endemic invertebrates of St Helena. pp 45-46 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

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 *Austroeuatorium 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 Esteban¹, Jeanne A Mortimer^{2,3} & Graeme C Hays⁴ (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

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 km²) 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.

Nicole Esteban¹, Jeanne A Mortimer^{2,3}, Graeme C Hays⁴

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³ PO Box 1443, Victoria, Mahé, Seychelles.

⁴ Deakin Marine Research and Innovation Centre, Deakin University, Geelong, Victoria, Australia

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 km², 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.

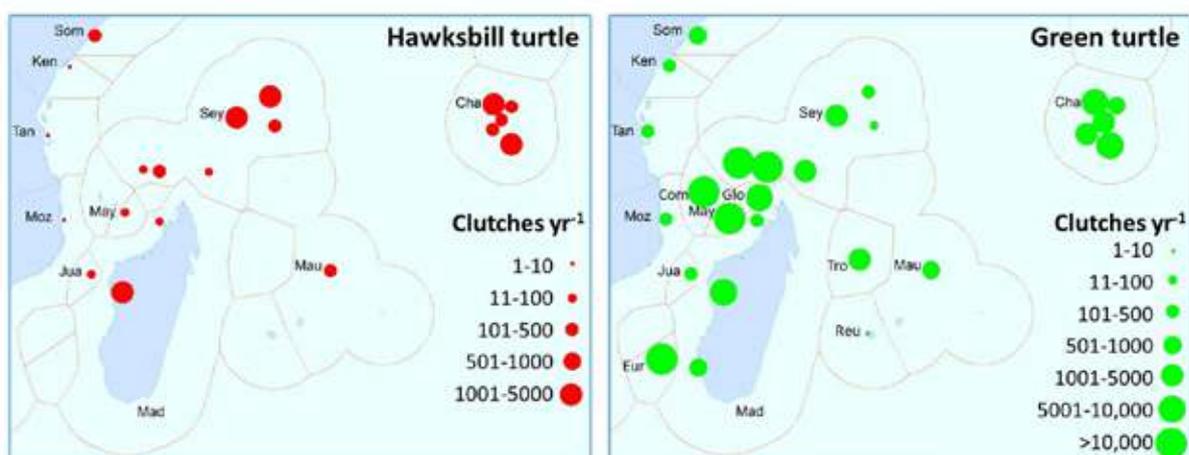
In the Chagos Archipelago, depth of foraging grounds were estimated using depth sensors included in some of the satellite tags of green turtles and hawksbill turtles. Foraging ground habitat for seven green turtles on the Great Chagos Bank was assessed using a combination of SCUBA and dropdown video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

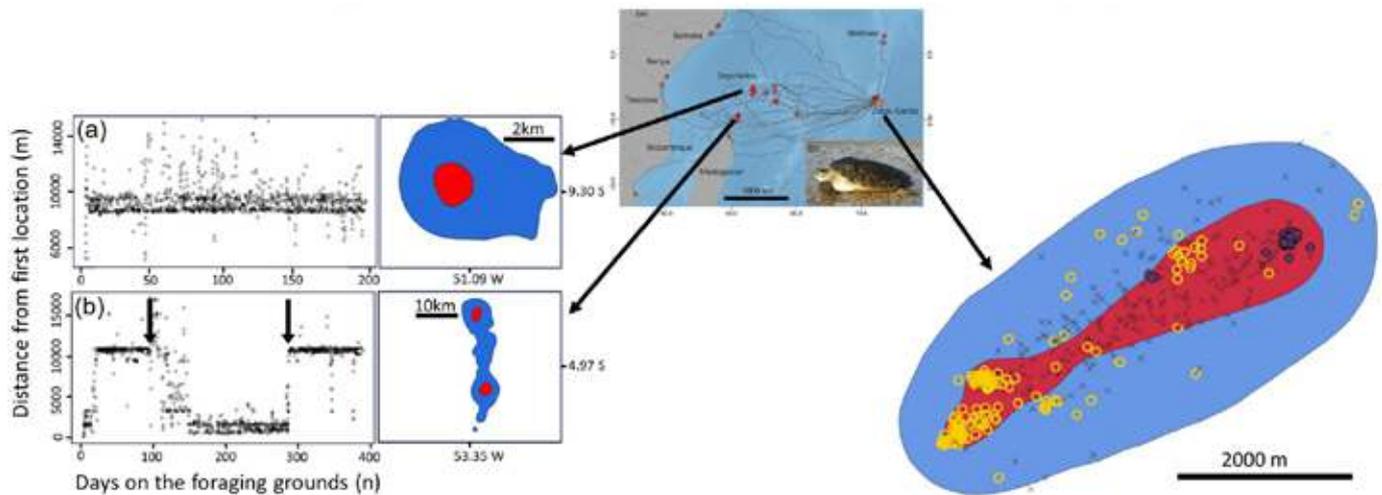
1. Hawksbill & green turtle status in a regional context



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 (2.4-15.4km²; 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 (2.4km² and 15.4km²; 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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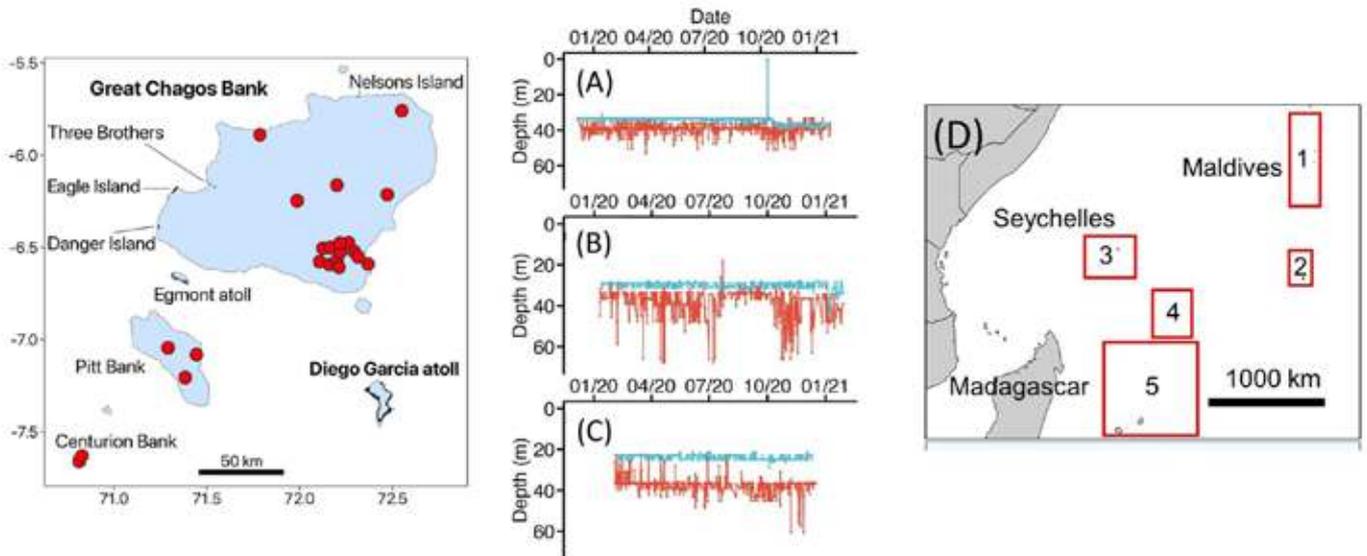
537 days foraging on the Great Chagos Bank (565 daytime locations, 359 night-time locations). Yellow open circles show daytime locations 3 h before and after local noon, and dark closed circles show night-time resting locations 3 h before and after local midnight. Crosses indicate locations from other 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

Hays, Esteban *et al.* (2024) *Science Advances*

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).

Reference:

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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

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 Silena tomentosa

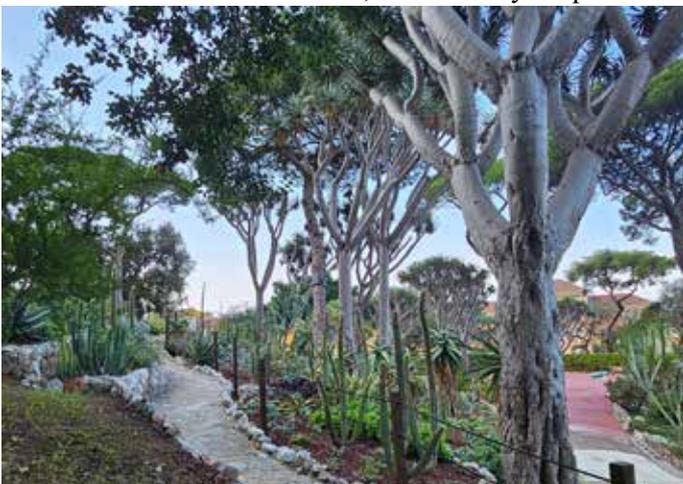


Figure 1: North area of the Gibraltar Botanic Gardens featuring many Cacti, Succulents and Dragon trees Dracaena draco



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 8: Our insect/invertebrate exploration around the gardens

Alameda educational visit:
Recognising living things
Y1 lesson plan

Learning Objectives:

- To identify and name some common plants.
- To describe the basic structure of flowering plants and trees.
- To identify and name some mammalian and reptilian animals.
- To understand the difference between carnivores, herbivores and omnivores.

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

Olive tree

Gibraltar Botanic Gardens
The Alameda

Educational visit:
recognising living things

@AlamedaEduGib

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

Which tour did you participate in?

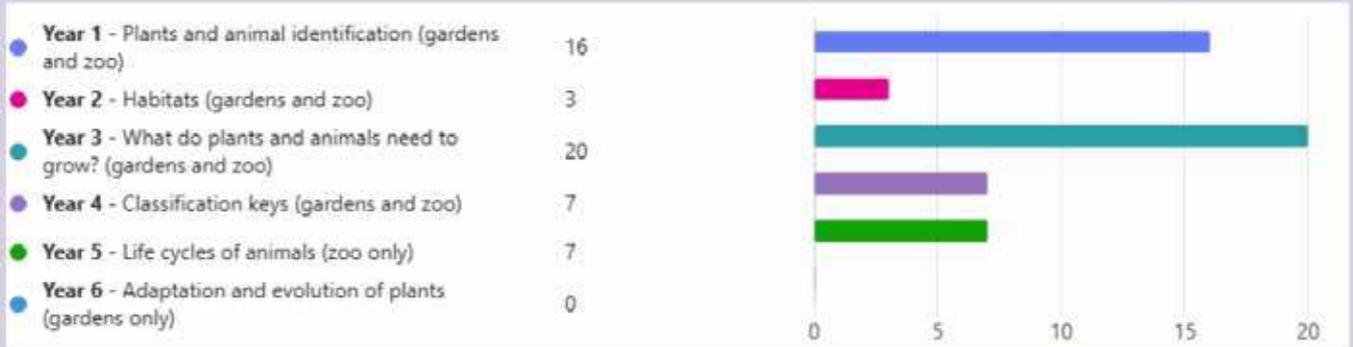


Figure 10: Which tour did you participate in?

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.



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

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

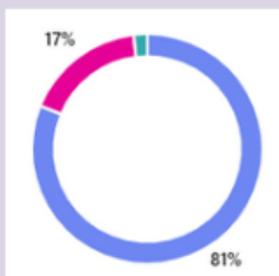
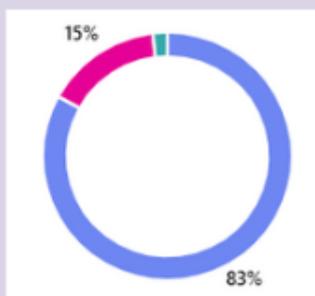


Figure 11: Did you find the education tour content relevant to the national curriculum or your education goals?

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?



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

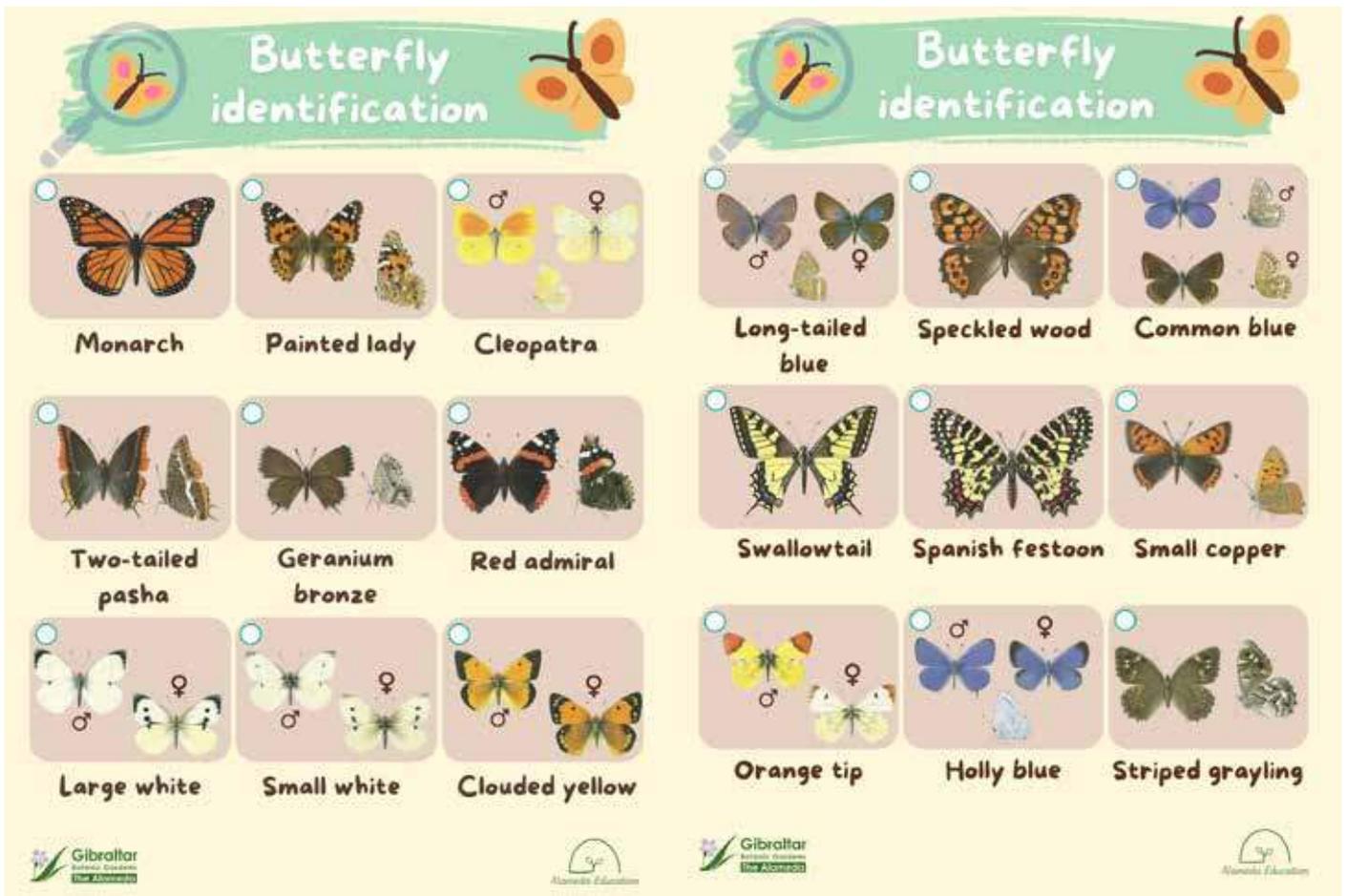
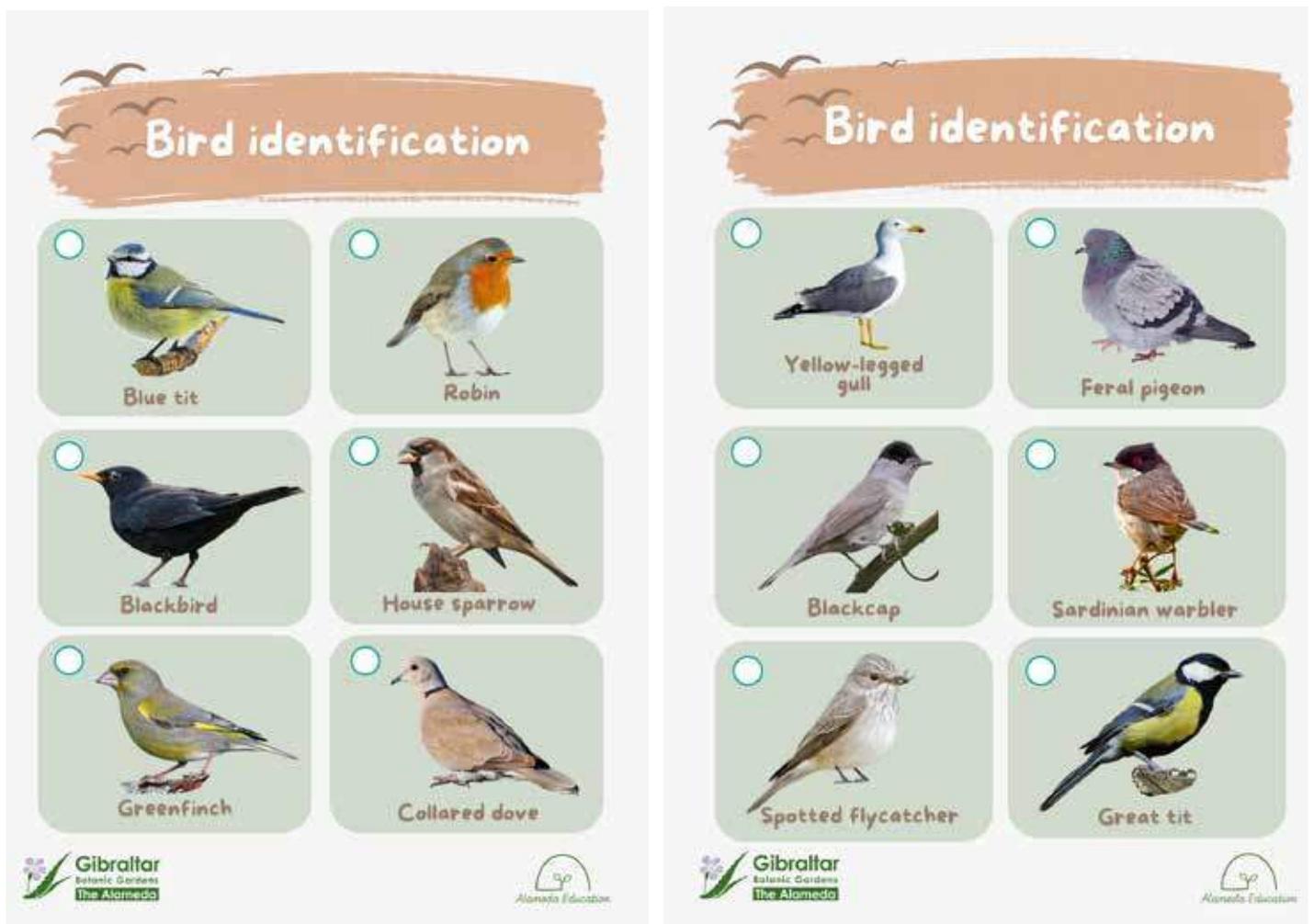


Figure 14: Butterfly identification sheet
 Figure 15: Bird identification sheet



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.

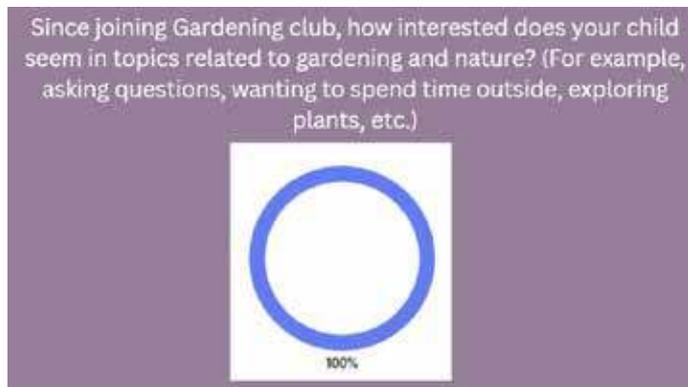


Figure 16: How interested does your child seem in topics related to gardening and nature?



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

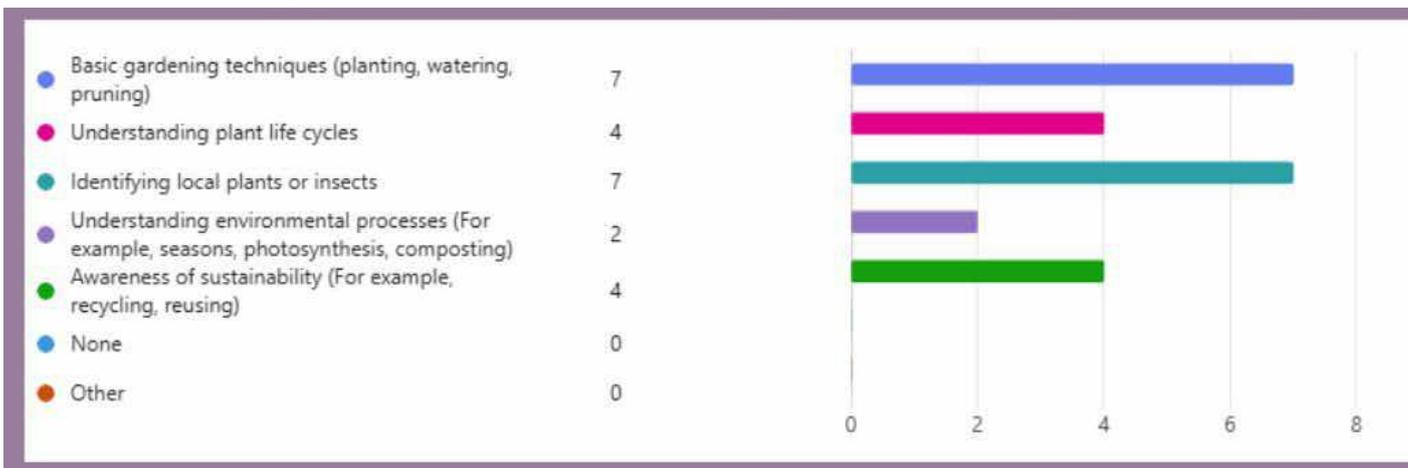


Figure 18: What new skills or knowledge, if any, do you feel your child has gained from the Gardening club?

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

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/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

Higgs, D. & Soanes, L. 2025. From Wilderness to Stewardship: Empowering Communities for East Caicos' Conservation. pp 59-62 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

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 achieved 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

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.



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

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.



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



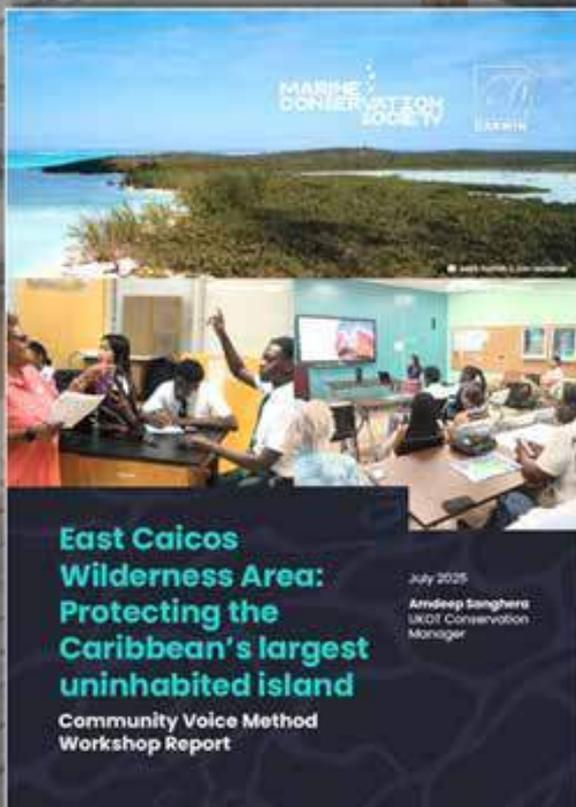
discussion. Participants are allocated to break-out groups and collectively provide input on questions that can range from specific (e.g. Do you think we need an open/closed season for sea turtles? If so, when would this be?) to broad (e.g. What is your vision for [island name]). Importantly, these break-out 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

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

4 Reporting



Dr Peter Richardson

5 Action



Ministry of Environment and Home Affairs
Department of Environment and Maritime Affairs
Lower Light Road, Provillecrales
Turks and Caicos Island Government

20 June 2014

Press Release – New Turtle and Conch Regulations take Effect 1 July 2014

The Department of Environment and Maritime Affairs (DEMA) would like to inform the public that as of 1 July 2014, new regulations for turtle and conch under the Fisheries Protection Ordinance will take effect. The regulations include the following restrictions on the taking of turtles:

1. A closed season for Hawksbill turtles from 1 August to 31 March (inclusive). During the closed season it will be unlawful to take, purchase or possess hawksbill turtles or hawksbill turtle products.
2. A legal size limit of 18 inches (minimum) and 24 inches (maximum) for green and hawksbill turtles. It will be unlawful to possess green or hawksbill turtles larger than 24 inches or smaller than 18 inches.
3. A permanent closure on the taking of Kemp's ridley, leatherback, loggerhead and olive ridley turtles. As of 1 July 2014 it will be unlawful to take or fish for any of these species.
4. A ban on the export of all turtles and turtle products, except for scientific purposes. No turtle products shall be exported from TCI.
5. A ban on the keeping of turtles in captivity. As of 1 July it will be unlawful to keep any turtles in captivity, unless such captivity is necessary to rescue, rehabilitate or preserve the life of the turtle.
6. A prohibition against processing turtles at sea. All turtles will need to be landed live and in whole condition after being taken and only processed where it is to be sold, processed or used for personal consumption.

In addition to the above turtle regulations, as of July 1, 2014, it will become lawful to export conch shells, conch jewellery, conch pearls or craft products made of conch shells during the closed season for conch. This regulation will allow such products to be exported for non-commercial or personal use only.

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.

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 Sealys¹, Catherine Wensink², Dr. Jodey Peyton² & Dr. Sophie Meeus³ (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.¹, Wensink, C.², Peyton, J.² & Meeus, S.³ 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

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 Sealys¹, Catherine Wensink², Dr. Jodey Peyton² & Dr. Sophie Meeus³

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.

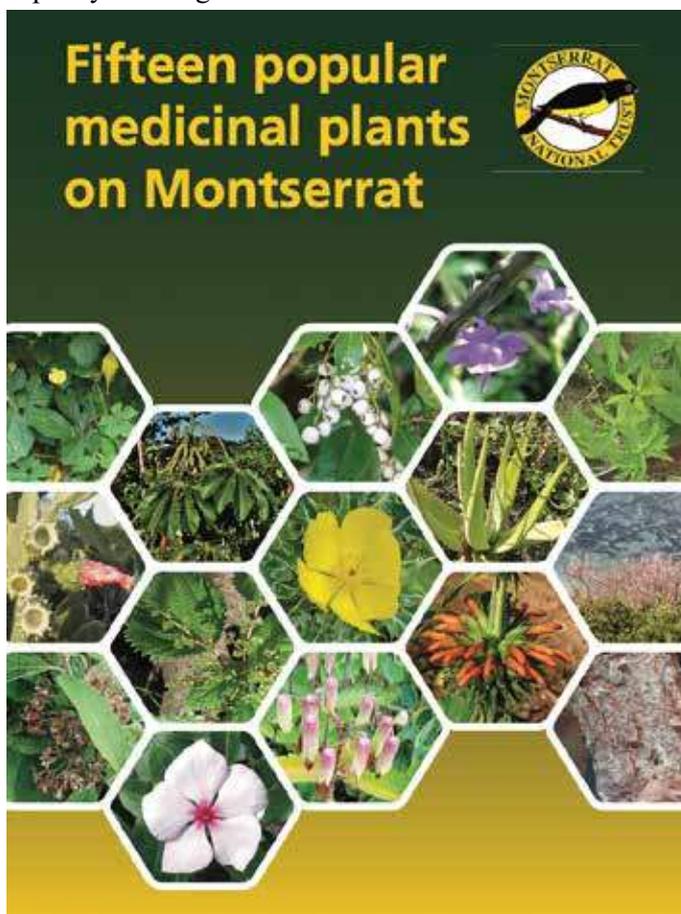


Above: Bitter Ash illustrated by Lizzie Harper.



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





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



Viciplanice - Anthophyta - Piperaceae
Piper aequale Vahl
 Locality: Montserrat, MONTSERRAT, Montserrat, Centre Hills, Jack Boy Hill; Jack Boy Hill.
 Habitat: Mesc forest, with *Sloanea dentata*, *S. massonii*, 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 Greenaway, 2014-09-10
 Alt.: 522m Det.: Thomas M. Heller



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.



New cabinet for herbarium

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

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

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

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

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

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

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

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

*Caroline Moss-Gibbons (Parasol Librarian, University of Gibraltar) 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

CID:	1786
Publisher:	GONHS Gibraltar
Publication Date:	2002
Shelf Reference:	G.598.294689 GON

A

Gibraltar Bird Report 2015

CID:	5041
Publication Status:	Published
Research / Material Type:	Report
Gibraltarian:	Gibraltarian
Subject Gibraltar:	Yes
Authors:	Garcia, Ernest F. J. Castello, John Perez, Charles E.
Corporate Author:	The Gibraltar Ornithological & Natural History Society (GONHS)
Gibraltar Authors:	Garcia, Ernest F. J. Perez, Charles E.
Publication Date:	2016
Journal Title:	Gibraltar Bird Report
Volume:	15
Summary:	<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 vagrant, 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 aide in their distinction from one another.</p> <p>This report is available online on the GONHS google drive via the GONHS website:</p> <p>Table of Contents</p> <ul style="list-style-type: none"> Editorial ... 6 Acknowledgements ... 7 Birds in Gibraltar 2015 (Compiled by Ernest Garcia) Review of the Year ... 8 Weather Summary 2015 ... 10 The Systematic List ... 12 List of Contributors 2015 ... 42 Crested and Thekla Larks in Gibraltar (Ernest Garcia) ... 43

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. 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/1f03TVbn59HTY6xJESohH73oYQG9eChXB/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](#)
[Land Birds](#)
[Marine Birds](#)
[Birds](#)

Gibraltar:
[The Gibraltar Ornithological & Natural History Society \(GONHS\)](#)

Eukaryota
Animalia
Chordata
Aves
Aves
[Birds \(Aves\)](#)
English

Gibraltar Bird Report
[Link to GONHS Gibraltar Bird Report 2015](#)
GONHS_2015_Bird-Report-15.pdf
26 February 2025

B

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

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)

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

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.

Michael Lavery, Operations Manager, Te Whanganui-a-Tara / Wellington, Kaitiaki o te Ngahere | michael@kaitiakirestoration.co.nz; and Project Team Leader, Indigena Biosecurity International | michael@indigena.co.nz

[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

Berntsen, E. 2025. The Role of Communities & Citizens in Plant Invasions: The Case of Calafate in the Falkland Islands. p 85 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

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.

Main topic 3: Achieving Biodiversity & Sustainability Targets

Chairing: Joan Walley; Question-master: Nancy Pascoe (BVI); Rapporteur: Mike Jervois (Falkland Islands)

Introduction (The numbers before each title below are links to that item.)
3-01 The spider fauna of Saint Helena: taxonomic and ecological advances <i>Danniella Sherwood (IUCN SSC Atlantic Islands Invertebrate Specialist Group, UK; Arachnology Research Association, UK; Fundación Ariguanabo, Cuba; Centro de Investigaciones Biológicas de Honduras) & Daryl Joshua (Saint Helena National Trust and IUCN SSC Atlantic Islands Invertebrate Specialist Group)</i>
3-02 Backyard rewilding as a mitigation response to habitat loss in the UKOTs <i>Kathleen McNary (SWA Environmental)</i>
3-03 Restoring Manx Wildlife and meeting our “30 by 30” target <i>David Bellamy (Manx Wildlife Trust)</i>
3-04 Informing Conservation Priorities through Earth Observation in the Caribbean <i>Samuel Pike & Katie Medcalf (Environment Systems Ltd)</i>
3-05 Mapping St Helena’s Endemic Invertebrates for Targeted Conservation <i>Adam Riggs (St Helena Government)</i>
3-06 Planning Marine Biosecurity for Guernsey <i>Julia Henney (Natural Environment, States of Guernsey) & Lucinda Lintott (Senior INNS Consultant Scientist, APEM Ltd.)</i>
3-07 Wild Water Whales: Studying the Recovery of Baleen Whale Populations in South Georgia <i>Stephanie Martin & Dr Jennifer Jackson (British Antarctic Survey)</i>
3-08 Reflections on Biodiversity Data Challenges and Opportunities in the UK Overseas Territories <i>Quentin Groom (Meise Botanic Garden, Belgium)</i>
3-09 Invisible, Undervalued and Underappreciated? Fisheries transparency in Small Island Developing States <i>Tyann Henry (Fisheries Transparency Initiative, FiTI)</i>
Posters related to this topic
3-10P Grasses of Montserrat: An Introduction to Common and Useful Species <i>Virginie Sealys¹, Ajhermae White², Sarita Francis¹, Jodey Peyton³, Catherine Wensink³, Vicky Wilkins⁴, Quentin Groom⁵, Sofie Meeus⁵, Alan Gray⁶ (1. Montserrat National Trust; 2. Department of Environment Government of Montserrat; 3. UK Overseas Territories Conservation Forum; 4. Species Recovery Trust; 5. Meise Botanic Garden; 6. UK Centre for Ecology & Hydrology)</i>
3-11P Predation of sea-turtle eggs by rats and crabs <i>Holly Jayne Stokes¹, Nicole Esteban¹ & Graeme C Hays² (1, Swansea University, UK; 2. Deakin University, Australia)</i>
3-12P Other Effective Area-Based Conservation Measures <i>Catherine Wensink (University of Exeter, Jersey International Centre for Advanced Studies (JICAS), and UK Overseas Territories Conservation Forum)</i>
3-13P Restoring Biodiversity with urban pockets <i>Katrina Jurn (Sustainable Cayman)</i>
3-14P Manx Birdlife <i>Allison Leonard (Manx Birdlife)</i>
3-15 General discussion on Topic 3

Introduction

Joan Walley, UKOTCF Council Member and former Chair of the UK Parliament’s Environmental Audit Select Committee

Can I first of all welcome absolutely everyone who has contributed, is contributing, and is present at our 7th conference today. I personally think it’s a team effort and I’m very aware that a lot of people have made themselves available, not just for the help with the recommendations but day in-and-day-out with the work that you do everyday no matter where you are in the Overseas Territories and the Crown Dependencies too. So, welcome everybody, I think we had a good day yesterday and my job as chair is to keep the momentum going, the energy going – which isn’t always easy when we have this technological way of dealing with these things these days. What I really want to say is that I really hope it will allow us to share and broaden our view-points. Most of all. at the end of this important session on Achieving targets for biodiversity, is how we use the recommendations that we come up with – based on best practice – and what we are going to do with them. In conclusion I want to pick up something that Minister Creagh said, which was she talked about Overseas Territories to not be seen as “niche”, but for us to embed it in all different aspects of government thinking and territory government thinking as well. So what I’m really hopeful of is that today the different aspects



of work that are going on across all our Overseas Territories can somehow add to the whole sum, not just the individual parts of the work, but the whole picture of where we wish to take biodiversity in the Overseas Territories and Crown Dependencies. We’ve got a really full agenda; I’m just going to move us on piece by piece.

Question-master Nancy Pascoe (left) and Rapporteur Mike Jervois

The spider fauna of Saint Helena: taxonomic and ecological advances

Danniella Sherwood (IUCN SSC Atlantic Islands Invertebrate Specialist Group, UK; Arachnology Research Association, UK; Fundación Ariguanabo, Cuba; Centro de Investigaciones Biológicas de Honduras) & Daryl Joshua (Saint Helena National Trust and IUCN SSC Atlantic Islands Invertebrate Specialist Group))



Above: Danniella Sherwood
Below: Daryl Joshua



Sherwood, D. & Joshua, D. 2025. The spider fauna of Saint Helena: taxonomic and ecological advances. pp 87-95 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

Thanks to the Saint Helena Cloud Forest Project (SHCFP), recent research has catapulted the spiders of Saint Helena to being the best-studied invertebrate group on the island. This joint lecture explores both strands of the story behind this historic achievement. British arachnologist Danni Sherwood summarises her SHCFP-funded taxonomical project and expedition, followed by a presentation on her latest research on identification of intercepted invasive non-native species (INNS). In tandem, exciting ecological knowledge has been advanced by Daryl Joshua, Saint Helena's first local arachnologist, whose training over the last two years was also funded by the SHCFP. Daryl will talk about his journey to becoming an arachnologist and his pioneering year-long study of the ecology of the flagship species *Argyrodes mellissi*, better known as the Golden Sail Spider.

Danniella Sherwood (IUCN SSC Atlantic Islands Invertebrate Specialist Group, UK; Arachnology Research Association, UK; Fundación Ariguanabo, Cuba; Centro de Investigaciones Biológicas de Honduras) & Daryl Joshua (Saint Helena National Trust and IUCN SSC Atlantic Islands Invertebrate Specialist Group))

Part I: The spider revolution of Saint Helena – Danni Sherwood

The remote island of St Helena, situated in the South Atlantic Ocean, has long been a point of intrigue for

biologists and conservationists alike. Despite its ecological significance and unique biodiversity, our understanding of the island's arachnid fauna, particularly its spiders, remained limited for over a century. Prior to 2022, scientific knowledge was confined to historical

OUR FUNDER AND PARTNERS

- The Foreign, Commonwealth and Development Office, UK Government funds the Saint Helena Cloud Forest Project.
- The SHCFP funded Danni's expedition to Saint Helena in 2022, and all taxonomic work therein.
- The SHCFP also funded Daryl both as a general invertebrate biologist, but to undertake training to become an arachnologist, delivered over 2 years as part of Danni's research group.



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**SAINT HELENA
NATIONAL TRUST**



UK Government



THE PEAKS NATIONAL PARK
ST HELENA ISLAND, 1992



**the
species
recovery
trust**



Figure 2. Mole Spider *Molearachne sanctaehelenae*

work.

The earlier studies of St Helena’s spiders date back to two main periods: between 1869 and 1873, and again from 1966 to 1977. These studies, although valuable at the time, provided only limited insights, mainly through illustrations and written accounts without modern taxonomic tools. As a result, much of the island’s arachnid diversity remained undocumented, with many species possibly overlooked or misclassified. Given the importance of spiders in ecosystems as predators and as many of the species on St Helena are endemics, a thorough revision was deemed essential to inform conservation efforts.

Starting in 2022, a concerted effort was launched to revise and expand the knowledge of St Helena’s spider fauna. The project, led by me (Danni Sherwood) and St Helenian colleagues, involved extensive fieldwork, DNA-analyses, and collaboration with local partners in the government and the St Helena National Trust. Over this two-year period, we described seven new species and established four new genera, significantly enriching the island’s known arachnid diversity.

We described the totally unique Mole Spider (Fig. 2) *Molearachne sanctaehelenae*, known for making ‘mole hills’ in arid areas of the island, especially its stronghold in the Central Basin of Prosperous Bay Plain. It is the first non-cave living wolf spider with small eyes discovered. This discovery highlighted the unique evolutionary trajectories that have taken place on the island, likely reflecting long-term isolation of lineages.

Other new lycosids included *Dolocosa joshuai* (named for Daryl Joshua) (Fig. 3) and *Lynxosa veseyensis* (Fig. 4) (endemic to a single waterfall, possibly the most restricted spider in the world by range). Additionally, two more new species, *Ero lizae* (Fig. 5) and *Ero natashae* (Fig. 6), were described in 2024, representing a significant addition to the genus *Ero*, well-known as Pirate Spiders. These species are particularly interesting because they exhibit a case of sympatric speciation, where sister species evolve from a common ancestor



From top:

Fig. 3. *Dolocosa joshuai*;

Fig. 4. *Lynxosa veseyensis*;

Fig. 5. *Ero lizae*;

Fig. 6. *Ero natashae*

while inhabiting overlapping geographical areas.

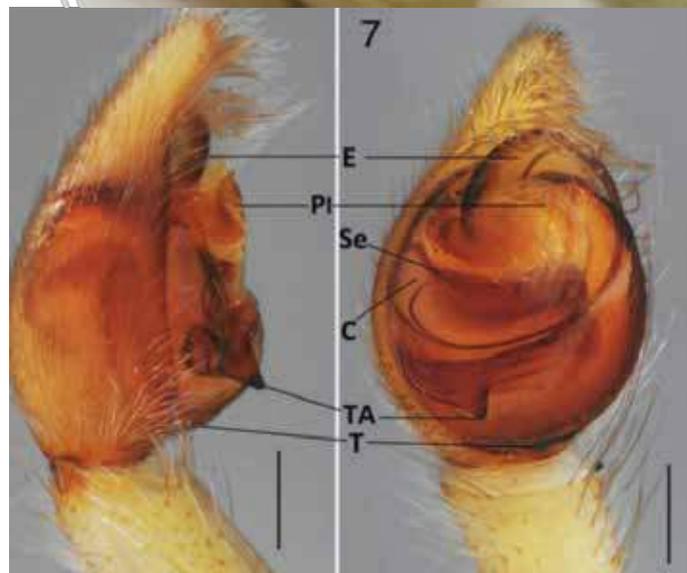
Further discoveries included two minute, specialised species: *Anapistula martinae*, an eyeless spider (Fig. 7) from the locality of Lot, and *Ischnothyreus christyjoae* (Fig. 8), a type of goblin spider. All new species were named after local collaborators or, in one case, a local place (Mount Vesey Waterfall).

The revision also saw the establishment of new genera, broadening the taxonomic framework for St Helena's spiders. *Helenidion* (Fig. 9, type species *Helenidion sciaphilum*) was introduced as a new genus, providing a taxonomic grouping for certain species that did not fit existing genera from mainland countries. Moreover, *Trust* was named to accommodate *Trust solium* (Fig. 10), an

endemic species previously placed in a common genus but now recognised as distinct and deserving of a new status. The genus name honours the St Helena National Trust, recognising the incredible work the community has done past, present, and future. Another genus, *Antembolus* (Fig. 11), belonging to the wolf spider family, was named for the distinctive position of the embolus, the male reproductive structure, on the male palp, which is a key identifying feature in spider taxonomy.

Another key aspect of this research was the collaboration with the St Helena Government's Agriculture and Natural Resources Division (ANRD). We gained invaluable

From top, first this column then next:
Fig. 7. *Anapistula martinae*;
Figure 8. *Ischnothyreus christyjoae*;
Figure 9. *Helenidion sciaphilum*;
Figure 10. *Trust solium*;
Figure 11. *Antembolus*.



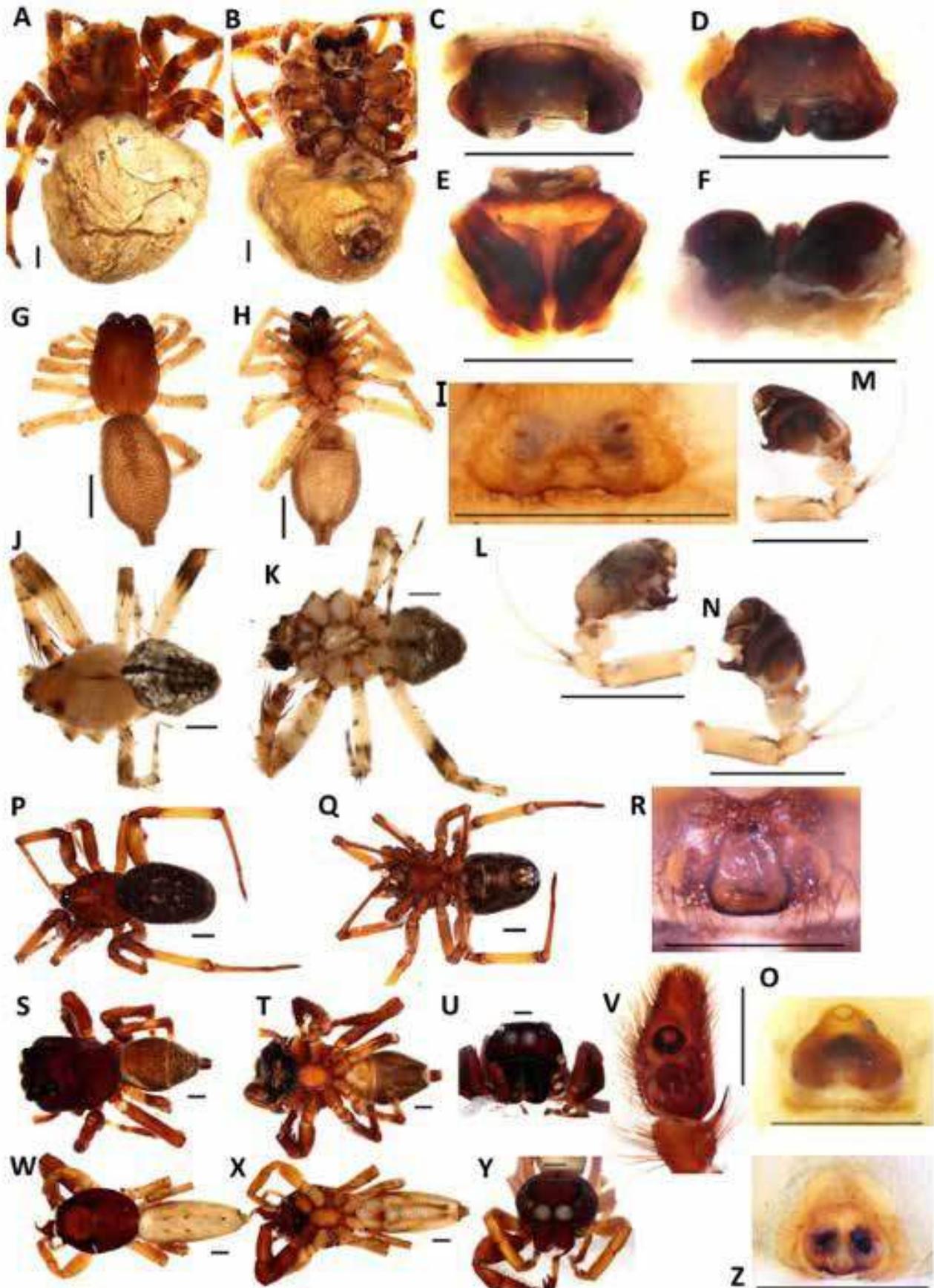


Figure 12. A–F *Araneus quadratus* Clerck, 1757 female (NHMUK), G–I *Clubiona* sp. female (ANRD 563), J–N *Neoscona rapta* (Thorell, 1899) male (ANRD 924), O *Physocyclus globosus* (Taczanowski, 1874) female (ANRD 667), P–R *Steatoda capensis* Hahn, 1990 female (ANRD 416), S–V *Zenodorus* sp. male (NHMUK), W–Z *Zenodorus* sp. female (NHMUK). A habitus, dorsal view; B *Idem*, ventral view; C epigyne (dissected, scape missing), ventral view; D *Idem*, dorso-ventral view; E *Idem*, posterior view; F vulva, dorsal view; G habitus, dorsal view; H *Idem*, ventral view; I epigyne (undissected), ventral view; J habitus, dorsal view; K *Idem*, ventral view; L palp, prolateral view, M *Idem*, retrolateral view; N *Idem*, retro-ventral view; O epigyne (undissected), P habitus, dorsal view; Q *Idem*, ventral view; R epigyne (undissected, completely filled by epigynal plug), ventral view; S habitus, dorsal view; T *Idem*, ventral view; U cephalothorax, frontal view; V palp, ventral view; W habitus, dorsal view; X *Idem*, ventral view; Y cephalothorax, frontal view; Z epigyne (undissected), ventral view. Scale bars = 1mm.

insights into the island’s non-native (INNS) spider species. St Helena’s global connectivity, via shipping and air-transport, poses a significant biosecurity risk, as it frequently receives stowaways, organisms that are inadvertently transported from elsewhere. Spiders, being highly adaptable and often small, are prime candidates for introduction. To address this, we produced a comprehensive catalogue of the known INNS spiders on the island, including detailed (Fig. 12) photographs to aid biosecurity officers and conservationists locally. This proactive approach enhances the island’s capacity to detect and manage invasive species, which can threaten native biodiversity and ecosystem stability.

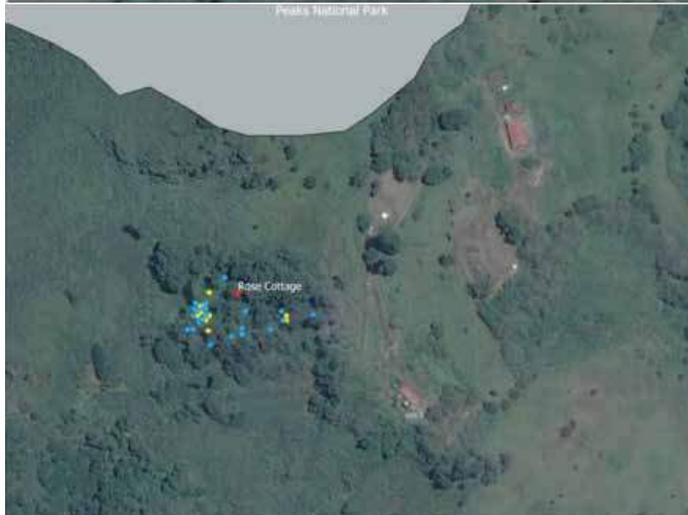
Beyond taxonomy, the project emphasised capacity building among local conservationists and researchers. Field and classroom-based training sessions were organised to equip St Helena Government and St Helena National Trust personnel with skills in arachnid identification, using keys and collection techniques. This empowerment ensures that the island’s scientists and conservationists remain active participants in ongoing research into the future.

The culmination of these efforts makes spiders one of, if not the, best-studied invertebrate group on the island taxonomically. The success of the St Helena Cloud Forest Project-funded arachnid research serves as a model for similar taxonomic studies on other taxa and islands. Through my (Danniella Sherwood) training and mentoring of Daryl, the project has also allowed the establishment of St Helena’s first arachnologist, who I’m delighted to introduce now.

Part 2: Studying the iconic Golden Sail Spider of Saint Helena – Daryl Joshua

The Golden Sail Spider, a fascinating endemic species and flagship for the Cloud Forest project (Fig. 13), was formally described in 1870. Despite this early

recognition, much about its ecology remains a mystery, leaving room for ongoing research and discovery.



*Below, and then next column, from top:
 Figure 13. Golden Sail Spider;
 Figure 14. Golden Sail Spider locations;
 Figure 15. Oak Bank Valley
 Figure 16. Oak Bank Bridge
 Figure 17. Rose Cottage.*



To delve deeper into its behaviour and ecology, three key sites were selected for monitoring over a one year period (February 2024–2025): Oak Bank Valley, Oak Bank Bridge, and Rose Cottage. Each site (Figs. 14–17) has unique environmental conditions of dense canopy cover and site disturbance. Over 400 sightings of adults and 800 of juveniles were observed during the year.

Our findings from these sites have shed some light on *Argyrodes mellissi* behaviour and adaptations. The Golden Sail Spider exhibits nocturnal behaviours, and its diet includes other spiders and Diptera species, which we saw them eating at night. Females are highly maternal, often seen repairing and guarding their egg-sacs (Fig. 18) with great care. The egg sacs were observed to have an incubation period of approximately 38 to 41 days.



Figure 18. Golden Sail Spider egg-sac

The undisturbed Oak Bank Valley recorded the highest overall total of *A. mellissi* across all life stages, with 1,374 individuals, including both adults and juveniles. In contrast, the two other sites, Rose Cottage (85) and Oak Bank Bridge (69), had significantly lower counts. Oak Bank Valley’s total was 16 times higher than Rose Cottage and 19 times higher than Oak Bank

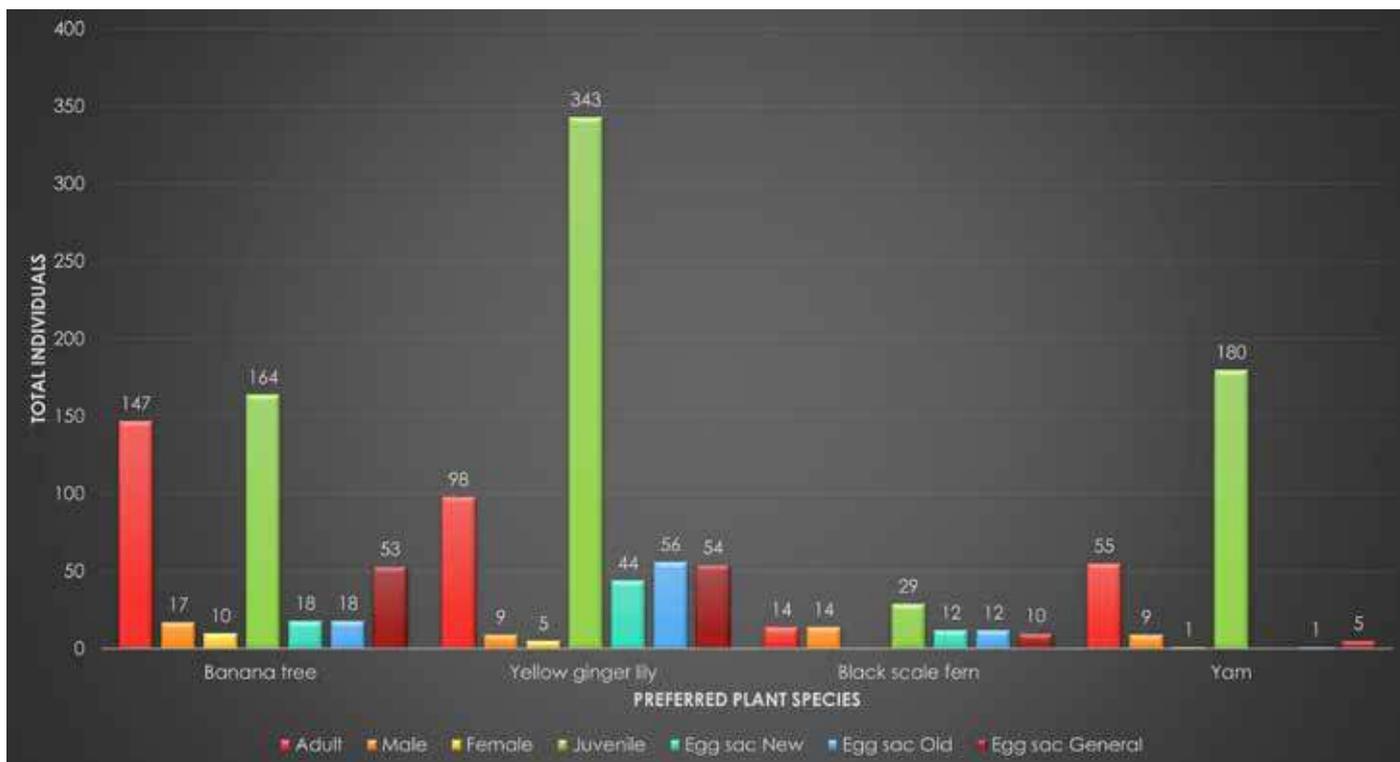
Bridge, highlighting its role as a key habitat. Population fluctuations showed peaks in late summer (March) and early spring (November), with declines in April and December, suggesting that activity is highest during spring and summer, especially at Oak Bank Valley, where monthly records confirm this pattern.

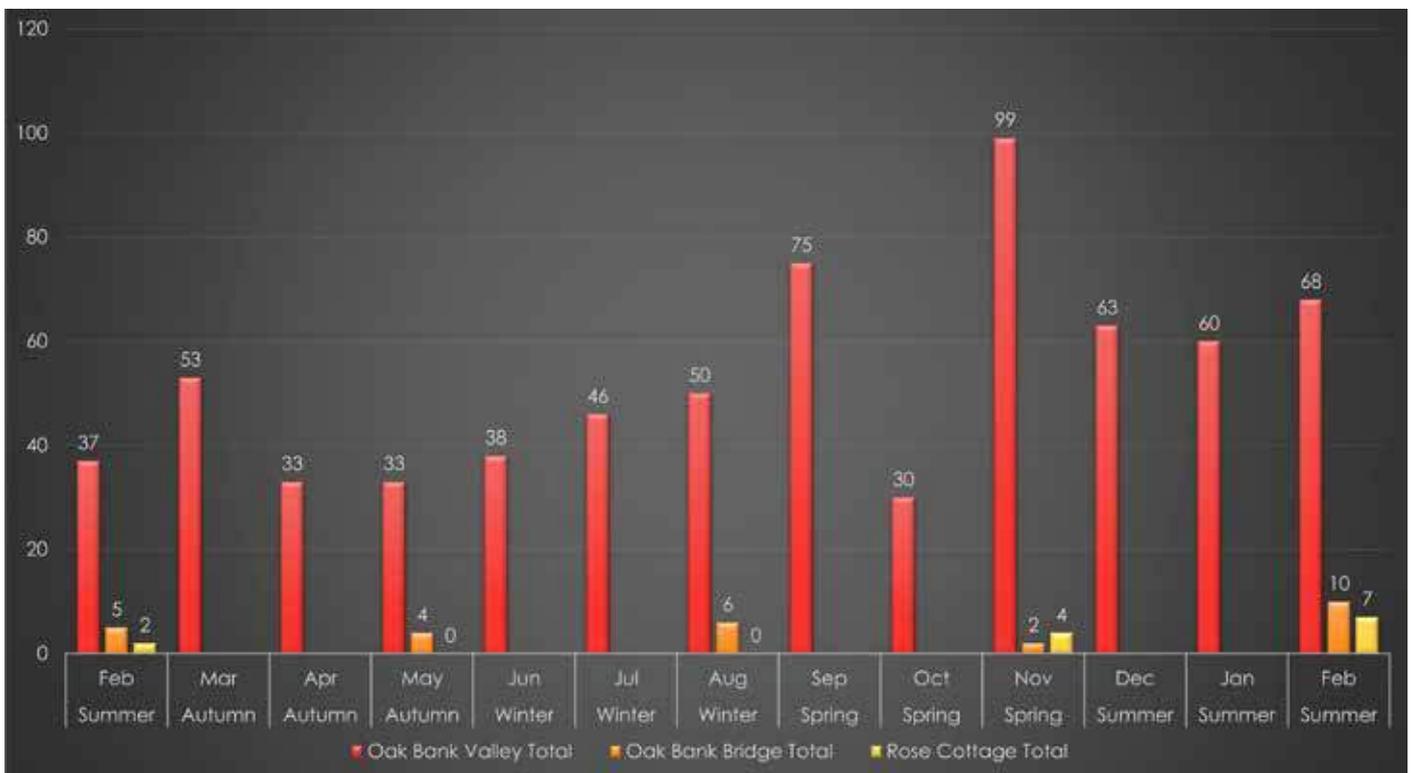
The Golden Sail Spider was most abundant on four plant species, particularly on non-native Banana trees *Musa acuminata*, Yellow Ginger Lily *Hedychium flavescens*, and Yam *Colocasia esculenta*, as well as the endemic Black Scale Fern *Diplazium filamentosum*. The species appears to prefer low-elevation, non-native plants, with adults favouring banana plants that can reach 2.5 metres or taller.

The graphs for this talk are presented in Figs. 19–21, to which I (Daryl Joshua) direct the reader. We are still in the process of analysing fully the temperature and humidity data from the surveys. It is hoped, with time, that the results of this study, with support from Danni, will be written up as a scientific paper.

As an addition, a brief mention of something else that happened due to the SHCFP funding. During the project, I completed an intensive arachnology course led by Danni. This included lots of fieldwork whilst Danni was on her expedition to the island, and also lots of lab work learning how to make identifications, and reading scientific papers. I learned about the evolution of male spider palps and the reproductive anatomy of females. We also covered phylogenetic theory, helping me better understand spider family trees and evolutionary relationships, and I learned about fascinating interplay

Figure 19





Above: Figure 20; below: Figure 21.

Site Status	Site	Adult	Male	Female	Juvenile	Egg sac new	Egg sac old	Egg sac general	Total
Scoping Sites	Diana's Peak	3		1	1			1	6
	Monchers Gut	1							1
	Mount Actaeon	4							4
	Taylors Hut	1							1
	Pleasant Valley				1				
Monitoring Sites	Oak Bank - Bridge	14	4	3	31	10	1	6	69
	Rose Cottage	22	8	6	42	3		4	85
	Oak Bank - Valley	301	27	16	747	65	90	128	1374
	Total	346	39	26	822	78	91	139	1541

between morphology and DNA in studying spiders. I am proud to be Saint Helena's first local arachnologist.

Q&A

Nancy Pascoe: How did you create the collaboration of the partnership? I am interested in this, because you name partners as the Fundacion of Cuba, as well as Honduras.

A (Danni Sherwood): The funding all came from the UK Government. There were partners on St Helena and British Partners like RSPB and the Species Recovery Trust. My work as a contractor was done with the Species Recovery Trust, I came on to the project as a contractor.

As an academic, I am affiliated with species recoveries all around the world, including Latin America, I do speak Spanish; so I already had established research connections in the other countries like Cuba and Honduras, so it was really interesting that, when I came on to this project, I was able to use some of our literature resources that we had in Latin America to compare certain species from islands. Of course, Cuba is a great example of a large island and it has large biodiversity in its cloud-forest, so it was good to have a comparison there. So that particular connection with Cuba just comes from the fact that I am a highly collaborative and affiliated researcher. In terms of our collaborations more

broadly, it was great being in St Helena because it had those different strands. It had the St Helena National Trust being an integral part of the project. We also had many different divisions of SHG which contained the biosecurity division for instance. Also the ANRD, which is the team responsible for custodianship of the Cloud Forest So the research needs to make the collaboration as broad as possible. One of my passions in terms of that is trying to bring together those links which you mentioned, trying to think outside of the box actually turns into some really interesting team-work.

Nancy Pascoe: Another question: do you have specimens on display in St Helena. Like we have herbariums, for plants, is there any place that people could look at the spider collections or are they just digital?

A: For the spider taxonomy, they are very small specimens, very small glass tubes filled with ethanol, and they are just brown crumpled little invertebrates. We have a lot of digital photographs; all the research that I have done can be found online freely – you don't need to pay to access it. You can just put "Saint Helena spider papers" in and it should all come up on Google. I am very happy to send pdfs directly to people if they are interested in our research. In St Helena, we have a very nice display where we repatriated a giant earwig for display in the St Helena Museum, which does now have a complete giant earwig. This was the result of the Cloud Forest Project, I went to Belgium to study specimens, Belgium has a large number of specimens of the Giant Earwig. St Helena had a specimen which had been damaged, essentially broken in two, so I negotiated the donation of one of an intact specimen from Belgium which was repatriated to England, and then arranged with St Helena partners that it be returned. And that specimen now is part of a display in the Museum.

Nancy Pascoe: And then a final one. Do you have any venomous spiders on St Helena.

A: In terms of spiders, the vast majority of spiders are venomous. Very few are not venomous but spiders in the family Uloboridae are not venomous. But this does not translate into being a threat to public health. In terms of species which are dangerous to humans, we are talking about fewer than 20 species in the world, out of about 54,000 spiders. None of the species on St Helena are likely to cause a medical incident. We have no data on results where people have been seriously bitten; there is no public-health risk posed by any spiders on St Helena.

Nancy Pascoe: And how did the local community respond to this project? I know spiders are not always very popular

Andrew Pearce: Does St Helena have many more unique spider species than other islands of a similar size? If so, what might be the reason for that?

A: In terms of the UKOTs, St Helena has by a high margin the most endemic arachnids and other

invertebrates. It is an island of very old geological age. It is very isolated, half way between Angola and Brazil. It has a wide variety of habitat from the dry Prosperous Plain to the Cloud Forest. The Cloud Forest is a refuge for over 120 invertebrates found nowhere else in the world. So it is very much a combination of unique habitat, a unique geological position, and the age of the island, and the fact that it has been a very good location for speciation. As I mentioned in the talk, there are no non-endemic Wolf Spiders. Every Wolf Spider that is found on the island has evolved there and is endemic, being found nowhere else. This speaks a lot to this island; when organisms reach it, speciation begins rapidly. In summary, it is very uniquely positioned, and has a combination that enables speciation to a fascinating degree. In terms of the UKOTs, it has the highest of any of the UKOTs that I know of.

Nancy Pascoe: There is a note from **Vicky Wilkins, Species Recovery Trust:** "There is also a St Helena invertebrate guide with a great spider chapter <https://www.nhbs.com/terrestrial-freshwater-invertebrates-of-st-helena-book>, we can send out individual chapters of this."

Liza Fowler noted: "On St Helena, we also have a reference collection where the public can come into the SHNT."

Joan Walley: Our recommendations note we need to know which species and habitats need protecting. I wonder if you could give advice to other territories about how to go about mapping and monitoring spiders.

A: In terms of advice to other Territories, involve taxonomists in surveys to identify specimens. But equally, then, to transfer that knowledge to those locally. For instance, there is a reference collection locally on the Island that is not on display but everybody who wants to see the preserved specimens can access that at the St Helena National Trust. There is also a reference collection at the Natural History Museum in London. I would just stress the fact that, for a lot of other UKOTs, there haven't been many biodiversity-surveys; we don't know what arachnids are there. We are not in a position where we can truly appreciate and conserve our biodiversity unless we know what is there first. So I would really emphasise the need for collaborative taxonomy on UKOTs.

Joan Walley: Thank you very much. I hope that it will be possible for people to take forward the advice you have just given.

Backyard rewilding as a mitigation response to habitat loss in the UKOTs

Kathleen McNary (SWA Environmental)



Kathleen McNary

McNary, K. 2025. Backyard rewilding as a mitigation response to habitat loss in the UKOTs. pp 96-100 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

This paper presents a practical and scalable ecological restoration-strategy – backyard rewilding – tailored to small-island and resource-limited communities. By integrating concepts from rewilding ecology, cooperative research methodologies, and the Chthulucene framework, this approach promotes biodiversity-recovery and strengthens human–more-than-human relationships. A case-study conducted in Asheville, North Carolina, demonstrates measurable ecological improvements achieved over one year using backyard rewilding principles. The results underscore the potential of localised, participatory restoration practices in complementing broader conservation efforts.

In response to global habitat loss, the United Nations has declared the decade spanning from 2021-2030 as The Decade on Ecosystem Restoration. However, the ecological restoration methods the UN espouses reinforce the same narratives that have failed to reverse the trajectory of biodiversity loss and have contributed to global ecocide by valuing agentic beings exclusively in terms of their utility to humans. The ecological restoration approach known as “rewilding,” on the other hand, posits that almost four billion years of ecological evolutionary intelligence uniquely qualifies the natural world (which includes humans) to self-will toward ecological wellness (Foreman, 2021; Gammon, 2018). Rewilding was first conceived in the United States in the 1990s (Soulé & Noss, 1998) and originally referred to human facilitation of ecological restoration on a landscape level via three “Cs,” including cores, corridors and carnivores. However, in most UKOTs, habitat and biodiversity losses do not occur on landscape levels and are instead a result of piecemeal land clearance resulting from inadequate planning, illegal land-use, and sprawl. Furthermore, the realities of a burgeoning population of more than eight billion humans and global anthropogenic ecological impacts trouble ambitions to create ecological utopias. However, backyard rewilding methods can address the fundamental threats faced by UKOTs by restoring land one small patch at a time, thus serving as a practical means to achieve some of the Decade on Ecosystem Restoration’s objectives.

Keywords: backyard rewilding, ecological restoration

*Kathleen McNary, SWA Environmental, Turks and Caicos Islands
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Introduction

Hello fellow conservationists. I am Kathleen McNary, the principal at SWA Environmental, a Turks and Caicos Islands based environmental consultancy company specialising in environmental conservation research. First, I want to express my gratitude to all the organisers who have worked tirelessly to put this important conference together so we in the UKOTs can share our professional challenges and successes. It is this kind of

cross-territory collaboration that the UKOTCF excels at and which, I am sure we can all agree, provides invaluable services to those of us in the UKOTs who face the ever-present challenges of underfunding and under-resourcing. So, Mike, Ann, Catherine, Council Members, and all the volunteers who give tirelessly of their time, thank you!

As conservationists embedded within our communities, we often face a dual burden: confronting the enormous



challenges of environmental degradation while mourning the incremental and sometimes catastrophic losses of species and ecosystems. In small-island territories, such as the Turks and Caicos Islands, these challenges are amplified by persistent underfunding and limited resources. Yet, it is precisely these communities that stand to benefit most from localised, scalable restoration strategies.

Backyard rewilding is a restoration strategy that empowers individuals to effect ecological change on small plots of land while contributing to broader landscape-level restoration. Drawing on Robin Kimmerer's (2013) insight that the problem is: "not Land that is broken but our relationship with it," backyard rewilding seeks to restore ecological integrity and foster a reconnection with the more-than-human world.

Context and Rationale

The United Nations General Assembly declared 2021–2030 as the Decade on Ecosystem Restoration, aiming to restore degraded ecosystems and re-establish ecological functionality (MARN, 2018; UN 2019). Despite global declarations, anthropogenic impacts – including deforestation, rising atmospheric CO₂, ocean acidification, and coral-reef decline – persist at alarming rates. Traditional approaches often fail because they rely on the same systems responsible for

ecological degradation, reflecting Audre Lourde's (1984) observation that "the master's tools will never dismantle the master's house." Donna J. Haraway (2016) added that: "it matters what stories we tell to tell other stories with". New approaches are needed that engage multiple worldviews, particularly those that embrace the agency of the more-than-human world.

Rewilding, as an ecological strategy, recognises Earth's evolutionary intelligence as a partner in restoration. Unlike conventional conservation science, which demands researcher objectivity, thereby reducing ways of knowing and understanding the world, backyard rewilding employs cooperative research methodologies (Heron 1997), treating humans and other species as co-researchers. This approach aligns with Aldo Leopold's (1949) land ethic, which states that, : "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

Conceptual Framework

Rewilding has historically been applied as a large-scale landscape restoration strategy, such as the reintroduction of wolves into Yellowstone in North America. While effective, this approach can reinforce a human-free wilderness narrative, which is historically inaccurate and



Reconsidering Anthropocene

Anthropocene = The Era of Man (Crutzen, 2002)

Chthulucene = Every End = a New Beginning (Haraway, 2016)

"...more modest possibilities of partial recuperation and getting on together" (Donna Haraway 2016)



practically limiting. Freedman *et al.* (2019) found that only 5% of Earth’s land remains untouched by human activity, highlighting the need to integrate human-occupied landscapes into restoration efforts.

Backyard rewilding extends this principle to residential and cultural landscapes. It encourages the reintroduction of native plants and ecologically beneficial fauna, the creation of wildlife-corridors, and the incorporation of permaculture principles for sustainable food-production. Such practices allow for mutual flourishing of human and more-than-human communities while preserving biodiversity in urban and semi-urban environments.

The rewilding process incorporated iterative cycles of cooperative inquiry. Initial phases focused on observation and relationship building with the land, refraining from intervention, and allowing all species – including invasive species – to participate as co-researchers. Subsequent interventions included planting native species beneficial to pollinators, creating safe corridors for herbivores, and selectively removing non-native species with limited ecological value.

Results

After one year of backyard rewilding, measurable increases in biodiversity were observed. The calculated Shannon-Weaver Index rose from $H = 3.238$ to $H = 3.807$. Floral species-richness increased from 91 to 183 species, mammal species increased from 10 to 13, bird species rose from 24 to 51, and reptiles from three to four species. Anecdotal evidence also indicated a substantial



Methodology

A one-year case-study was conducted on a former clear-cut deciduous forest in Asheville, North Carolina, USA, which had been maintained as a manicured lawn for several decades. Baseline ecological data were collected using standard quantitative methods, including transect-analyses, point-surveys and species-identification for flora, mammals, birds and reptiles.

increase in invertebrate diversity although these were not quantified. Invasive-species prevalence declined naturally from over 50% to approximately 35% of the total vegetation-cover.

Discussion

These results demonstrate that backyard rewilding can restore effectively biodiversity in small, resource-constrained settings. Key to success is a paradigm shift from detached objectivity to engaged subjectivity, fostering a relationship-based approach to land stewardship. This method acknowledges the complexity and agency of all ecosystem participants, including humans, and emphasises coexistence rather than control.

Rewilding also challenges conventional notions of human-dominated landscapes. Residential and urban lands, often dismissed as “human-only” spaces, can be transformed into ecologically meaningful sites for mutual flourishing. The approach aligns with Haraway’s (2016) Chthulucene framework, which embraces entanglement, regenerative capacities, and modest possibilities for ecological recuperation amidst ongoing anthropogenic challenges.

Conclusion

Backyard rewilding offers a low-cost, scalable, and participatory approach to ecological restoration, particularly relevant for small-island communities facing resource constraints. By integrating cooperative research principles, ethical land-management, and a relational understanding of human and more-than-human interactions, individuals can contribute meaningfully to global restoration efforts, one patch of land at a time. While not a panacea, this strategy demonstrates that localised, relationship-centered restoration practices are both practical and ecologically effective, providing hope and agency in a time of unprecedented environmental uncertainty.

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Q&A

Joan Walley: Kathleen, can I say, even though you are in the Pacific somewhere and not able to join us on the conference now, I think that your words will have inspired virtually everybody on this call today. Thank you very much indeed for that presentation. I am going to bring in Nancy. I don’t know about you, Nancy, but one of the things that came across to me in that presentation was the mind-set that we each have and how we deal with these huge challenges in terms of loss of biodiversity. And I wonder how much the debate about rewilding, and I note that it is perhaps not much underway in the UK but is starting to be, how much it’s actually got to teach us, and whether or not practices in the Overseas Territories could be a space, not in a geographical sense but an opportunity for the rewilding ideas to be more thoughtfully pursued as the result of this presentation we have just had today.

Nancy Pascoe: I wasn’t expecting the depth of analysis that Kathleen did. And some of the take-aways, some of the main points that I picked out, are: land-use; who owns land; who has access to land; how we have used land in terms of invasive species being introduced; whether they are farm-animals, our own pets escaping into the wild, and impacting the native fauna and flora. The whole concept of rewilding with native species. I think the term rewilding is a new buzz-word for us. Here in the BVI I would say the only people I have heard saying that are people who have moved here, UK people who have come here. And I would say the concept of rewilding is something that has been talked a lot about, maybe in North America and the UK. But when I listened to Kathleen, I thought this is what we are trying to do all along. National Parks, we have invasive species of plants and animals. We’ve got projects right now where that is exactly what we are trying to do, rewild – ecosystem restoration is another way you could term it. Education and changing mind-sets of people are I think the key to what Kathleen is talking about, how we are looking at the land. In BVI 80% of the land is privately owned. I am not sure what it is in other territories, but really who is owning the land, is responsible for changes, and how we are interacting with it, are key. Are we seeing it just as a resource to be used, or should we be regenerating it back to nature.

A [later]: Nancy, I am so pleased to hear that you

can see the broad application in BVI of the concepts I discussed. What I really appreciate about your comments is your recognition of the problematic nature of “land ownership,” and how this presents both challenges and opportunities. In terms of challenges from a conservation standpoint, there is little that can be done to try to force people to do what is right for their Land, but as individuals, we can become stewards of our own circles of influence and, if enough of us take up that challenge, it could make a big difference in terms of biodiversity conservation.

Nancy Pascoe: I think there is a comment in the chat from **Emily Bunce:** “Thank you for this inspiring talk Kathleen! It’s clear you have a depth of ecological knowledge that has supported you to rewild your space – to what extent do you feel people need to understand the science of their local ecosystems, and are there any particular resources that can help people to learn?” So I think this is about how can we all apply this to our own Overseas Territories. What does it mean and how can we do it? And I think she poses a lot of really great questions.

A [later]: Emily, I am so pleased that you raised this issue of knowledge. One of the key takeaways from my discussion that I hope people will embrace is that Land possesses 3.5 billion years of evolutionary knowledge and the capacity to self-will itself toward healing. Rather than imposing our human will on Land, which is what led to all the ecological problems we have in the first place, rewilding begins by doing nothing other than waiting, watching, learning and adopting an attitude of humility. A person does not need any particular resources or knowledge to do this, just a willingness to observe and participate, which makes it an ideal approach for resource-strapped UKOTs. By being curious about the process, people will gradually get to know the plants and animals they share space with and will thereby gain the knowledge they need to assist as needed in the rewilding process as good stewards. Although I have all the degrees and experience needed to be deemed “an expert,” I learned a great many things from Land during my year of rewilding that have turned a lot of the things I thought I knew upside down, and every case will be different, so we all still have a lot to learn.

Mike Pienkowski: Could I just chip in there and say this is so wide-ranging it might be a topic worth returning to in the general discussion at the end of this session, if I could make that suggestion, Madam Chairman.

Joan Walley: You can indeed Mike. Just to return to Nancy’s point, I think this is something we need to embed in some of the thinking we are promoting. Yes, let’s return to this in the general discussion, and also perhaps a particular agenda item at one of our UKOTs meetings.

Nicholas Watts: So enjoyed that, thank you.

Melanie Carmichael: Fascinating and some helpful information there.

Restoring Manx Wildlife and meeting our “30 by 30” target

David Bellamy (Head of Conservation and Land, Manx Wildlife Trust)



David Bellamy

Bellamy, D. 2025. Restoring Manx Wildlife and meeting our “30 by 30” target. pp 101-104 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

Manx Wildlife Trust (MWT), the Isle of Man’s leading environmental non-governmental organisation, has undergone a significant transformation over the past five decades. Initially founded to address a local conservation crisis, MWT has evolved from site-specific preservation efforts to a broader strategy of nature recovery at a landscape-scale. This paper outlines the organisation’s origins, challenges posed by the island’s unique political context, the limitations of traditional conservation methods, and the role of collaboration in achieving meaningful ecological restoration. Case-studies and strategic shifts highlight how MWT is redefining its approach to conservation in response to ongoing biodiversity-loss..

David Bellamy (Head of Conservation and Land, Manx Wildlife Trust)

Introduction

Manx Wildlife Trust was established in 1973. Plans for an oil refinery at the Ayres sand-dune system, now the island’s only National Nature Reserve sparked a need for such an organisation to champion nature and the natural landscapes of the Isle of Man. As the Isle of Man is not part of the United Kingdom or the European Union, and larger NGOs do not have a presence on the IoM, MWT was formed to fill a critical conservation void. This political isolation limits access to many UK and EU funding opportunities, such as the Darwin Initiative or the LIFE+ Programme.



The Calf of Man from the Isle of Man. Photo: MWT



Sand-dunes at the Ayres. Photo: MWT

Over the years, MWT has become the largest environmental NGO on the island, with over 1,300 members – an impressive figure for a population of just 84,000. However, the organisation has focused historically on preserving small, botanically-rich sites, often without broader ecological or strategic cohesion.

Conservation Approaches

For much of its history, MWT followed a traditional conservation model: acquiring small parcels of land for protection. Many of these reserves were isolated, lacked landscape-scale connectivity, and were managed through low-intervention or prescriptive methods.

While this strategy successfully protected plant-diversity, it was insufficient for mobile species such as birds and bats. Fragmentation and limited scope contributed to the continued decline of many species. Notably, the yellowhammer *Emberiza citrinella* once common, has become extinct on the island within recent decades.

A long list of lost breeding bird species – corn bunting, lapwing, red kite, and others – illustrates the scale of biodiversity decline. The extinction of the great auk, formerly found on the Isle of Man and now globally extinct, further highlights the importance of local action in global conservation efforts.

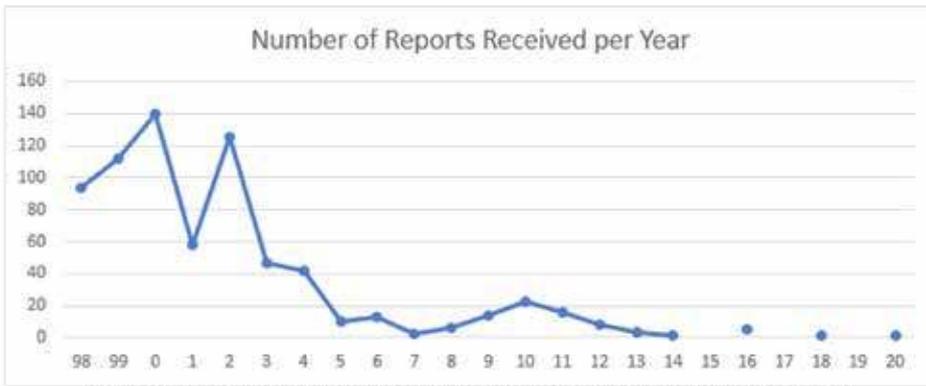
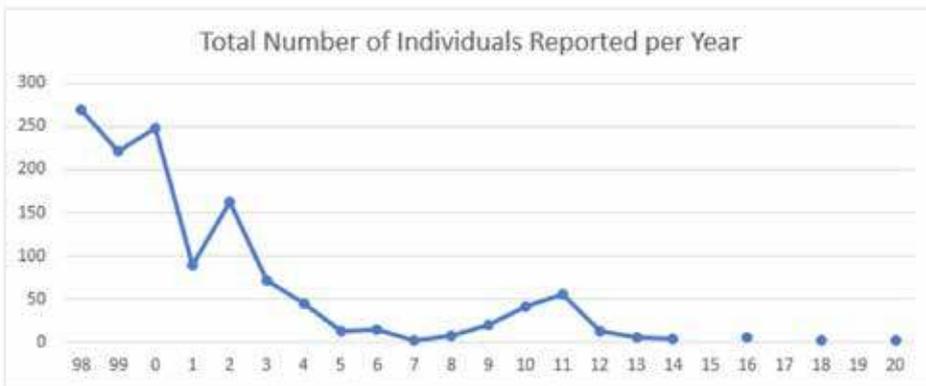


Figure 5: Annual total number of individuals records in the Manx BirdLife database, excluding Garden Bird Watch records.



Yellowhammers: above: numbers of reports and of individuals reported in each year since 1998 (David Bellamy); upper right: yellowhammer (Pete Hadfield); lower right: the only type of yellowhammers currently in the Isle of Man: museum specimens (Laura McCoy, Manx National Heritage).

Transitioning Toward Nature Recovery

MWT's 50th anniversary in 2023 marked a pivotal moment of strategic reassessment. Recognising that traditional conservation alone is inadequate, the Trust began transitioning toward a nature-recovery model focused on ecological restoration at a landscapescale.

This shift is exemplified by a comparison between two nature reserves:

Ballamooar Meadow: Less than one acre, but home to over 100 vascular plant species (one-fifth of the island's flora).



Aerial view of Ballamooar Meadow (MNT)

Glen Auldyn Estate: Recently acquired 1,124-acre site comprising significantly degraded habitats, representing a move toward large-scale restoration.



Part of Glen Auldyn with trees in winter (Graham Makepeace-Warne, MWT)

The Glen Auldyn acquisition was made possible through strategic collaboration with the Royal Society of Wildlife Trusts and external funding from Aviva, enabling restoration work to be funded through to 2075.

The Role of Collaboration and Influence

The Isle of Man's small population and centralised government present unique opportunities for influence. With only 24 members in its parliament and a single governmental department responsible for environmental policy, MWT can engage more directly in policy advocacy than might be possible in larger jurisdictions.

Approximately 70% of the island's land is agricultural, managed by just 343 businesses. If each business were



Heather-clad hills (Visit Isle of Man)

represented by one person, this equates to just 0.4% of the population. This presents both a challenge and an opportunity: small numbers of land-managers mean that significant landscape-scale changes can be achieved through collaboration with a relatively limited group of stakeholders.

However, current agricultural subsidies may contribute to biodiversity-decline, and future reform must support nature-positive land management.

Marine Conservation Progress

Beyond terrestrial restoration, the Isle of Man has also become a leader in marine conservation. Though much of the fishing industry continues to rely on destructive methods, the island has designated 10 highly protected marine nature reserves. In nine of these, mobile fishing gear is fully prohibited; the tenth has restricted use driven by scientific monitoring.

These achievements have been made by working collaboratively with the fishing industry rather than opposing it, demonstrating the value of stakeholder engagement in marine protection.

Case Study: Seabird Recovery on the Calf of Man

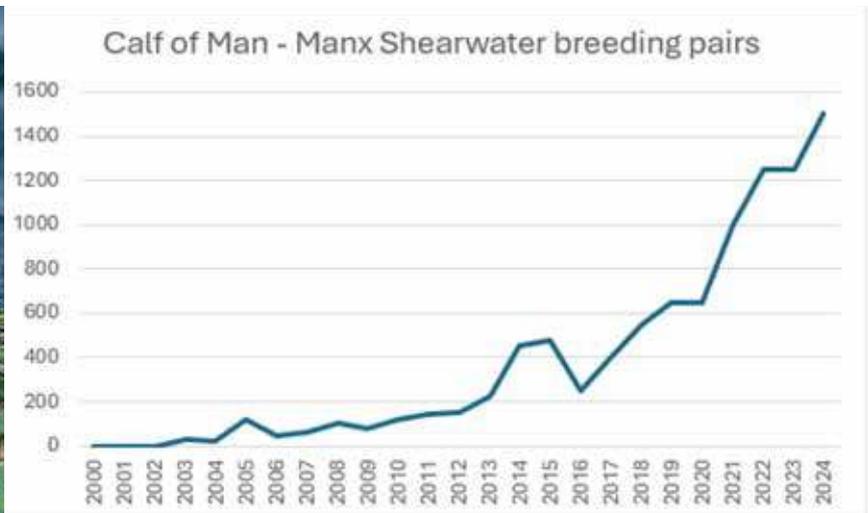
A successful example of low-cost ecological restoration is the eradication of non-native brown rats (locally known as “longtails” [not to be confused with the tropic-birds known by the same name in the Wider Caribbean!]) from the Calf of Man, an islet owned by Manx National Heritage and managed in partnership with MWT. This intervention has supported the recovery of ground-nesting seabirds, such as the formerly extirpated Manx shearwater *Puffinus puffinus*. The cost was relatively low – only into the tens of thousands of pounds – demonstrating the potential for high-impact outcomes from well-targeted efforts.

Conclusion and Future Directions

Manx Wildlife Trust’s evolution from small-site conservation to a landscape-scale, collaborative model of nature recovery represents a significant strategic shift. Today, MWT owns 32 reserves, managing 2% of the island’s land area. The Trust’s future efforts will rely on:

- Strategic partnerships
- Landscape-scale ecological planning
- Integration of terrestrial and marine conservation
- Engagement with landowners, farmers, fishers and policymakers.

This transition reflects a broader movement within conservation, recognising that localised preservation alone is insufficient. To halt and reverse biodiversity loss, especially in small island nations, conservation must be integrated, ambitious, and inclusive.



Manx shearwater adult (above left) and chick (below left), with (above) their recolonisation of the Calf of Man (Calf of Man Bird Observatory).

Acknowledgements

MWT gratefully acknowledges the support of the Royal Society of Wildlife Trusts, Aviva, and all collaborating partners involved in the Temperate Rainforest Recovery Project.

Q&A

Joan Walley: David isn't actually with us live, and also the presentation he has just made was first given to the Inter Island Environment Meeting (IEM) on the Isle of Man in September. But what I do want to say, in terms of thanking David for that inspiring presentation, is that those of us who are knowledgeable about the progress that has been made in the Isle of Man, feel that the scale of ambition that there is in the Isle of Man, and the way in which the Manx Wildlife Trust has taken this whole agenda forward, has lots of resonance with many of us, either in Crown Dependencies or Overseas Territories, not just in UK. I think the point that David made that the Isle of Man is neither in the EU or in the UK does not stop us being as ambitious as we want to be.

Nancy Pascoe: The phrase that stood out for me was: Nature Conservation to Nature Recovery, just looking at how we are all managing sites. And I think I would want to ask him as well about the human impact on the land of the site just acquired, the impact of climate-change. Nature conservation is not just a static situation. He talked about some sites which he wondered why they had them. I think we have some of those sites too. Is it land that has been donated? How have we acquired that land? How can it be managed to advantage and for the benefit of what they are trying to achieve? All very interesting. And I was interested in how they got millions of pounds donated for a site via the central wildlife trusts. Is this a UK fund only, I've not heard of that. Do you know more about that, Joan?

A [from David Bellany, later]: Our first action after the acquisition of Glen Auldyn was to hold an evening community-meeting with supper, hand delivering an invitation to each of the 87 households within the valley. Stakeholder-engagement will be key at every stage of developing our plans. One benefit of operating at landscape-scale, is that Glen Auldyn's elevation range is from 50m above sea level to almost 400m, allowing for some altitude shift for wildlife. We are exploring ways to work with neighbours to expand the site's reach to 550m, impressive when the very highest point on the Isle of Man is 620m.

Yes we have been both gifted and bequeathed some very small reserves, sometimes with low ecological value. Some of these are urban woodlands, surrounded by third party houses which makes the financial liability for tree-risk management quite high, for little ecological return. Whilst these sites may have low general biodiversity-value, we have not yet fully realised the human value of

these sites for engagement, nature-outreach and well-being. This will make us reflect on their true value to us as a nature charity.

When operating at landscape-scale, we will be shifting towards restoring natural processes (and suitable proxies for these where necessary, such as kept grazing animals) to allow nature to guide us in site-management and reduce the management-burden.

Joan Walley: Something that you have touched upon there is something that came up in the discussion with the Environment Minister, Mary Creagh, when we talked about the urgent need for funding, and she reminded us it is not just about government funding; it's how we can link up with business. I know a little bit about the Aviva Fund which has really been quite transformational in the Isle of Man and in other places in terms of the work they are doing, which is obviously also in the insurance companies' interests to mitigate and prevent many of the policies they are dealing with from having huge claims. I think there is huge scope for companies like Aviva, and I also know that Leigh Morris, a UKOTCF Council member, has been specifically tasked with looking at how we might bring in more private finance in terms of getting some of the things we need properly funded.

Mike Pienkowski: Perhaps I can chip in and say that Leigh is chairing a session on this very topic on the last day of the conference, on Thursday. He is not attending the conference now because he is at the IUCN Conference instead. His day-job required him to do that, but the Wildlife Trusts network is mainly UK but includes also the Isle of Man and Alderney. Both of those are also members of the Forum but they are members of that network too. Leigh's new job is in the Wildlife Trusts supporting organisations in an international role, which does include the territories. He is still on UKOTCF Council, with the support of his new boss, so I think there is a lot of potential there. We will learn more about it on Thursday.

Catherine Wensink: There are a couple of links in the chat about the temperate rainforest project: <https://www.wildlifetrusts.org/temperate-rainforest-restoration>; and Wildlife Trust & Aviva Impact Report 2024-2025 (<https://www.wildlifetrusts.org/sites/default/>).

Richard Selman (IoM DEFA): Glen Auldyn funding is from Aviva, for Celtic rainforests.

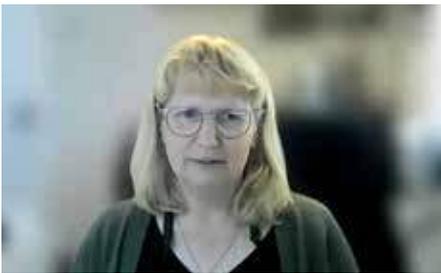
Roland Gauvain: Aviva's funding of the Atlantic rainforest project helps to demonstrate the scope for ESG focused corporate partnerships. However, you have to be within the geographic region to be able to access the project. Unfortunately, we are not down here in semi-tropical Alderney!

Informing Conservation Priorities through Earth Observation in the Caribbean

Samuel Pike & Katie Medcalf (Environment Systems Ltd)



Samuel Pike
Katie Medcalf



Pike, S. & Medcalf, K. 2025. Informing Conservation Priorities through Earth Observation in the Caribbean. pp 105-108 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

The combination of technology and data offer increasingly valuable ways to support biodiversity and sustainability goals. This talk explores the role of Earth observation and climate data for informing conservation strategies, particularly in coastal and small island contexts in the Caribbean. It considers how satellite imagery, ecological indicators, and climate projections can help identify priority areas for action and track progress over time. Additionally, we highlight the importance of integrating local expertise, datasets, and lived experience with remote sensing and AI tools, helping to ensure that remote conservation responses are contextually grounded, forward-looking, and equipped to meet emerging threats and opportunities.

Samuel Pike & Katie Medcalf (Environment Systems Ltd)

Introduction

Small islands in the Caribbean are at the forefront of climate-related pressures. Periods of prolonged drought are interspersed with flooding from intense rainfall, while stronger hurricanes continue to reshape both ecosystems and livelihoods. These challenges are compounded by limited financial and technical resources, and by the urgency of policy and management decisions that must be made.

In this context, Earth-observation and climate data can provide practical, evidence-based support. Free and open global datasets offer a baseline from which islands can develop their own conservation and resilience strategies. The value of these datasets is not in their availability alone, but in how they are adapted to island contexts, co-created with local experts, and linked to pressing conservation questions.

The Key Factors

The work described here combines data with locally relevant information across four environmental domains:

- Habitat – identifying ecosystem extent and condition;
- Topography – characterising coastal and inland terrain;
- Soils and geology – understanding hydrology, fertility, and erosion risk;
- Land management – reflecting how people shape and use land.

Each of these foundations is available at some level from free global sources (e.g. ESA's WorldCover Map, FAO soils data, GEBCO bathymetry). If more detail is needed, which is likely when working at the island-scale, then focusing on these four key factors will ensure the data collected is used across the board and with several use-cases. When combined with local datasets and expertise,

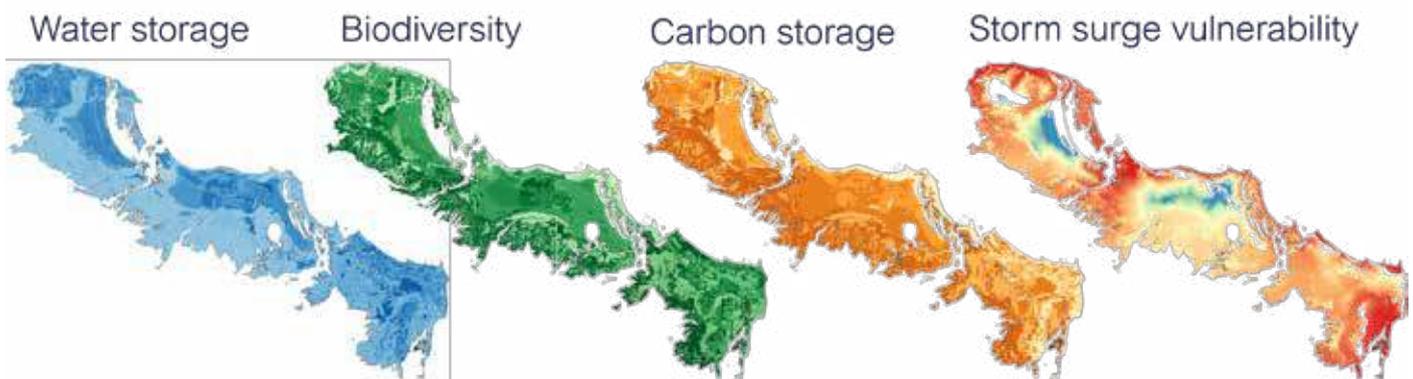


Figure 1: Ecosystem Services of Turks and Caicos Ramsar wetlands. The darker the colour the greater the contribution/risk.

they provide the basis for modelling ecosystem-services, assessing vulnerability, and exploring nature-based solutions.

Case Study 1: Turks and Caicos Islands

The Ramsar wetlands of the Turks and Caicos Islands are among the largest in the Caribbean. By combining satellite-imagery, climate-data, and core environmental layers with local experts and knowledge, the wetlands' role in supporting water-security, biodiversity, carbon-storage, and coastal protection was assessed. The analysis identified East Caicos as an area of exceptional biodiversity and carbon-storage potential. This evidence is informing current discussions on the expansion of Ramsar designations, ensuring that conservation-decisions are supported by robust and locally relevant data.

Case Study 2: Anguilla

In Anguilla, the National Trust sought evidence on storm surge and coastal vulnerability. By integrating Earth-observation, climate-data, and stakeholder-knowledge, a vulnerability assessment was produced that identified priority sites for red-mangrove restoration. Modelling showed how restoration in these locations could reduce vulnerability while also enhancing biodiversity and ecological connectivity. These outputs are already being used to guide restoration-projects, demonstrating how data can move from pixels to action.

Discussion

These examples highlight both the strengths and limitations of global datasets. Free and open data provide a consistent foundation, ensuring that no island starts from zero. However, adaptation is essential: global products are often too coarse to inform local decisions without refinement. The greatest value emerges when global and local data are combined, and when community-knowledge is integrated into the process.

This approach responds also to broader policy needs. Conservation-targets and monitoring-frameworks must be both realistic and fit for purpose. By grounding them

in accessible data and local expertise, policies are more likely to be achievable, socially inclusive, and resilient to change.

Conclusions

Earth-observation and climate data have an important role to play in the conservation of the UK Overseas Territories. Free global datasets can provide a starting point, but it is the local expertise and context that give them meaning. Together, they can help identify priorities for protection, guide restoration, and support the development of clear, tailored, and practical conservation targets.

The opportunity is to ensure that technology and local knowledge work hand-in-hand, so that conservation in the UKOTs is evidence-based, inclusive, and resilient in the face of a changing climate.

Q&A

Joan Walley: Samuel, thank you so much. I understand that you are with us on the call and able to answer questions. One comment that I wanted to make: you demonstrated the importance of communication about the datasets and how that might assist. The little cartoon character stood out as much as anything else in the presentation. I just wonder how you think we can better communicate, not just to decision-makers but to the public at large? About how important funding for data or research or capacity for all of this is? How do we better communicate what it is we are seeking to achieve towards sustainability targets?

Samuel Pike: You have Nancy and the NPTVI to thank for the cartoon, I think that is a really good way to get messages across. Certainly, each way you go about things, you need to be targeting whom you are aiming at. Nancy's cartoon was fantastic for getting to the younger audiences, and building that knowledge. I work with maps, I create maps, so I have always thought that visuals work a lot more than raw data. In the workshops my experience is, if you say things like how much temperature is going to rise, or how much less rainfall you will be having in the future, putting it on display, having people connect with the data, is more



Figure 2: Storm surge vulnerability, opportunities for red mangrove restoration, and the impact of the restoration in Anguilla.

effective. For policy- and decision-makers, getting them more involved right from the beginning, not necessarily condensing the outcomes or anything at the end, but getting their buy-in right from the start, taking them along with the journey while you do your project, and they see the outcomes as a result.

Joan Walley: Thank you for that. And I think that was very much behind our thinking when we got Mary Creagh to speak yesterday.

Katie, is there anything you wish to add to the presentation that has just been delivered by your colleague.

Katie Medcalf: In response to that last question, satellite-data suffer from two views. One is that people think it is magic and will make the tea and tell you the answer to life, the universe and everything. And the other is that it is considered completely useless because it won't pick up a 3cm plant in amongst a scrubby environment. And, of course, it is understanding what it does and what it does tell and how to use it. That is its main strength.

Nancy Pascoe: I can speak highly of the work of Samuel and Katie in BVI. We have done several projects with them. I have a geographical background and I fully support the power of maps in conveying information. When we do a workshop here and put a map up, you are showing information to people and that they can visualise and can contribute. Like Sam says, you are not bringing people in at the end, saying we have done all this research and this is the endproduct. Bring people in at the beginning and you ask their opinion and you ask what data are available. Because you need to ground-truth. As Katie and Sam said, there are so many layers of information, and earth-observation is such a powerful tool and needs care to be applied. And I really do strongly urge every territory to really think how they could use earth-observation. It might seem a bit too technical, and where do we even start? Sam and Katie, if a territory has never used any earth-observation, where would you recommend they start; where is the best place. Because we are very small islands, and it makes it time-efficient to guide your ground-truthing and the work that you do. We use it so much in the BVI and I can't speak highly enough. So, Sam and Katie, where should somebody start?

Samuel Pike: So much more data is being captured and being delivered to end-users. I think starting with actual satellite-data may not be the right place for you. It is very technical; there are a lot of things going on. There are a lot of things to understand to apply the skills needed load it into GIS software. A lot of data are being generated which are derived from earth-observations, not using the images themselves. But inferred information like vegetation-health or vegetation-drought, those sort of indices, are much easier to understand and conceptually add to your framework. So I would start with that.

Nancy Pascoe: There are some questions in the chat.

From the **Species Recovery Trust:** "Could this type of map be used to understand shifting of threatened species with climate-change to support their conservation?"

Samuel Pike: Yes, with the right data, I think, as long as you have good understanding of where those threatened species like to live and what they need to survive: what conditions those habitats need to be in; where they exist in the landscape in terms of aspect, size of the island, and temperature-ranges, If you understand all of that, you can use climate-data to understand where those ecological envelopes might be in 30, 40, 50, 60, 70 years' time. It is not indicative, it is projectioning. You could not say that is exactly where they are going to be in 20, 40 year's time, but at least it would give you a bit of an insight into the general patterns of where these envelopes are shifting.

Nancy Pascoe: Another question from Melanie Carmichael: Are there sources of funding to support mapping Earth Observation in a territory?

Samuel Pike: At the moment it is being done through Darwin Plus. Hence the questions to the Honourable Minister yesterday about alternative funding, philanthropic endeavours. I know that some are interested in it, but not necessarily from an earth-observation point of view: how it could be used for insurance policies, for example. So it is not necessarily the data themselves but what they can be used for – which is the key driver there.

Katie Medcalf: In terms of research, there are a couple of programmes which support research using earth-observation. They might be worth investigating if you have a specific issue in mind. I haven't seen one related to an Overseas Territory but I don't see why it shouldn't. But they are more research focussed.

Joan Walley: Perhaps there is a bit more work we need to do on that, perhaps to the follow-up to the Minister thanking her for her contribution yesterday. We should make sure that that point does not get lost.

Roland Lines: As you noted, many of the global datasets are too coarse for effective application to small islands. Are there online resources that bring together the available data for small islands?

Samuel Pike: Unfortunately, not that we are aware of. The closest resource would be the UKOTCF's own webdatabase for conservation practitioners (<https://www.ukotcf.org.uk/webdatabase-for-conservation-practitioners/>). This would need effort from interested parties and knowledgeable experts to source the data/information, and maintain the entries.

Nicholas Watts: It would be interesting to see a composite map including the UKOTs in a map of Commonwealth small island states. I ask from the perspective of the Commonwealth Association of Museums.

Samuel Pike: Here is a public domain map that combines Member states of the Commonwealth of Nations and

UKOT's, updated in February 2025.

https://en.wikipedia.org/wiki/Member_states_of_the_Commonwealth_of_Nations#/media/File:Commonwealth_of_Nations.svg

If this is not quite what you are after, we are always happy to help with mapping and remote sensing questions that could be of further

Paul Edgar: At Amphibian & Reptile Conservation, we have found spatial mapping and modelling invaluable in helping us target conservation and monitoring efforts on Jersey. <https://www.gov.je/SiteCollectionDocuments/Government%20and%20administration/R%20Jersey%20multi-species%20distribution,%20habitat%20suitability%20and%20connectivity%20modelling%2020181218%20DM.pdf>

Mapping St Helena’s Endemic Invertebrates for Targeted Conservation

Adam Riggs (St Helena Government)



Adam Riggs

Riggs, A. 2025. Mapping St Helena’s Endemic Invertebrates for Targeted Conservation. pp 109-112 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

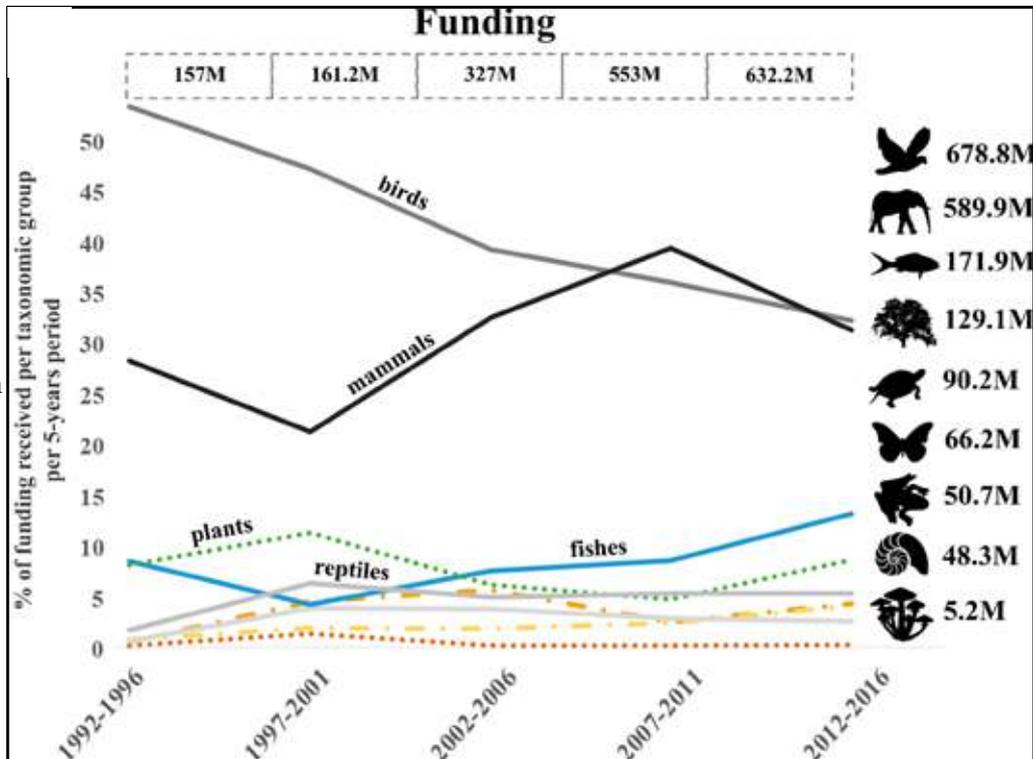
Invertebrates comprise 97% of all animal species and are vital to ecosystem function, forming the foundation of many ecosystems. However they are severely understudied and remain heavily under-represented in global conservation efforts. Oceanic islands harbour a high degree of biodiversity and are known for their magnitude higher endemic species than continents. St Helena is a remote oceanic island in the South Atlantic Ocean with a rich invertebrate fauna and over 460 endemic invertebrate species. This research carried out species distribution modelling using MaxEnt software on 176 endemic invertebrates, identifying important habitats and assessing protected area efficiency. Zonation prioritisation software was also used to understand future conservation measures on St Helena to aid invertebrate conservation. This talk will outline the methods used and interesting results from using these software types to map endemic species on St Helena. This is the first time this approach to guide conservation efforts has been used on St Helena and highlights its potential for evidence-based decisions on other UK overseas territories.

Adam Riggs (St Helena Government)
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Introduction

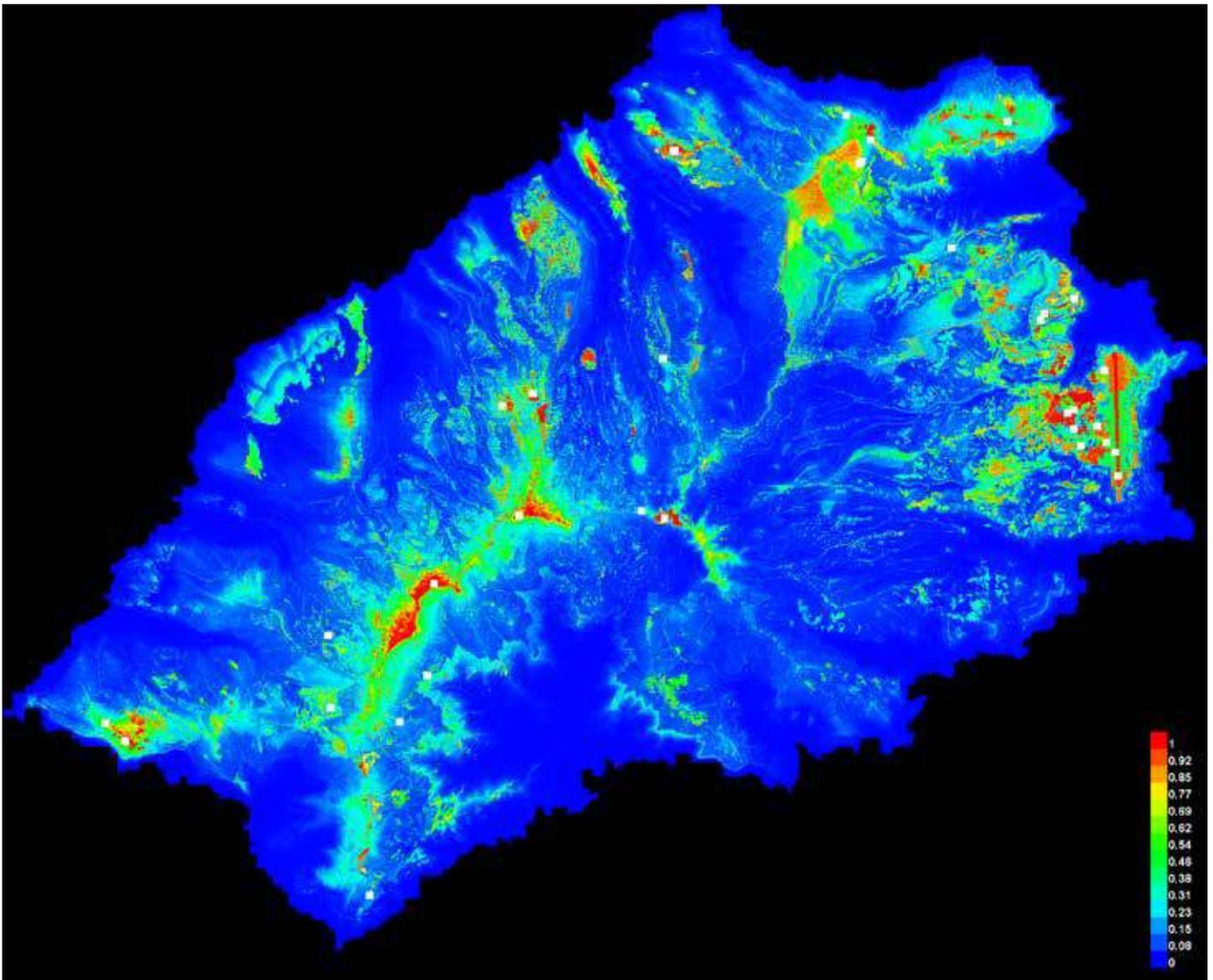
Oceanic islands, though covering only 5% of the Earth’s surface, are disproportionately rich in endemic species. St Helena hosts over 460 endemic invertebrates, including 29 endemic fungus-moth species and 100% of its wolf-spider species. However, since human colonisation in 1502, the island’s endemic vegetation has declined to just 1% of its original extent. Invasive species such as European wasps, the springbok mantis, and non-native plants pose additional threats, particularly given the co-evolutionary relationships between endemic invertebrates and their habitats.

This study aimed: (i) to identify habitats most commonly inhabited by endemic invertebrates; (ii) to assess the effectiveness of existing protected areas; and (iii) to inform future protected area designation to enhance conservation outcomes.



Methods

Species-presence data were provided by the St Helena National Trust, spanning historical records from the 1700s to contemporary field-surveys. Data included GPS



locations for 176 species, which were combined with environmental variables such as altitude, habitat-type, wind-speed and temperature. Species-distribution models were generated using Maxent, predicting areas of suitable habitat, based on observed occurrences.

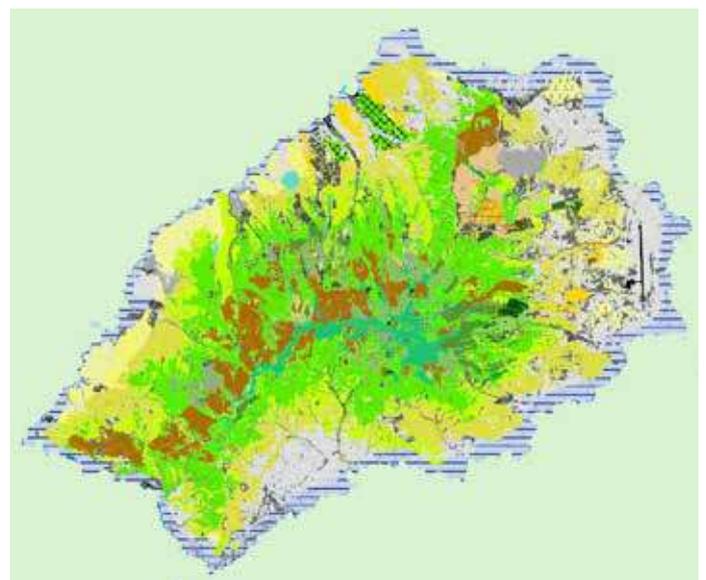
Species-richness maps (*above*) were produced in R, and spatial prioritisation was conducted using Zonation software to identify high-priority areas for endemic invertebrate conservation.

Results

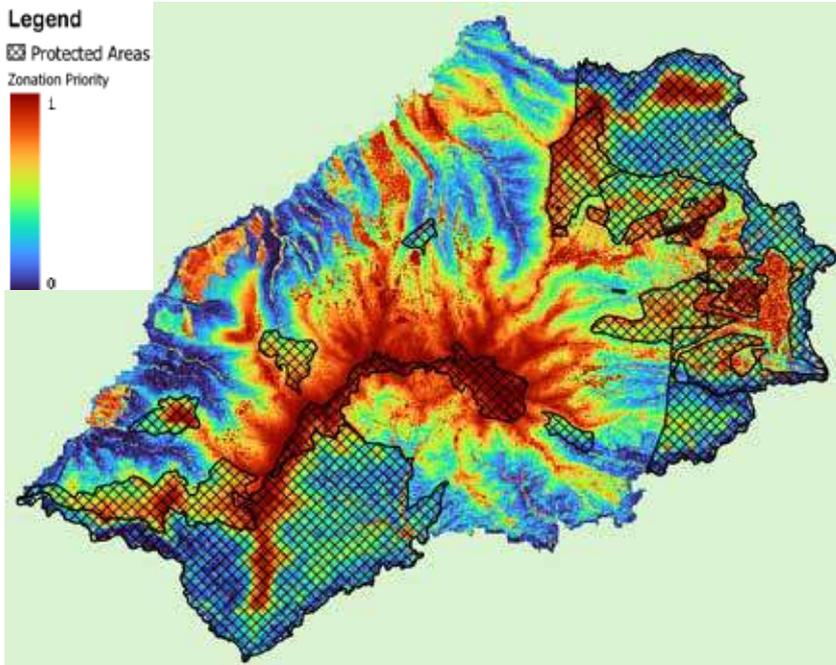
Analysis (*right*) indicated that bare soil (12.3%) and pasture-land dominated by Kikuyu grass supported the highest species-richness, suggesting that low-intensity agricultural systems may provide important habitats for endemic invertebrates. Introduced vegetation also overlapped with high-species areas, indicating either resilience among endemic invertebrates or potential evolutionary traps.

Protected areas on St Helena currently conserve 69% of endemic invertebrates, with 50% or more of their distribution falling within protected boundaries. Only 4% of species had less than 25% of their distribution

protected. Zonation-analysis identified additional priority



Habitat Type	Percentage cover %
Bare soil	12.3
Kikuyu Grass	9.1
Dense shrub mixture	9.0
Rocky areas	8.8
Introduced low shrub semi-desert	6.8



How can future designation of protected areas aim to increase endemic invertebrate protection?

areas, with opportunities to enhance connectivity via central ridges and tributaries, reducing fragmentation and facilitating species-movement.

Discussion

Species-distribution modelling offers a robust approach for identifying conservation-priorities, particularly on islands where survey-coverage is limited. Existing protected areas on St Helena are relatively effective; however, strategic expansion and improved connectivity could enhance further conservation-outcomes. Data-bias toward frequently surveyed areas represents a limitation and should be addressed in future research.

Conclusion

This study demonstrates that combining species-distribution modelling with spatial prioritisation provides an evidence-based framework for protecting endemic

invertebrates on islands. Findings can inform both the evaluation of existing protected areas and the strategic designation of new conservation-sites.

Acknowledgements

Thanks to the St Helena National Trust for providing species-occurrence data and for their support throughout the volunteer programme.

Q&A

[Fieldwork duties prevented Adam being available for the Q&A.]

Joan Walley: I would like to add to that thanks that you gave at the end of your talk. Research institutions like Exeter University contribute hugely to the research underway in Overseas Territories. It is wonderful that there is this opportunity for collaboration and for you to share the outcome of your research with us today.

Nancy Pascoe: One of the things that jumped out at me from Adam's talk was that less than 5% of projects focus on invertebrates. This is a major point for all of us that needs addressing. It is the small things that we are not looking at; it is birds, plants, other wildlife – so we are probably guilty here in the BVI too. But it is really important to do that scale of research as well.

Another thing that struck me was that they only have 1% of native habitat in St Helena. Talking about research, we need the data. The National Parks Trust of the Virgin Islands develop protected areas; you want more protected key areas but you need the data – you have to have that strong evidence-base. So, as Adam was saying, his analysis was driven more by the data he had available. And he talked about some of the software-systems he used.

Thank you!



Golden Sail Spider
Argyrodes mellissi



Spiky Yellow Woodlouse
Pseudolaureola atlantica



University of Exeter



ST HELENA NATIONAL TRUST

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Species-distribution models were generated using Maxent. Species-richness maps were produced in R, and spatial prioritisation was conducted using Zonation software. These would help predict where other areas of distribution might be, so that could then inform where you might go and do more fieldwork. I am guessing that might be similar to Marksand, another modelling software that we have used. I am not familiar with Zonation but it sounds

similar and maybe that is a way that you can mask out urban areas. Like he said, there might be certain areas you would not want to include in a protected area network, because they are urban or whatever.

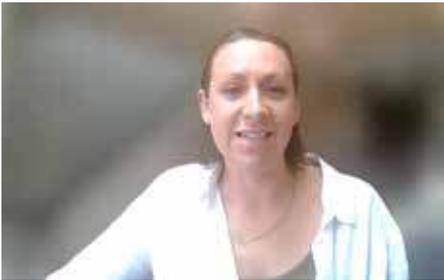
He was talking about where you might have data-gaps and how best to fill those data-gaps, because going through the whole process of designing a protected-area network is a long process and you have to have a lot of buy-in. So as much information as you can get, in many different forms, is needed to tie in to that. So you are not going to define a protected area just on invertebrates; you are going to try to put all these different layers together to say these are the best areas on the island to protect several species or habitats. So my question would be “How is he looking at the invertebrates in relation to all the other needs, on a small island where there is competition for land.” Those are many factors you have to look into in designing a protected area network. That was very interesting and I would certainly agree that we need more invertebrate research.

A (later): For the question, I do not actually have a straightforward answer. My project was centred around understanding those distributions and assessing protected area effectiveness on St Helena. It did not really take into account the next steps of how to address setting up a possible protected area network for the island and factoring in the human/built environment. We are lucky on St Helena that there are areas that have been highly developed but there is still a lot of area that has not been built on. Much of that land that has not been built on is not suitable for development, due to steep slopes. Zonation does allow for that deeper analysis to exclude areas that may not be suitable, e.g. urban areas. However, with the scope and time restriction on the project, I was not able to go into any further depth with Zonation. As this was only a dissertation project, there are not any further next steps and was more to provide a resource and investigate if future protected area designation could be beneficial for invertebrates.

Joan Walley: Thank you for that contribution Nancy, and thank you to Adam.

Planning Marine Biosecurity for Guernsey

Julia Henney (Natural Environment, States of Guernsey) & Lucinda Lintott (Senior INNS Consultant Scientist, APEM Ltd.)



Julia Henney
Lucinda Lintott



Henney, J. & Lintott, L. 2025. Planning Marine Biosecurity for Guernsey. pp 113-118 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

The development of a Marine Biosecurity Plan was prioritised by the States of Guernsey in recognition of the risks posed by invasive non-native species to the marine environment and marine industries.

APEM Ltd were engaged to deliver robust, cross-cutting biosecurity planning, with stakeholder consultation and engagement underpinning the process and outputs.

The first output, intended for top-down implementation, is a technical report for policymakers and governmental departments comprising a legislative review, contingency and rapid response planning frameworks and relevant monitoring and control methodologies.

The second output, intended as complementary bottom-up biosecurity for stakeholders, is a guide that contains accessible INNS and biosecurity information and biosecurity guidance for key sectors, including recreational boating, commercial shipping and commercial fishing. The guide outlines a three-pronged approach to robust biosecurity: practical biosecurity actions, awareness-raising and monitoring/reporting.

This work, and the promising uptake of the outputs underpins the importance of a community-based, multi-sector, collaborative approach to implementing sustainable marine biosecurity.

Julia Henney (Natural Environment, States of Guernsey; julia.henney@gov.gg) & Lucinda Lintott (Senior INNS Consultant Scientist, APEM Ltd.; l.lintott@apemltd.co.uk)

Good afternoon and thank you so much for inviting us to talk to you today. So we're going to be talking to you about Marine biosecurity planning in Guernsey. My name is Julia Henney and I am the senior environment officer at the States of Guernsey. And I am Lucinda Lintott, a senior invasive species consultant at APEM.

So this is just a very quick overview of what we are going to be talking to you about this afternoon. So we will give you a very brief introduction into Marine biosecurity, why we are prioritising it in Guernsey, and then the objectives of the marine biosecurity plan that has been produced. I will then hand over to Lucinda who will talk you through what makes effective biosecurity, the approaches that APEM took to producing a marine biosecurity plan for Guernsey, and the outputs of that work. And then I will quickly sum-up with the next steps that the States of Guernsey are taking.

So, to start then. In 2023, the States of Guernsey implemented an invasive non-native species action-plan, looking at how to prevent the introduction and spread of invasive species around Guernsey. Invasive non-native species are one of the biggest drivers of biodiversity loss

globally and this is an impact that we're experiencing in Guernsey. Our marine ecosystems and industries are at risk from pests and pathogens as well, which are transmitted along similar pathways to invasive non-native species.

And in our marine environment, there are already species that are here and causing trouble. So, one example is Japanese wireweed or *Sargassum muticum* (image below). This is an invasive species of seaweed that was introduced to Guernsey in the 1980s. Since then, it has spread and it is found in almost every single bay in



Japanese wireweed *Sargassum muticum*
© Mist Hopper

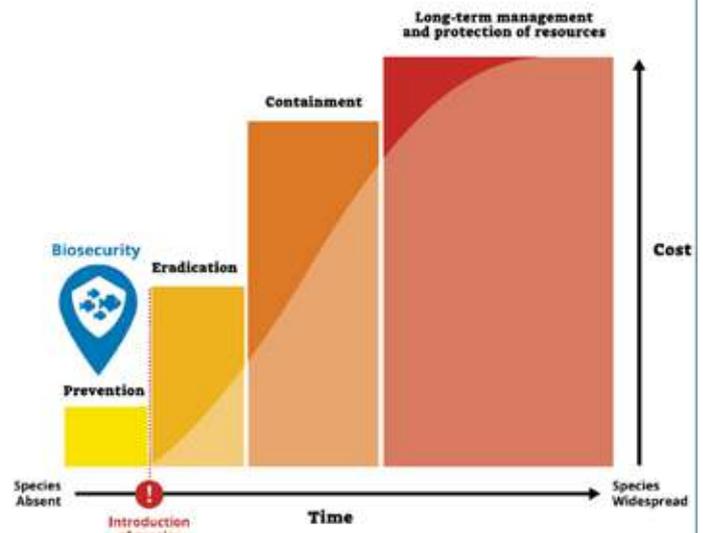
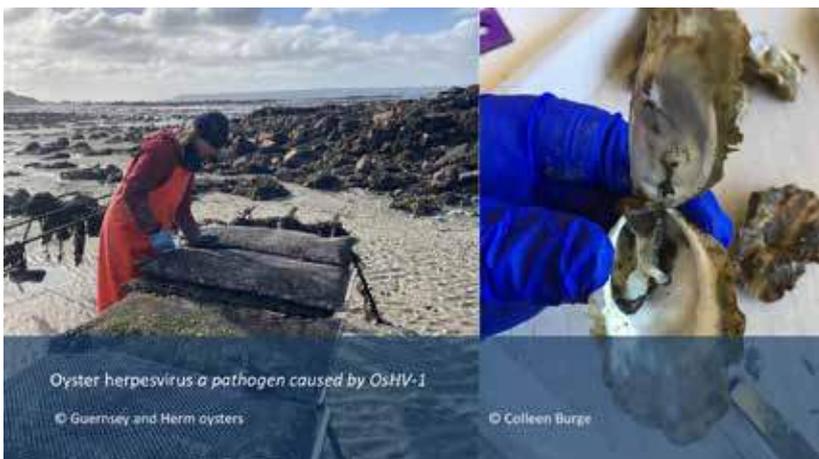
Guernsey, including some of our most sensitive sites. Where it is present, it shades out and changes the habitat of rock-pools. It warms them up, to the detriment of native species. And, unfortunately, there is no control and management possibility. In fact, where people have tried to control it, this has actually just encouraged its spread further, so it is here and it is causing an impact.



Another example is carpet sea squirt or *Didemnum vex* (image above). This is a relatively new arrival in Guernsey. It was first recorded in our visitors' marina "Victoria Marina" in 2023 and since then, on an annual basis, we have been controlling it. To the best of our knowledge, those control-measures have stopped it from spreading further afield than our visitors' marina. And those control measures, we believe, are being so successful that, when we undertook eDNA sampling this summer, it was actually below detectable levels for that methodology. So, we are quite hopeful that the method that we are implementing to control it is actually reducing that propagule pressure and helping to prevent it from spreading.

Then finally one example (image below) of something that is not here in Guernsey and one we really do not want to get here: the oyster herpes virus. This is a pathogen of oysters and it causes almost 90% mortality in oyster-beds where it is found. And it is prevalent right across the UK and in France and in Jersey. But Guernsey, fortunately, is free from this notifiable disease and we have two industries that are reliant on that disease-free status, so we're really keen to keep it out of our waters.

And this diagram (above right) shows why we are



prioritising prevention. We want to keep these species and these pests and pathogens out of our waters. One of the problems with marine species is that, once they are here, they are almost impossible to eradicate and very, very costly to manage, as demonstrated by this invasion curve.

With all invasive non-native species, the longer and the better established a species is, the more costly the management associated with that species. So, we really want to focus all of our efforts on prevention to keep these species out of our waters, so that those negative impacts do not become real.

So, because we want to prioritise prevention, and thus we really want to prioritise biosecurity, we went out to tender for the production of a marine biosecurity plan for Guernsey and this had three core objectives. The first was to reduce the risk of introduction and spread of invasive species, pests and diseases. The second one was to look at and optimise surveillance, monitoring, detection and rapid response so that, if species get to our waters, we can find them quickly and then implement control measures. And then the third one was to look at effective control programmes for existing invasive species, pests and diseases, if possible, and looking at prioritising that around those highest-risk species.

I am very pleased to say that APEM were successful and they were commissioned to undertake this work. For over a year now, they have been working to produce a marine biosecurity plan and guide for Guernsey.

Why Prioritise Prevention?

The Invasion Curve, adapted from the US National Parks Service and the Australian Department of Primary Industries.

As a species becomes established, the costs of interventions increase.

In the marine environment, biosecurity is often the **only** option.

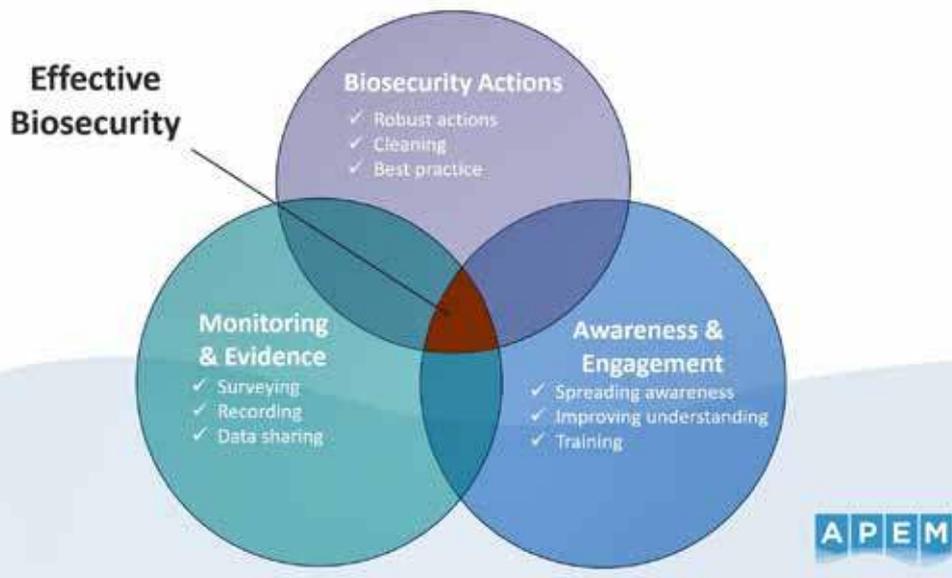
new species arrives, that means that one can act on things much more rapidly. And so all of these three elements together form effective biosecurity.

So the approach that we took (*diagram at bottom of page*) for this was sort of trying to marry a top-down approach and a bottom-up approach. So, we created biosecurity guidance for stakeholders, and we created this guidance using our knowledge of best practice and other national and international examples of biosecurity guidance. But we held also workshops to engage with the local stakeholders in Guernsey

and get their feedback. We tried to make sure that the information that we put together was accessible and that it contained recommendations for all of the sectors that are represented within the marine environment in Guernsey.

We put forward also a technical report for the States to act on and this included all of these background elements like the legislation and how that could be enhanced or used as it is to address biosecurity requirements for the States of Guernsey. As well as some frameworks for contingency and rapid-response planning, recommendations address short, medium and long-term, and then some monitoring and control methodologies.

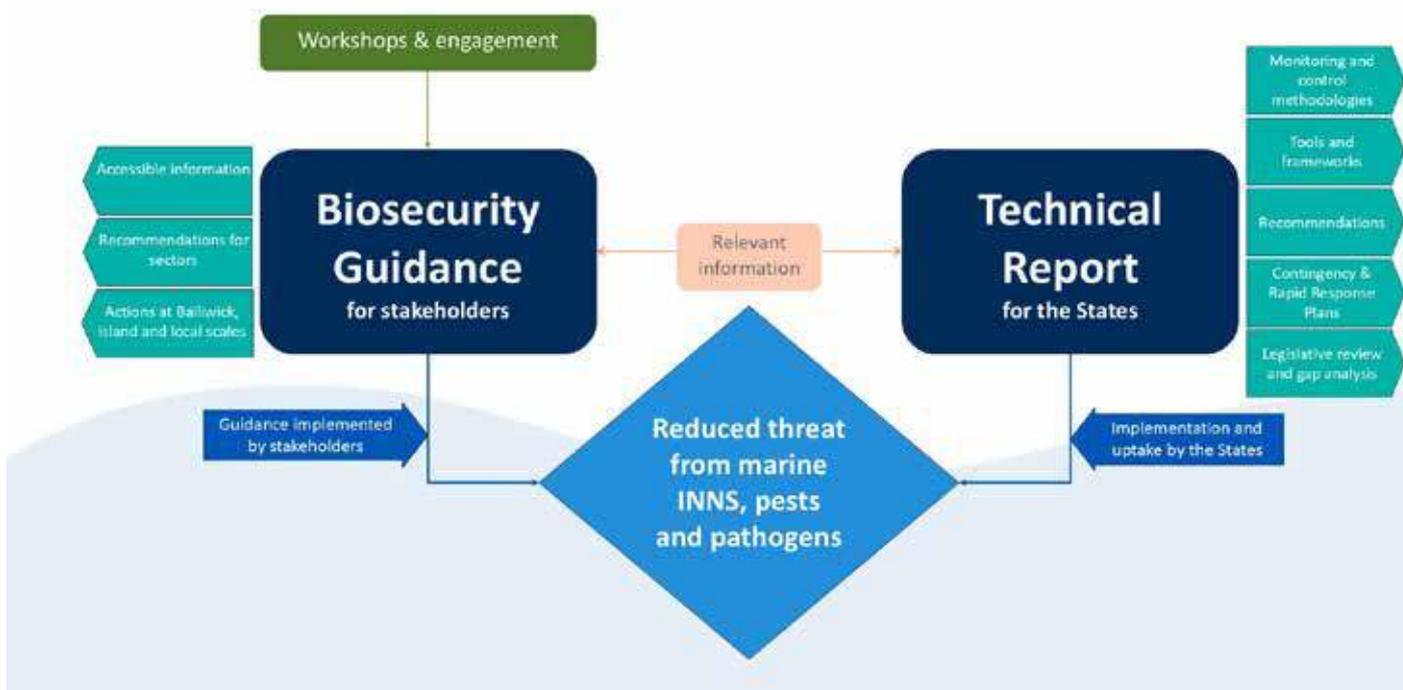
So, our aim was that with these two elements being undertaken together by the stakeholders and by the States, it would lead to a reduced threat from marine INNS, pests and pathogens.

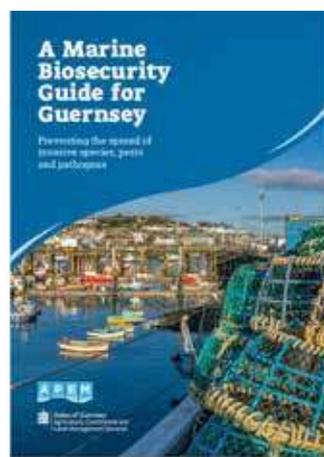


So, I will now pass on to Lucinda to talk about the approach that APEM took.

Thank you very much, Julia. When we look at biosecurity, we like to think of effective biosecurity as making use of these three-pronged approaches (*diagram above*). So, the first is those practical biosecurity actions. That is cleaning, and undertaking best practice in the marine environment. The next is engagement and awareness: trying to spread the message, making sure people are aware of what they need to be doing and why they need to be doing biosecurity; then having training so that they can then educate other people as well. And lastly, monitoring and an evidence-base so that surveys can be undertaken frequently, and one can see what is in the area and respond quickly to new incursions. When a

The Approach





These (*above*) are snapshots of the front covers of the guidance. We wanted to make sure that the guidance for the stakeholders was easy to understand, and interesting to look at as well. And so, we relied a lot on Julia and her team making everything much more visually appealing to all of the stakeholders, so that they could understand what needs to be done just by picking up the document and reading it.

With the internal technical report, as I covered already, we undertook a review of legislation and policy, and this was related legislation within Guernsey but also relevant to legislation and examples from elsewhere, such as in the UK and international examples as well. We looked also at a few of the conventions to which Guernsey is considering joining and what it would need to do to meet those requirements.

We looked at contingency planning and rapid response, specifically to a high-risk event. So, for example, a heavily fouled vessel coming into a port and what steps would need to be taken to mitigate any risk of invasive

species being brought in in that instance. And then also response to the recording or the sighting of a priority INNS and all the steps that need to be taken following that.

We put forward some information for species-prioritisation, monitoring and control. We assembled some recommendations for management and how prioritisation should work so that Guernsey can ensure that resources are adequately prioritised to make the most of the information about all of these species.

And then, finally, there was the implementation-plan which had short, medium and long-term goals and that very much married in with the feedback that we got from the stakeholders as well. So, there was a lot of input from

Marine Biosecurity Guide – Key Messages



them that we took into account when putting these actions together.

Within the marine biosecurity guide, we used our experience to put forward best practice from around the world and we used some key messages that have been used in other places: the Check, Clean Dry campaign and the Stop the Spread campaign. So that there is that continuity between biosecurity that the people in

Sector-specific guidance



Recreational Boaters

Invasive non-native species pose a threat to our biodiversity, our economy and our health.

If you're a recreational boater please:



Check and clean your vessel hull regularly - use biosecure cleaning facilities where possible and keep biofouling to just a slime layer



Check ropes, warp and chains for debris and clean them before moving location



Wash down the anchor warp with freshwater before storing



Be extra careful travelling into or out of Guernsey



Recreational Anglers

Invasive non-native species pose a threat to our biodiversity, our economy and our health.

If you're an angler please:



Check equipment is clean and dry before moving locations



Avoid using live bait, especially bait from outside the angling location or non-native bait



Be extra careful moving equipment into or out of Guernsey

	Short-term	Mid-term	Long-term
Legislation	<ul style="list-style-type: none"> Amend existing legislation/policy 	<ul style="list-style-type: none"> INNS legislation/policy enhancement plan 	<ul style="list-style-type: none"> New INNS specific legislation/policy
Contingency planning & rapid response	<ul style="list-style-type: none"> Incident response plan Rapid Response Plan Reporting procedures Training 	<ul style="list-style-type: none"> Test contingency plan 	
Practical biosecurity actions, awareness raising & stakeholder engagement	<ul style="list-style-type: none"> Promote Guide Communication strategy Signage Reduce risk of wash-down 	<ul style="list-style-type: none"> Awareness of high-risk INNS Biosecurity responsibilities Site-specific biosecurity plans Temporary wash-down facilities Show-case best practice Establish biosecurity forum 	<ul style="list-style-type: none"> Permanent wash-down facilities
Species prioritisation, monitoring and control	<ul style="list-style-type: none"> Pathways analysis Statutory surveillance Horizon scanning Management feasibility assessment 	<ul style="list-style-type: none"> Implement surveillance Control of established INNS 	<ul style="list-style-type: none"> Data analysis

Guernsey would see and people who come maybe from the UK would see as well. And then the simple messaging that gets into people's minds and, if it's repeated often, it becomes a bit of a mantra.

We also put together some sector specific guidance. The two examples here (*bottom of previous page*), recreational boating and recreational angling and we also included some commercial pathways as well. So, people have information about the practical steps that they can take that are relevant to their pathway. And we wanted to make sure that, when people pick it up, they see the information as being relevant to them. So, it's easier to then get people on board with taking on small steps to improve the biosecurity actions within their sector.

Lastly, we also have guidance for all of the sectors about what they can do for monitoring and reporting. So, whether this is what to do if you make an *ad hoc* sighting and you need to know who to send that information to. But also, a little bit of information about what they should do if they wanted to set up something more long term, like a surveillance programme.

And then also information for raising awareness: how they can contact people, what are the routes that they might want to take with that?

I'll just pass over to Julia now to talk through what the next steps have been.

Thank you, Lucinda. As Lucinda has mentioned, within the technical report, there was a proposed implementation-plan for how the States of Guernsey might want to prioritise some of the policy and legislation and infrastructure actions that were recommended to us. This table here (*top of page*) is a summary of that summary table. There is so much more detail behind all of this in that technical report.

Basically, the States of Guernsey are now using this to look at how we prioritise our resources. So, for example, within that report was a recommendation for some new

invasive species-specific legislation. Obviously, that takes a huge amount of time and a huge amount of resource. So that is very much in the long-term plan. But, in the shorter term, we are looking at, if existing legislation is being amended, how we might be able to incorporate invasive non-native species and biosecurity principles into that legislation.

Also, in spring, we are going to look to promote the guide: launching it and promoting it ahead of that heavy marine water-use. So, we will be doing targeted promotion to recreational boaters and anglers and other recreational water-users. And, ahead of that, this autumn, we are also going to be producing some targeted advice around recreational vessel-owners and boatyards about the best way to wash down vessels safely and securely without risking the potential of releasing those invasive species and potentially anti-foul paint into the environment.

So, we have lots of actions over the next few years and these are just a few of them: just a brief overview of the next steps that the States of Guernsey will be taking in how to take this guide forward and bring it to life.

And that was everything from us. Thank you very much for listening and we're looking forward to any questions you might have.

Q&A

Joan Walley: Lucinda is not able to be with us. Hannah Tilbury is here in her place.

Research, best practice, guidance, all part of our recommendations: What did you take out of it?

Nancy Pascoe: Biosecurity is key to all our hearts in islands. We are undergoing biosecurity reviews here in the BVI; so one of my questions would be "Is there dedicated funding for biosecurity in Guernsey, because funding always seems to be one of the biggest challenges?"

And also “What is the lead agency for biosecurity?” I ask that because, under legislation here, it originally sat with the Agriculture Department, but it affects the wider environment. This must vary across all the territories, as to who really is responsible. When you are looking at ports, so many other players are involved. Here it’s customs, ports authority, fishermen.

So my main questions would be around funding and who is the lead agency. I saw Natural Environment, is that a Government department?

A (Julia Henney): Thank you for the questions. I sit within Agriculture, Countryside and Land Management, basically our natural environment team in Guernsey. We are the lead team on biodiversity projects and production of the plan. We recognise that this touches many different service areas in the States [Government] of Guernsey. It really is a collaboration between lots of different service-areas. At very early stages, we set up an internal working group. Within that group, there are representatives from all areas which have an interest or mandate for marine resources or marine infrastructure. Fisheries sits on that, as do our ports, animal health – an array of different organisations who all have an interest in that. This is one of the reasons why it has got a lot of momentum. The key players are in the room and we all working on how to deliver this together.

As you quite rightly said, one of the sticking points, as always in implementing anything, is funding. We had initial funding to produce the plan, but the plan itself, because it is so wide-reaching, does not have specific funding for its delivery. So one of our next steps is to pull out those recommendations and add costings to it, and then we can look at how we deliver that. But all of us recognise that it won’t all fall to the Government; so it might be necessary to find some interesting ways of funding bits of it, such as a public-private partnership, especially around biosecure wash-facilities, and things like that. One of the big pushes that we are going to be making in the next year is around education and awareness, producing that guide and encouraging best practice. Fortunately, this is an area of work that needs a smaller amount of funding, so can be achieved. But, when we come to improving infrastructure and the creation and enforcement of new legislation, they are huge pieces of work which, if they go ahead, need their own funding stream.

Nancy Pascoe: So, would the idea be that you are trying to integrate it into all of your group’s general work-plan, like their daily operations? Again, I say that here, for example, a customs person might be looking for drugs or other illicit imports. They would not necessarily be looking for oysters or similar things, so that is a challenge which we face. So how is it you can make them prioritise these things and show the significance to your whole island economy because oysters might be very important to your economy.

Julia Henney: Yes, they are. As I said in the talk, they are wholly dependent on disease-free status. By the very fact of having that internal working group, we have representatives from all these different areas, so they buy into it; they all recognise the importance to that industry, in their relevant areas. Excitingly, on the back of this, our ports and our local harbours have agreed to produce their own biosecurity-plan. The government body which runs our harbour said exactly that – so they can integrate it in their everyday work-processes and all their decision-making, so it becomes part and parcel of daily life. Simple things like “There’s a buoy in the water that’s not being used anymore, we’ll just take it out.” And those small steps can make a huge difference. So their biosecurity-plan will help make that part and parcel of their everyday life and really integrate it. That is the only way, really, that these things are going to work. It has to be changing people’s behaviour; it has to become part and parcel of people’s everyday life.

Joan Walley: Do you have interactions with environmental health office at all, in terms of port authority and all that aspect of it? That seems to me one area where they could really embed that into their work as well.

Julia Henney: Yes, we work very closely with the Port Authority, and with Environmental Health. So I mentioned as well that we are producing some guidance around antifouling vessels and that will be utilising our environmental pollution legislation. At the moment, we are encouraging best practice, but it is good to have that legislation lever if and when we may need it. That really is a collaboration for the guide that we are producing in the next couple of weeks. The guide has been produced by environmental health, ourselves, and officers from the ports as well. So yes, it’s great to have people from all the different service areas in the working group. Training is also important. We have already done some really great training sessions with the local dive-teams. Our ports have dedicated dive-teams, so working with them gives them confidence in knowing what they are seeing when they are diving in our harbours, and knowing when to share things with us. If something looks odd, not behaving normally, they can report it to us. And that has already been really successful; we have had a report of a new invasive species *Aplidium cf. glabrum* that came specifically from the dive-team. They have become our eyes and ears. Rolling out training like that on spotting invasive species is an important thing to do.

Joan Walley: Thank you for all your examples of best practice and for sharing that with us. I am sure it will be of benefit to many on the call. Thank you to both of you for your presentation.

Bermuda National Trust: Thank you! This was great.

Wild Water Whales: Studying the Recovery of Baleen Whale Populations in South Georgia

Stephanie Martin & Dr Jennifer Jackson (British Antarctic Survey)



Stephanie Martin

Martin, S. & Jackson, J. 2025. Wild Water Whales: Studying the Recovery of Baleen Whale Populations in South Georgia. pp 119-122 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

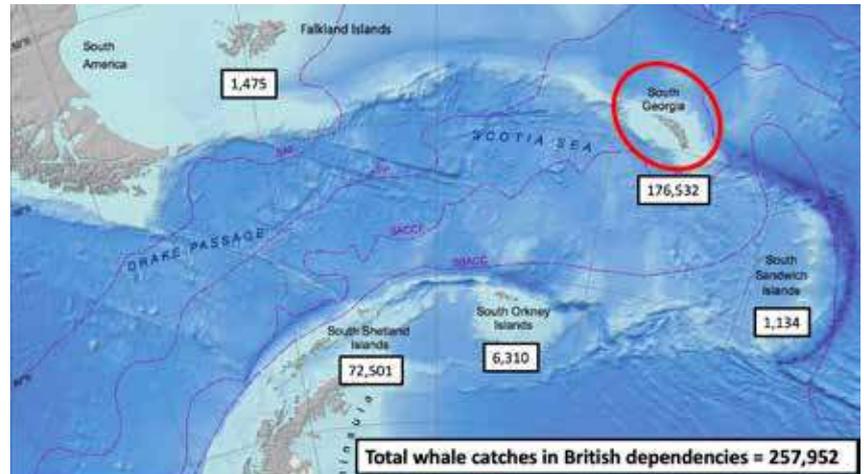
Baleen whales in the Southern Ocean experienced severe population declines due to intensive commercial whaling in the 20th century. South Georgia, a sub-Antarctic island, was a focal point of whaling activity, with historical estimates suggesting over 250,000 whales were taken in British Antarctic dependencies. The *Wild Water Whales* project aims to assess the recovery of baleen whale populations around South Georgia, including humpback, southern right, and Antarctic blue whales. This proceedings paper summarises methodologies, key findings, and conservation-implications, highlighting the use of modern technologies such as drones, satellite-tagging, and genetic analyses to inform management-strategies in the South Georgia Marine Protected Area.

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Introduction

Whaling in the Southern Ocean, concentrated around South Georgia, had a profound impact on baleen whale populations. Commercial whaling began in the early 1900s and continued until the 1960s, with intermittent activity during the World Wars. Processing efficiency at flensing stations enabled the removal of multiple blue whales per hour, demonstrating the intensity of exploitation. Despite the global whaling moratorium, recovery-dynamics in the Southern Ocean remain poorly understood. The *Wild Water Whales* project, led by the British Antarctic Survey, addresses key questions concerning the abundance, distribution, and ecological role of baleen whales in South Georgia's marine ecosystem.

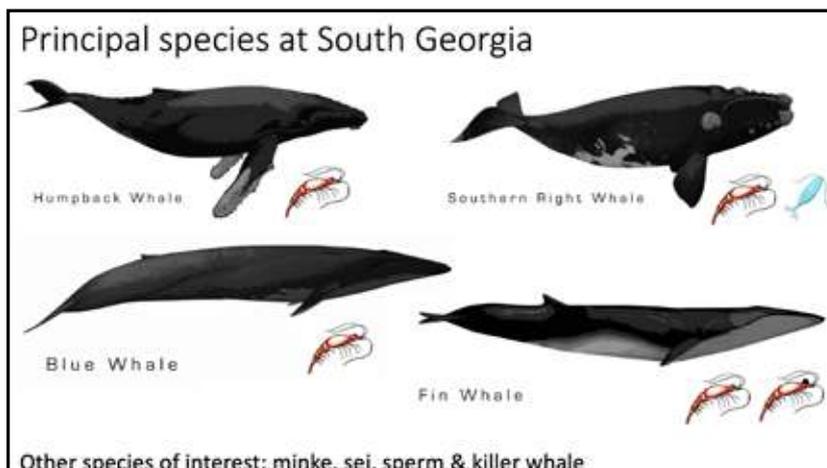


Methods

Research at South Georgia is logistically challenging due to harsh weather conditions and limited accessibility.

Fieldwork typically occurs during the austral summer (November–March) and is based at King Edward Point and nearby research stations. Multi-method approaches are employed, including:

- Photo-identification: Individual whales are photographed for long-term monitoring.
- Satellite-tagging: Enables tracking of movements to feeding and breeding grounds, including off Brazil and the African coast.





Collaborative efforts with the South Georgia Government and Bird Island Research Station enhance survey-coverage and contribute to adaptive management of marine resources.

Results

Satellite-tagging in 2019 revealed divergent migratory-behaviours among humpback whales. One individual travelled to Brazilian breeding grounds, while another visited the South Sandwich Islands. Circumnavigation surveys of South Georgia in 2020 documented several baleen-whale species, including humpback, southern right, and Antarctic blue whales. Observations suggested that humpbacks are now the most common summer visitors. Population estimates indicate over 30,000 baleen whales utilise the South Georgia – South Sandwich Islands region during the feeding season.

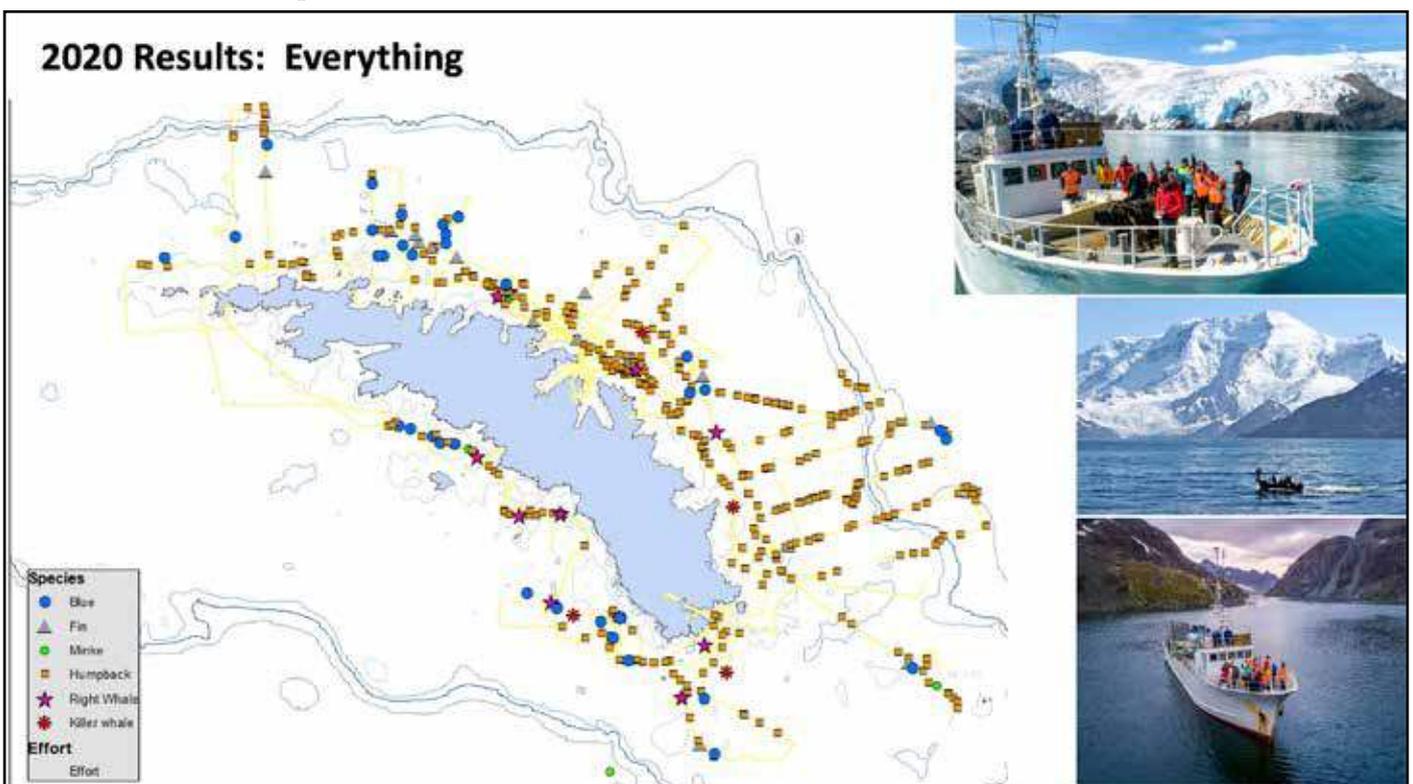


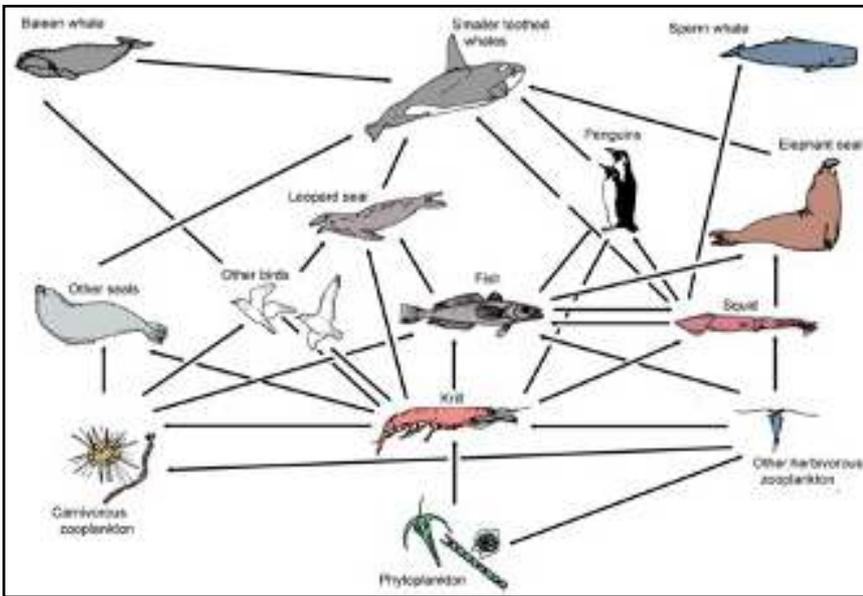
Studies under the Darwin Plus-funded *Hungry Humpbacks* project aim to quantify krill-consumption and understand the ecological implications of whale-recovery for other predators, including seals and penguins. The Darwin Plus-funded *Sustained Monitoring of Whales at South Georgia* project helps the UKOT government take management-actions to improve environmental quality for recovering whales in South Georgia (SG) waters.

- Drone-surveys: Assess body-condition and estimate prey-consumption.
- Biopsy-sampling: Skin and blubber samples provide DNA for genetic analyses, determining sex, assessing pregnancy-rates, and monitoring population-health.
- Faecal collection: Used for dietary and genetic studies.
- Acoustic monitoring: Mooring buoys record whale-vocalisations and ship-noise to assess strike-risks.

Threats and Conservation Management

Despite signs of recovery, baleen whales remain vulnerable to anthropogenic threats. Ship-strikes represent a potential risk, particularly near King Edward Point and Grytviken. Acoustic monitoring and line-transect surveys provide baseline-data to assess the efficacy of management-interventions. In 2022-2023,





marine ecosystems. Satellite-tracking, drones, genetic analyses and acoustic monitoring provide critical insights into whale population-recovery, ecology and management. Early results suggest substantial recovery of humpback and other baleen whale populations in South Georgia, with important implications for ecosystem-dynamics and conservation-policy. Ongoing research will continue to inform strategies for mitigating anthropogenic threats and enhancing the resilience of these iconic species.

Acknowledgments

We acknowledge gratefully funding from Darwin Plus, the South Georgia Heritage Trust, Friends of South Georgia Island, and other supporting agencies. Special thanks to the field-teams at King Edward Point and Bird Island Research Station, as well as our collaborators in Brazil and Africa.

the South Georgia Government implemented a voluntary reduction in shipping speed to 10 knots. Ongoing analyses evaluate the effectiveness of this measure in reducing strike-risk.

Discussion

The recovery of baleen whales in South Georgia represents a major conservation-success. Observations of blue whale and southern right whale mother-calf pairs in 2024 demonstrate encouraging population-trends. However, challenges remain, including limited historical data, variable survey-effort, and environmental pressures from climate-change and commercial fisheries. Funding for continued monitoring, combined with modern technologies and international collaboration, is essential to ensure sustainable management of South Georgia's marine ecosystem.

Conclusion

The *Wild Water Whales* project demonstrates the value of multi-disciplinary approaches in studying remote

Q&A

Joan Walley: Thank you very much indeed Stephanie. It's good to have had a glimpse of such magnificent creatures – and to have such a good-news story, which I think will make us much more committed to bring good-news stories to every bit of habitat, species etc, not forgetting invertebrates, which we are looking after. Nancy, how do we use these good-news stories? How can we help give hope to all the others where we need, perhaps, to do extra work?

Nancy Pascoe: Stephanie, thank you: that was really interesting and, as Joan said, what a great story to hear, that we have gone from 250,000+ whales caught to the recovery that you have seen. I would love to see the technology that you use. You said that you were using

drone-imagery, to do the analysis to work out how much krill the whales eat, and I guess my question would be “Has there been any success in influencing the krill fishery?”

A: Well, the krill fishery in South Georgia is incredibly well managed. It is a winter-fishing-only time-period; so it does not compete directly with the several species that



rely on krill in the waters of South Georgia, including penguins, the seals and the whales. The South Georgia Government has worked really closely to have a very sustainable quota for the krill-fishery. During the winter time-period, fishing is allowed only in certain sections of the MPA, so that there are quite a lot of closed areas in the MPA. Just recently, the South Georgia Government Marine Protected Area Review has reported one of the highest standards of all MPAs in the world. So I applaud them for all their efforts. I think what has made the headlines recently about krill-fishing is what is happening in the Antarctic Peninsula. It is the first time ever that the quota was cut, for the krill-fishery in the Antarctic Peninsula, and it is a summer fishery. This is all managed under the CCAMLR [Convention for the Conservation of Antarctic Marine Living Resources] system, which is under the Antarctic Treaty system. Actually next week is the start of the meeting, so I am sure this will be a very hot topic. CCAMLR is a consensus-based organisation with ecosystem-management at the heart of it, and for a very long time it was very good to be driven by the science, that has shifted a bit recently. It is not my area but I work with a lot of the krill-scientists going to CCAMLR, and there are a lot more political overtones influencing whether or not any changes to that management is happening. You may be hearing a lot about that in the next couple of weeks because there is a lot of concern about the increase in the krill-fishery around the Antarctic Peninsula, but not in South Georgia.

Nancy Pascoe: A couple of questions have come in. From **Roland Lines:** “How good are the protections for these whales in their calving grounds?”

A: In the calving grounds, it is a little different. They face a lot more potential for ship-strikes and entanglement in fishing-gears, particularly off the coast of Brazil. And, for our Southern Right Whales we find some of ours from South Georgia in Argentina; there are some potential threats for them there. The African connection is still something that we are discovering. There are very few sightings so we need to collect a bit more data to understand what the potential threats are there. But one of the changes that could potentially be impacting one of the things we are starting to study is the increased water-temperatures and climate-change and the lack of sea-ice which will impact the krill-populations which will then, of course, impact all the predators: the whales, the seals and the penguins. So we are doing a lot of work with the krill-scientists to look at that potential shift. That could happen, particularly in South Georgia, but there could be implication also on the breeding grounds.

Nancy Pascoe: **Mike Jervois** says: “Hi Steph, you mentioned ship-strikes, are your findings changing the way shipping happens in South Georgia or ways to avoid strikes?”

A: Right now, the main measure, and what we think is probably the most effective one, as Russell’s work has

shown, is the speed slow-down. It is different from other parts of the world as we do not have cargo-vessels going through shipping-lanes. One cannot really adjust the areas where the ships are coming in and out. It is primarily the tourist-vessels, which come very close to the shore. So one of the main things with our project and sustained monitoring is to engage with the International Association of the Antarctic Tour operators, because no-one wants to hit a whale; no-one wants that to happen. So we are trying to do a lot more raising of awareness, just to make people understand there are a lot more whales around South Georgia and to encourage compliance with the 10 knot speed-restriction.

Joan Walley: Stephanie, you mentioned what you are doing with the tour-operators, I just wondered is there any contact with the IMO in terms of looking at shipping practice and guidance etc?

A: There is a little; the South Georgia Government obviously works really closely with the IMO, but South Georgia, as you know, is in a disputed territory – so there are a lot of political sensitivities, and it is not actually a port. I think the things that IMO could do maybe in other parts of the world may not be applicable to South Georgia, given its special status. By working with the industry, and by working with the Government, we are providing data to say that these are areas where more whales have been sighted and what can we do to prevent ship-strikes that way, rather than going down the regulatory route with IMO.

Joan Walley: Thank you very much and I would just like to acknowledge what is in the chat:

Pamecia Ollivierre: Captivating presentation Stephanie, thank you

Helen Balfour: Thank you Stephanie, brilliant work from your whole team. Fascinating to hear about the biopsy samples too!

Bermuda National Trust: Really interesting insight and great to hear some good news. Thank you!

Tracey Williams: Really interesting presentation. It would be interesting to know if these travel up to St Helena.

A (later): Our research has shown no photo-matches, or tag-tracks to St Helena. The current thinking is that whales from St Helena migrate to areas off of South Africa but there is still lots of uncertainty.

Reflections on Biodiversity Data Challenges and Opportunities in the UK Overseas Territories

Quentin Groom (Meise Botanic Garden, Belgium)



Quentin Groom

Groom, Q. 2025. GBIF Building sustainable biodiversity-data for the UK Overseas Territories. pp 123-127 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

Biodiversity data are critical for conservation-planning, ecosystem-monitoring, and responding to global threats such as climate-change and invasive species. In this paper, we reflect on collaborative work with UK Overseas Territories (UKOTs), particularly Montserrat, the Cayman Islands, and the Chagos Archipelago, and explore the unique challenges these regions face in collecting, managing, and using biodiversity-data. We discuss the importance of data-integration, open data-infrastructure, and data-sovereignty in supporting effective and equitable conservation in small-island systems.

Quentin Groom (Meise Botanic Garden, Belgium)

Introduction

The UK Overseas Territories are globally significant for biodiversity, hosting many endemic and threatened species. Despite their ecological value, these territories face systemic challenges in managing biodiversity-data due to small populations, limited infrastructure, and geographic isolation. This paper draws on experiences from collaborations between Meise Botanic Garden and partners across several UKOTs, highlighting the importance of data-collection, -sharing, and -sovereignty for effective biodiversity-management.

The Role of Biodiversity Data

Biodiversity data support a wide range of conservation and policy needs including:

- Monitoring ecological change over time
- Assessing impacts of climate-change
- Managing non-native species
- Conducting Red-List assessments and conservation planning.

Data are collected through various means: remote-sensing (e.g. satellites, drones), environmental DNA (eDNA), mobile apps like iNaturalist, field-surveys, and more traditional specimen-based methods. Regardless of the method, all biodiversity-data require proper storage, long-term maintenance, and analytical frameworks to be useful.

Challenges in the UK Overseas Territories

The UKOTs face a unique combination of challenges that affect biodiversity data management:



Figure 1. Data integration

- Small populations and low population densities limit capacity for long-term data collection and management.
- Territories are often far from research institutions, making it difficult to access specialist knowledge or support.

- High levels of biodiversity and endemism increase the demand for robust monitoring and conservation measures.

Even in Belgium, with a population of 12 million, we struggle to maintain a national biodiversity-infrastructure. These challenges are greatly amplified in the UKOTs.

Where Are the Data?

A significant proportion of biodiversity-data from the UKOTs is held outside the territories themselves. A study, as part of the *Hidden Histories* project (on Montserrat and the Cayman Islands: <https://www.ukotcf.org.uk/key-projects/blue-iguanas-to-blue-vervain/wp3/>) showed that:

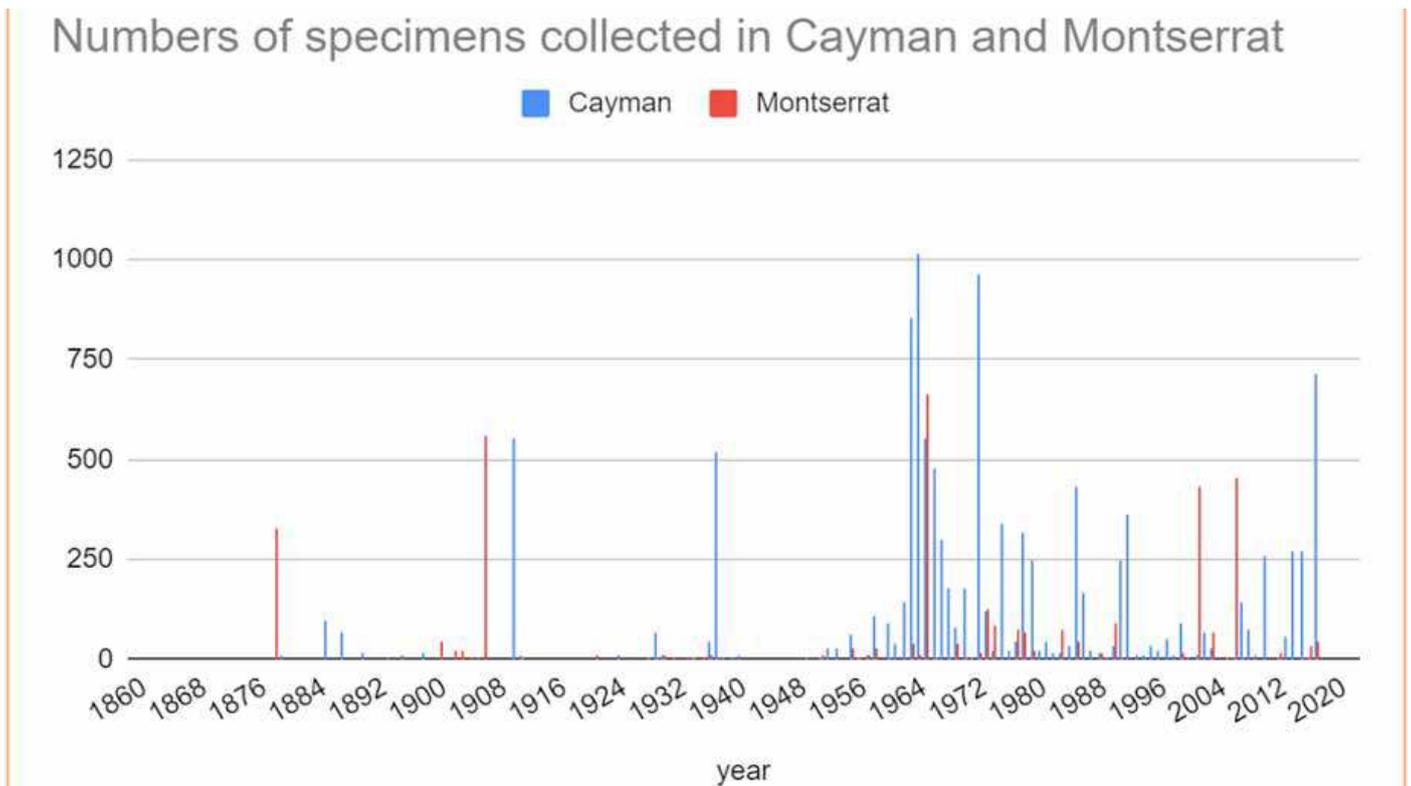
- Most specimens are stored in institutions in the USA, Canada, and the UK.
- The majority of historical collectors were also from outside the territories.
- The digital availability of these data often depends more on digitisation levels than on where the specimens are held.

- Many specimens were collected in earlier decades (particularly the 1960s and 1970s) without local involvement. More recent efforts are increasingly equitable and collaborative.

As part of the same project, a recent paper by Groom *et al.* (2024) highlighted the urgent need for capacity-building to enable countries, particularly in the Global South, to benefit fully from biodiversity-collections and digital data. Key priorities include training scientific and administrative staff, involving local communities in research, integrating biodiversity into education and other sectors, and ensuring long-term investment in infrastructure and skills. These steps are essential to turn accessible data into effective local conservation-outcomes.

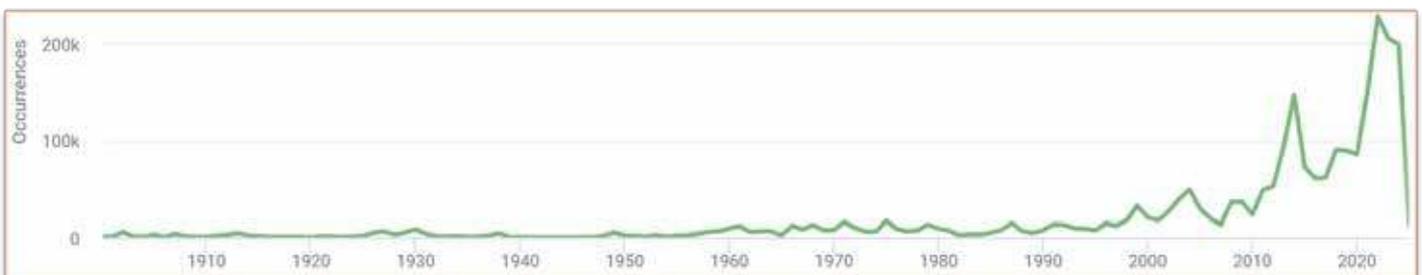
The Rise of Open Biodiversity Data

The creation of platforms like the Global Biodiversity Information Facility (GBIF) has transformed biodiversity-data accessibility. GBIF now hosts over 3.5 billion occurrence records from around the world, standardised



Above: Figure 2. Where specimens were collected.

Below: Figure 3: Temporal trends in specimen data-collection across all UK Overseas Territories. Data-collection has increased substantially in recent years with a smaller peak visible around the 1960s–1970s. Much of the recent increase is driven by contributions from iNaturalist.



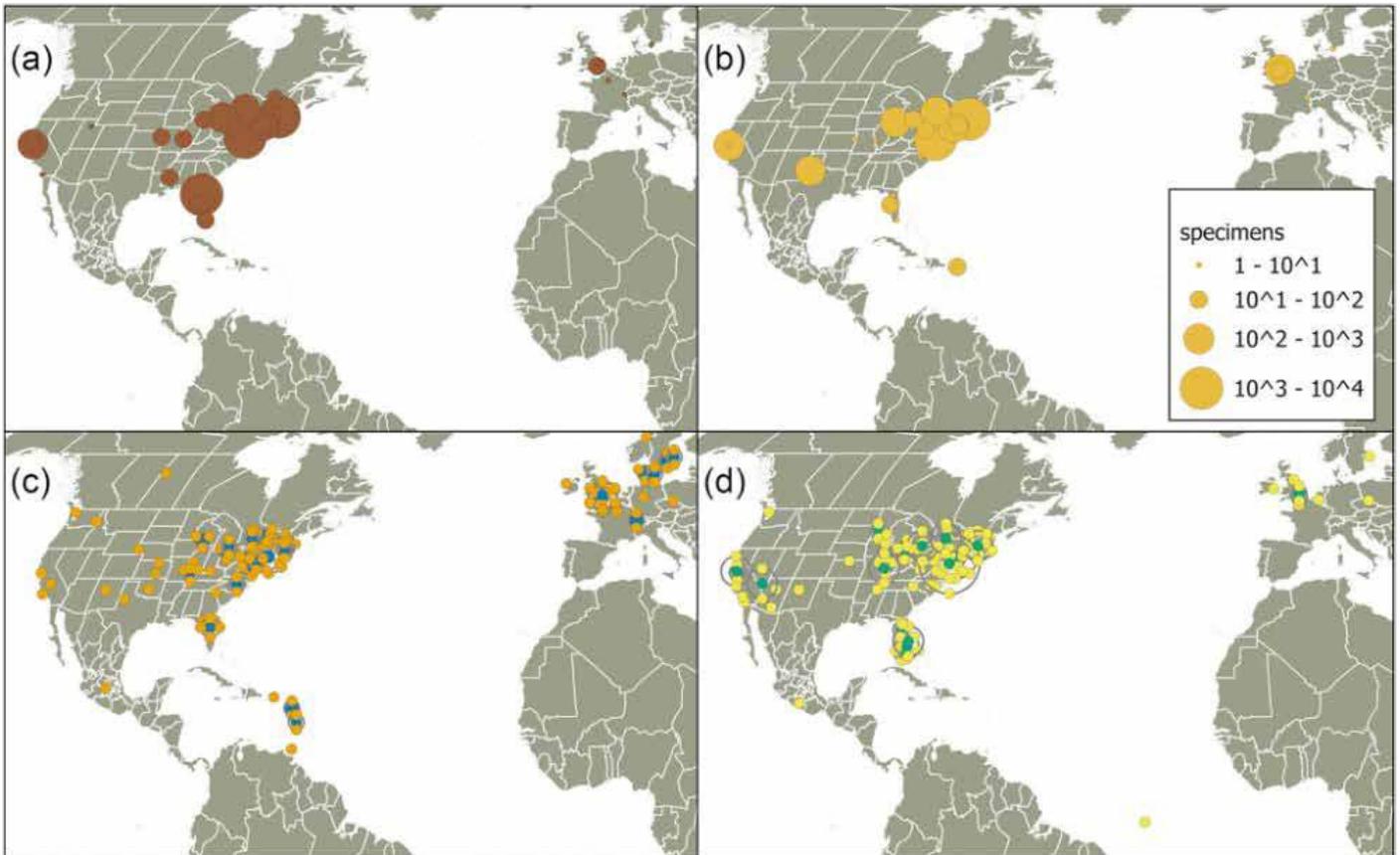


Figure 4. Where specimens are. Spatial distribution of specimen repositories and collectors for Montserrat (left) and the Cayman Islands (right). The top row shows the locations of institutions holding specimens from each island while the bottom row shows the origins of collectors who conducted fieldwork. Most specimens and collector contributions are concentrated in North America particularly the USA with smaller contributions from Canada and the UK.

using formats like Darwin Core. This enables global analysis, trend-detection, and conservation-planning that were previously impossible.

The GBIF Hosted Portals initiative allows organizations and countries to create customized biodiversity data

portals. We are currently developing one for Montserrat, modelled after successful regional portals like the Pacific Biodiversity Information Facility.

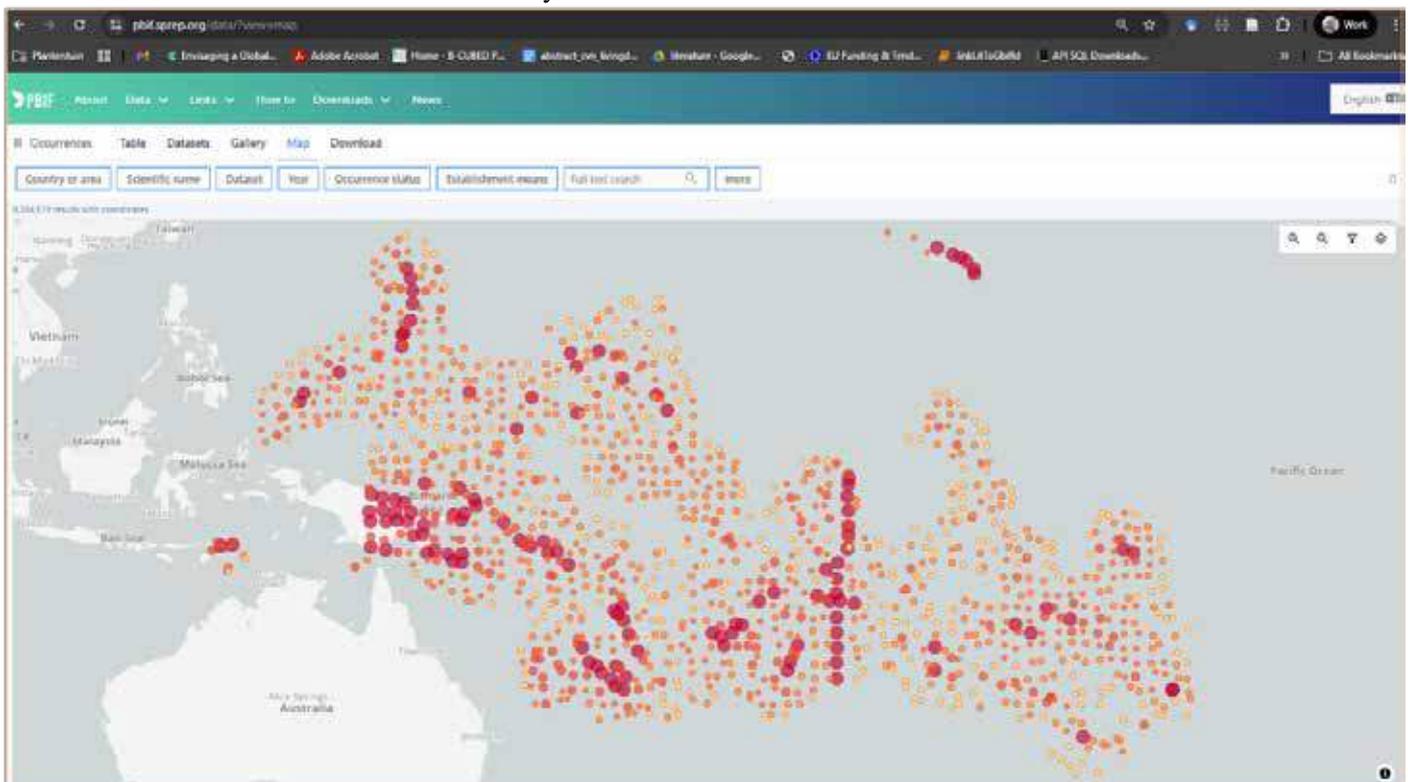


Figure 5. Pacific Biodiversity Information Facility GBIF Hosted Portals

Data-Sovereignty and Ethical Considerations

While open data are essential for global conservation, data-sovereignty is a critical issue for the UKOTs. Local communities and governments rightly seek control over their biodiversity-data to:

- Protect sensitive species and ecosystems
- Ensure equitable benefit-sharing
- Make informed policy decisions aligned with local priorities.

However, maintaining local data infrastructures is costly and technically demanding. There is a risk of data-hoarding or data-decay if data are isolated or mis-managed, especially when key individuals retire or move on.

The key is to find a balanced approach: leveraging global open data-infrastructure while maintaining local control where needed. Collaboration, trust-building, and transparency are essential.

Conclusion

Biodiversity data are essential for informed decision-making in the UK Overseas Territories, but challenges of capacity, infrastructure, and sovereignty remain significant. Overcoming these barriers will require:

- Stronger partnerships between local and international institutions
- Greater investment in data digitization, accessibility, and training
- Continued support for open and ethical data-sharing.

By building trust and sharing data responsibly, we can create a more connected, effective, and inclusive system for biodiversity conservation in the UKOTs.

Acknowledgements

Thanks to colleagues including Sofie Meeus at Meise Botanic Garden, and our collaborators in Montserrat, the Cayman Islands, and beyond. Special thanks to the institutions and individuals contributing to open biodiversity data and supporting data sovereignty in the UK Overseas Territories.

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Q&A (answered by Dr Sofie Meeus)

Joan Walley: Thank you Quentin for that presentation. I think the thing that came out of it for me was stronger partnerships if we are going to tackle the issue about data. Sofie, you have joined us on the call live. Do you wish to add anything to what we have heard so far? And it is really good to welcome you here in person, so thank you for making this time available.



Dr Sofie Meeus

A (Sofie Meeus): Glad to be here. I am a data-steward at the Meise Botanic Gardens, and it is the same problem in Botanic Gardens that people on islands face. Finding a balance: the fear of opening availability of your data and not knowing the mechanisms you can use to protect the data, while being as open as possible. There are legal frameworks that can support striking this balance, like Quentin said. That is basically what I wanted to add but I am happy to answer any questions.

Nancy Pascoe: Jodey Peyton has put some links in the chat for data collectors in the UK Overseas Territories:

Jodey Peyton: This is a bit out of date but it shows the data collated from GBIF for the UKOTs <https://www.ukotcf.org.uk/key-projects/blue-iguanas-to-blue-vervain/wp3/> (this was mapped through a UKRI-supported [UK Research and Innovation] project).

Here is the paper Quentin is referring to: <https://nph.onlinelibrary.wiley.com/doi/full/10.1002/ppp3.70029>

You can see examples of Data Hosted Portals here: <https://www.gbif.org/hosted-portals>.

Nancy Pascoe: What I think jumps out at me, as Joan said, are partnerships. This is the key to everything, I think: partnerships and capacity-building in countries, which is what we talk a lot about here. There is this historical practice of data being collected and taken away from territories. How do we find out: a) what data are out there and exist; and b) ways in which we can use it. Another thing, as Quentin said, is keeping data current, that is so important, because we have these historic records. I do not know what your thoughts are in terms of any of those things: keeping data current, sharing data, capacity-building. I think your Botanic Garden is the one involved in the project in Montserrat, and you are a key part of that. Would you like to talk about that?

A: Speaking about Montserrat, I know there are issues with people coming, studying insects, and going back. Well the taxonomists, they do great work, but they could improve on their data-sharing and open science. They have their whole career to identify specimens, while the people locally might not have all this time. So it does happen that people take away the specimens and they say, yes, sure we will open up the data, share the data with

you, as specified in your regional permits, but then there is a mis-match between the timing of the work they are doing overseas and the need for the data on the island. But permitting, and making sure the agreements made in these permits, are being kept to, are important. Quentin showed about the specimens scattered around the world. I think the good news there is that a lot of collections are being digitised and the whole natural history museum community knows that those digitised records need to go into GBIF. Using the GBIF-portal that Jodey put in the chat, we can pull them in. Those historical records are very valuable so we can see trends using that data. That is what we are trying to do on Montserrat: finding more resources, not just to pay for the infrastructure but to do the capacity-building, the training, on using that kind of data. Letting people know that they are not restricted to using only their own recorded data, but they can also step into much larger data-sets, is also vital.

Nancy Pascoe: A comment from **Mike Jervois:** “Another example is the environmental data solution centre that was set up for the South Atlantic (<https://www.south-atlantic-research.org/data-solutions/>).”

Paul Edgar: Is data-verification more of an issue these days with the advent of citizen-science recording, as opposed to the collection of museum specimens?

Nancy Pascoe: I think what we are talking about is the accuracy of collections and who is identifying.

Nicholas Watts IUCN CEC: Are there established regional partnerships for data-management with neighbouring islands that are not UKOTs, for example in the Caribbean?

Nancy Pascoe: I can say, being in the Caribbean, there are not established regional partnerships.

Selene Gough: Great presentation! Just a note: It is clear that UKOTs are all moving in a similar direction in wanting to develop standardised data-management systems. It would be good to have a forum/discussion-board between territories where data-challenges, solutions, thoughts and ideas can be shared

Jodey Peyton: <https://irecordsthelena.edu.sh> is another great example!

A: Well that’s great news [iRecords St Helena] We would love to do more work in the UK Overseas Territories – happy to assist. The data-verification of citizen-science: at least I can speak to collecting data by iNaturalist, for example. There is validation of the data; the system they use is quite good. We use it to engage with the people on Montserrat in biological recording, and it is being used professionally as well. A lot of experts are also on that platform, identifying records and species. I do not think there is an issue; often there are things the users of the data need to take into account when using citizen-science data, because there can be gaps you need to take into account.

but there are solutions for these things. And that is also what my team is working on.

Joan Walley: Finding those solutions is part of what we are trying to do this afternoon, so thank you Sofie for joining us. And thank you to you and your colleagues for the presentation.

Invisible, Undervalued and Underappreciated? Fisheries transparency in Small Island Developing States

Tyann Henry (Fisheries Transparency Initiative, FiTI)



Tyann Henry

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Small Island Developing States (SIDS) are prominent custodians of our blue planet, owning vast areas of the ocean and some of the most productive fishing grounds. Consequently, marine fisheries tend to have greater national significance for SIDS in comparison to other coastal States. However, fishery resources continue to decline – and SIDS are no exceptions to this global trend. Unsustainable fishing – taking too many fish from the ocean than nature can sustainably reproduce – is one of the biggest contributors for declining fisheries resources, further accelerated by pollution, habitat destruction and the climate crisis. The need to manage our marine resources sustainably – balancing economic, social and environmental aspects – is urgent.

It is widely accepted that the equitable and sustainable management of natural resources, including fisheries, depends on public access to information. Without reliable information, the capacity of national authorities to make decisions based on the best available data is diminished. So is the ability of non-governmental stakeholders to exercise effective oversight, demand accountability and engage in public dialogue.

The Fisheries Transparency Initiative provides the only globally recognised framework for enhancing transparency in marine fisheries management. As a multi-stakeholder partnership, it has been supporting coastal states and SIDS for over a decade now in enhancing the accessibility, credibility and usability of fisheries data, contributing to better governance of marine fisheries. This talk will reflect on the FiTI's learnings and implementation experiences and critically reflect on benefits and challenges for enhancing fisheries transparency in SIDS.

Tyann Henry (Fisheries Transparency Initiative, FiTI)

Introduction

At today's forum, we at the Fisheries Transparency Initiative (FiTI) share our perspective on the crucial role of transparency in ensuring sustainable fisheries in Small Island Developing States (SIDS). Our presentation, "Invisible, Undervalued and Underappreciated? Fisheries Transparency in SIDS", shows that openness in fisheries is not a luxury, but a necessity for resilient and inclusive governance.

Why Transparency Matters

Emphasising findings from the FAO's State of World Fisheries Report (2010), the absence of basic transparency is identified as a root cause of challenges that continue to undermine fisheries worldwide,



including, IUU fishing, fleet overcapacity, overfishing, poorly directed subsidies, corruption and weak governance.

For us, transparency goes beyond simply publishing data. It means ensuring that credible, accessible,

Public availability of credible information is paramount to achieving sustainable fisheries.



and understandable information is available to all.
Transparency:

- Protects vulnerable groups, including small-scale fishers and women, from being sidelined.
- Increases the value and visibility of fisheries to national economies and societies.
- Strengthens public oversight, accountability, and informed debate.
- Helps authorities make evidence-based policy decisions.
- Reduces risks of mis-information and market barriers.
- Builds trust and resilience in coastal communities.

be legitimate.

2. Progressive improvement – Countries are not expected to be perfect on day one, but to show a consistent commitment to closing information gaps over time.

Putting Transparency into Practice

Through FiTI, governments align their fisheries data disclosure with global good practice while demonstrating progress to citizens, trading partners, and international organisations. More importantly, the FiTI process creates

The FiTI Approach

The Fisheries Transparency Initiative is a global multi-stakeholder partnership that works to improve how governments disclose information on marine fisheries. Through implementation of an internationally recognised framework, the FiTI Standard, we work alongside governments to address and improve existing gaps in fisheries information, with continuous involvement of civil society, business and academia throughout the fisheries sector.

Our work is guided by the FiTI Standard, which rests on two core principles:

1. Transparency requires trust – Implementation includes the voices of government, civil society, and business to



spaces for inclusive dialogue, where diverse actors work together to strengthen management and accountability.

We show that improved transparency leads to more credible and accessible data, more effective evidence-based decisions, and ultimately more sustainable outcomes for ecosystems, economies and coastal communities.

Our Call to Action

We invite governments, civil society, and fisheries-stakeholders across the UK Overseas Territories and other small islands to engage with the Fisheries Transparency Initiative. We stand ready to support countries and territories in embedding transparency at the heart of their fisheries governance, ensuring that the sector is no longer invisible, undervalued, or underappreciated.

Contact and Resources

We encourage interested partners to connect with us at <https://fiti.global> or follow our social media updates on Twitter/X, Bluesky, Facebook, Instagram, LinkedIn, and YouTube.

Q&A

Joan Walley: Thank you, Tyann, for that information and that open-ended request to everybody to be part of the journey that you are on. It is all about building the partnerships.

Nancy Pascoe: It was very interesting, Tyann. Being based in the Caribbean ourselves, in the British Virgin Islands, I guess my main questions are:

“Are you working with any of the UK Overseas Territories in the Caribbean at present?”; and

“Have you any relationships already with the Caribbean UKOTs?”

I do know some of the challenges of sharing fisheries information with people, and about data-gaps as well,. So I would be very interested in our ability to have that information

A: We are hoping to expand to the UKOTs. Currently we have been engaging with Jamaica, Trinidad, Bahamas, Guyana and Surinam. I was hoping to get some feedback from the UKOTs.

Nancy Pascoe: Is it that you have approached Governments already; have you already made some contacts? I admit I do not deal with fisheries at the National Parks where I am, but I do usually get invited to meetings. I am just wondering if you have made approaches and you are just looking for help from other agencies to raise that questions again, or is it that you are just going to start reaching out.

A: Yes, we just want to start reaching out. We have not approached Governments as yet, but I really wanted to see if I could get some feedback on the interest level with respect to the different UKOTs.

Amdeep Sanghera: Great presentation Tyann; thank you. As you know, UKOTs, e.g. Caribbean territories, can suffer from regional IUU fishing from other range-states. How do you think FiTI could support UKOTs: bi-laterals with affected UKOTs and other range-states, e.g. Dominican Republic?

A: At present, with regards to IUU fishing, I know it has been a bit of a challenge across all of the Caribbean Islands, especially with the Dominican Republic. At the moment, we still do not know what to do in terms of mitigating, with IUU fishing.

We do want to work on improving the accessibility of information and data-management. One of our recent innovations is the creation of a fisheries information-system on a national scale for each country that we partner with. I think that would now be really beneficial in the different territories. I suppose in this sense we could even have a mechanism that would enhance accessibility for the different territories rather than just having on a national scale: perhaps have a mechanism that would allow each territory to access information across all territories.

Amdeep Sanghera: That would be very useful.

Catherine Wensink: You mentioned France. Do you work with French Overseas Territories / Outermost Regions?

A: Currently no. We are engaging with Senegal at the moment.

Joan Walley: Thank you Tyann for that presentation, and a big thank you to Nancy.

Grasses of Montserrat: An Introduction to Common and Useful Species

Virginie Sealys¹, Ajhermae White², Sarita Francis¹, Jodey Peyton³, Catherine Wensink³, Vicky Wilkins⁴, Quentin Groom⁵, Sofie Meeus⁵, Alan Gray⁶ (1. Montserrat National Trust; 2. Department of Environment Government of Montserrat; 3. UK Overseas Territories Conservation Forum; 4. Species Recovery Trust; 5. Meise Botanic Garden; 6. UK Centre for Ecology & Hydrology)



From top, then l-r: Virginie Sealys, Ajhermae White, Sarita Francis, Jodey Peyton, Catherine Wensink, Vicky Wilkins, Quentin Groom, Sofie Meeus, Alan Gray

Sealys, V., White, A., Francis, S., Peyton, J., Wensink, C., Wilkins, V., Groom, Q., Meeus, S. & Gray, A. 2025. Grasses of Montserrat: An Introduction to Common and Useful Species. pp 131-133 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

Grasses are often overlooked in discussions of biodiversity, yet they are essential to ecosystems, agriculture, and cultural heritage. On Montserrat, grasses are found across a wide range of habitats—from forest edges and roadsides to backyard gardens and pastures—where they play key roles in shaping the landscape, supporting wildlife, and providing ecological services such as erosion control. This work introduces common and culturally significant grass species found on Montserrat, as part of the Biodiversity and Well-being Toolkit project (DPLUS192). The project combined scientific knowledge with local expertise, oral history, and citizen science to document plant species and their uses. It led to the creation of an illustrated leaflet and educational resources that promote awareness and conservation building on work started through the *Blue Iguana to Blue Vervain* project funded by UK Research & Innovation, via a call “Hidden Histories” funded by the Natural Environmental Research Council (NERC) and the Arts and Humanities Research Council (AHRC).

The intersection of art, botany, and well-being is central to this project, using visual storytelling to deepen our connection with nature. By illustrating these species, the project not only aids in plant identification but also invites reflection on the natural beauty and resilience of Montserrat's flora. Artist Lizzie Harper created detailed, hand-drawn illustrations of each featured grass species, based on both live specimens and photographic references collected at the Montserrat National Trust's Botanic Gardens. These artworks serve as more than scientific tools, they evoke curiosity, memory, and a sense of place, fostering emotional engagement and promoting mental well-being through increased awareness and appreciation of the island's natural heritage.

Virginie Sealys¹, Ajhermae White², Sarita Francis¹, Jodey Peyton³, Catherine Wensink³, Vicky Wilkins⁴, Quentin Groom⁵, Sofie Meeus⁵, Alan Gray⁶ (1. Montserrat National Trust; 2. Department of Environment Government of Montserrat; 3. UK Overseas Territories Conservation Forum; 4. Species Recovery Trust; 5. Meise Botanic Garden; 6. UK Centre for Ecology & Hydrology)

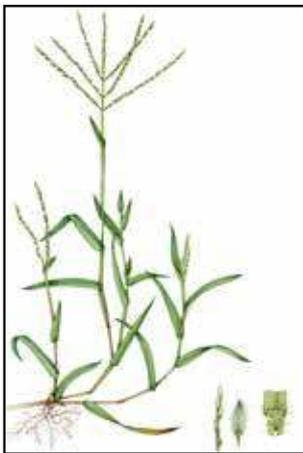
Project Background

In 2022, a collaborative project, funded by several UK research institutions, aimed to document traditional plant-knowledge in Montserrat. Local experts were trained in oral-history techniques and equipped to record community-knowledge, which is now preserved in the island's National Archive.

This work led to the development of educational materials, including a richly illustrated leaflet featuring artwork

by Lizzie Harper and photographs from the Montserrat National Trust's Botanic Gardens. These resources promote grass-identification and the recognition of their ecological and cultural importance.

Citizen-science platforms like iNaturalist have played a key role in engaging the public and collecting observational data on Montserrat's flora. The platform continues to be popular among local users and contributes valuable data for conservation and education.



For more information see: <https://www.ukotcf.org.uk/key-projects/blue-iguanas-to-blue-vervain/> and <https://www.ukotcf.org.uk/key-projects/biodiversity-and-wellbeing-toolkit/>

Selected Grass Species of Montserrat

Crab Grass *Digitaria ciliaris*

Introduced. A spreading grass with hairy stems and leaves 4–15 cm long. Common in disturbed soils. Often considered a weed, but valuable for stabilising bare ground.



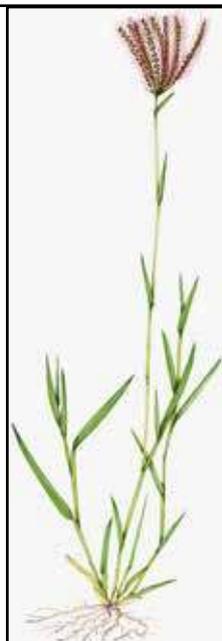
Bamboo Grass *Lasiacis divaricata*

Native. A climbing or scrambling grass with bamboo-like hollow stems. Found in shady forested areas, where it provides habitat for wildlife.



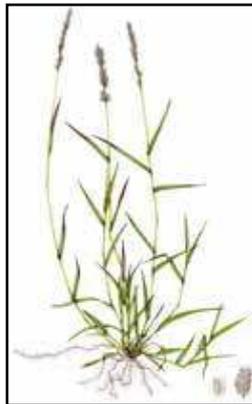
Carpet Grass *Axonopus compressus*

Native. Low-growing, mat-forming grass with broad, flat leaves (3–15 cm). Common in lawns and moist areas; effective ground cover.



Purpletop Grass *Chloris barbata*

Introduced. A tufted grass with purple-tinged seed heads and narrow leaves (5–20 cm). Found in dry, open areas. Helps prevent soil-erosion.



Lovegrass *Eragrostis ciliaris*

Introduced. A small tufted grass (15–60 cm), often growing in gravel or rocky areas. Its tiny seeds are eaten by birds; useful for erosion-control.



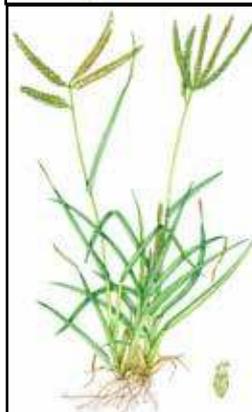
Sour Grass *Digitaria insularis*

Native. A tall grass (1–2 m) with coarse, sour-smelling leaves. Common in old pastures and disturbed sites. Deep fibrous roots make it difficult to remove.



Lemon Grass / Fever Grass *Cymbopogon citratus*

Introduced. Grows in dense clumps up to 1.5 m. Known for its lemon scent. Widely used in teas, cooking, and traditional medicine. Also acts as a natural insect-repellent.



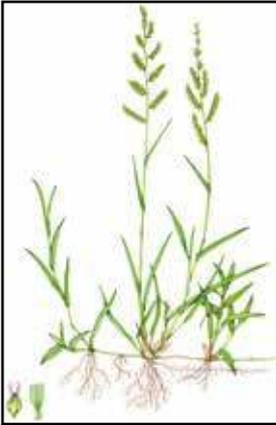
Dutch Grass / Crowfoot Grass *Eleusine indica*

Introduced. Hardy grass with a distinctive “crow’s foot” seed head. Grows 30–90 cm. Found along roadsides and footpaths; useful for soil-binding.



Guinea Grass *Megathyrsus maximus*

Introduced. Robust grass reaching 2–3 m. Thrives in sunny, open areas. Used for livestock fodder but may become invasive.



Jungle Rice / Little Barnyard
Grass *Echinochloa colona*

Introduced. Fast-growing,
short-lived grass (30–100 cm),
often in wet or muddy sites. Can
be used in culinary applications.



Sugar Cane *Saccharum
officinarum*

Introduced. A tall, thick-
stemmed grass growing up to
6 m. Historically significant
to Montserrat's agricultural

economy. Cultivated for sugar and rum.

Acknowledgements

This project forms part of the Biodiversity and Well-being Toolkit (DPLUS192), with contributions from local experts and community members.

Design and layout by the Field Studies Council.

Colour illustrations © Lizzie Harper.

Educational use only. Species identification may vary slightly by location.

Further Information

Montserrat National Trust:

<http://www.montserratnationaltrust.ms>

UKOTCF Project Page: [https://www.ukotcf.org.uk/
key-projects/biodiversity-and-wellbeing-toolkit](https://www.ukotcf.org.uk/key-projects/biodiversity-and-wellbeing-toolkit)

QR Codes:

below left: iNaturalist Montserrat Gallery

below right: Sound of Grasses



Predation of sea-turtle eggs by rats and crabs

Holly Jayne Stokes¹, Nicole Esteban¹ & Graeme C Hays² (1, Swansea University, UK; 2, Deakin University, Australia)



Holly Jayne Stokes



Nicole Esteban

Stokes, H.J., Esteban, N. & Hays, G.C.. 2025. Predation of sea-turtle eggs by rats and crabs. pp 134-135 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

Offspring survival is a vital demographic factor that drives population success. To put it simply, there is a trade-off between parental investment in individual off-spring and their survival. In the case of sea-turtles, where there is no parental care, egg-predation by invasive and native species can have severe impacts and negatively affect species-recovery. On the island of Diego Garcia, Chagos Archipelago (Indian Ocean), we assessed the levels of egg-predation within green turtle *Chelonia mydas* clutches between 2021-2022. We found that native coconut crabs *Birgus latro* and ghost crabs *Ocypode* spp. as well as introduced black rats *Rattus rattus* preyed on eggs. Whole eggs were often removed from clutches, made apparent through observations and differences between initial clutch and final excavation counts. Clutch-size at oviposition (mean = 127.8 eggs, range = 74-176, n = 23) was significantly larger than at excavation (mean = 110.9 hatched and unhatched eggs, range = 9-147, n = 16), i.e., a 13.2% decrease. Where both measurements at oviposition and excavation were available for the same clutch there was a similar decrease of 13.9%. On other occasions, egg-predation was recorded where egg-contents were eaten within the nest. Ultimately, hatching-success was 64.9%, while 3.1% of eggs were preyed in the nest, 18.1% did not survive incubation and 13.9% of eggs were removed from the nest. To place our results in the context of sea-turtle egg-predation around the world, we reviewed evidence from 34 sites and identified 36 predators that were either native (e.g. crabs and goannas, n = 30) or invasive (e.g. rats and pigs, n = 8). A predator could also be identified and reported as both native and invasive (e.g. dogs) depending on site. Globally, the most important predators were medium-sized mammals (e.g. pigs, red foxes), crabs (e.g. *Ocypode* spp.) and goannas (*Varanus* spp.). To the best of our knowledge, we report the first cases of coconut crab and rat predation on sea-turtle eggs. In conclusion, we highlight the need to consider whether predation intervention is necessary and whether nest-protection and/or invasive-predator eradication may be used to increase egg-survival and in turn population-recovery.

Holly Jayne Stokes¹, Nicole Esteban¹ & Graeme C Hays²

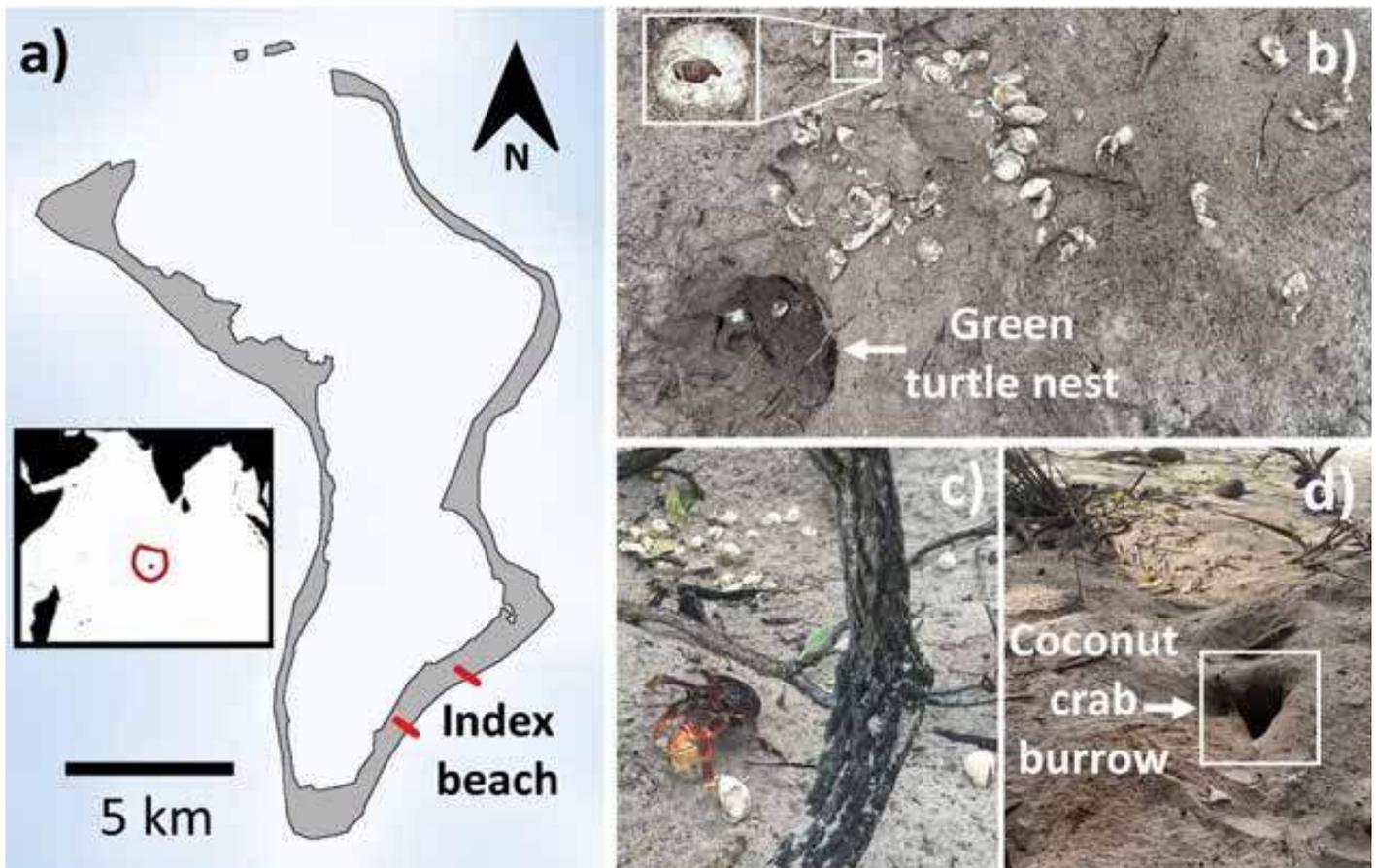
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2.Deakin Marine Research and Innovation Centre, School of Life and Environmental Sciences, Deakin University, Geelong, Victoria, Australia

Stokes, H.J., Esteban, N. & Hays, G.C. (2024) Predation of sea turtle eggs by rats and crabs. *Mar Biol* 171, 17. <https://doi.org/10.1007/s00227-023-04327-9>

UK Overseas Territories (UKOTs) provide important nesting habitat for sea turtles, but these animals face many threats, including predation by native and invasive species. We investigated green turtle *Chelonia mydas* egg-predation on the island of Diego Garcia, Chagos Archipelago, a key rookery within one of the world's largest marine protected areas. Using clutch-counts, nest-monitoring and excavations, we recorded hatching

success of 64.9 %, while 18.1 % did not survive incubation, 13.9 % of eggs were removed from nests, and 3.1 % were preyed in the nest. Predators, identified through field observations, included native coconut crabs *Birgus latro* and ghost crabs *Ocypode* spp. as well as introduced black rats *Rattus rattus*. Whole eggs were often removed from clutches, made apparent through observations and differences between initial clutch and



a) Diego Garcia (grey island) with a map showing the location of the British Indian Ocean Territory (BIOT; Chagos Archipelago) in relation to the wider Indian Ocean. b) Remnants of a green turtle nest predated by a coconut crab *Birgus latro* with scattered eggshells on the sand surface. c) A coconut crab piercing and eating green turtle eggs. d) Coconut crab burrow into a green turtle nest which was used by other predators (e.g., black rats *Rattus rattus*), ghost crabs (*Ocypode* spp.), strawberry hermit crabs *Coenobita perlatus*, warrior crab *Cardisoma carnifex* to scavenge eggs.

final excavation counts. To the best of our knowledge, we report the first cases of coconut crab and rat predation on sea-turtle eggs. Our global review of 34 sites identified 36 predator species, highlighting how invasive mammals (rats, pigs, dogs) and native crabs can reduce hatching success. Rat-predation on sea-turtle eggs adds to the well documented ecosystem-impacts of rats on seabirds and coral reefs.

Predator-management offers an opportunity to increase sea-turtle hatching success, as well as supporting broader island-ecosystem recovery. In the Chagos Archipelago, further research is needed to quantify the impact of each predator and to understand how predation-patterns vary across the incubation-period.

In conclusion, we highlight the need for further research to consider whether intervention is necessary and whether nest-protection and/or invasive-predator eradication may be used to increase egg-survival.

Q&A

Jodey Peyton: I think it's amazing about the predation of the eggs. Do you think it's having an impact on the population? Do you think that the turtles have any strategies to avoid the coconut crabs? Have you seen

anything like that at all?

A (Holly Stokes): I haven't seen avoidance when the coconut crabs are predating. Yes: the coconut crabs are predating on the nests as the nesting females are laying the eggs, when the nests are fresh; so they have a really good olfactory system. They are sniffing out those nests early on. I think that, once they find the nest, they pretty much destroy that nest pretty soon. We did find a successful-hatching rate of 64.9%. 70-90% is pretty good for the population, but anything below 50% would be of concern. So, it's something to keep an eye on. Right now we don't have plans for an intervention or protection.

Jodey Peyton: It's a healthy population, isn't it, of coconut crabs. I was wondering if you could also link to Mark Leder's work on coconut crabs, and look at their diet as well.

A: I have definitely thought about that. If you could get an idea of the coconut crab diet, and see how much sea-turtle eggs actually makes up of their diet would be a really interesting study.

Other Effective Area-Based Conservation Measures

Catherine Wensink (University of Exeter, Jersey International Centre for Advanced Studies (JICAS), and UK Overseas Territories Conservation Forum)



Catherine Wensink

Wensink, C. 2025. Other Effective Area-Based Conservation Measures. pp 136-138 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

As the global conservation community advances toward achieving the Convention on Biological Diversity's "30 by 30" target, the role of Other Effective Area-Based Conservation Measures (OECMs) has emerged as a critical complement to traditional protected areas. The research evaluates OECMs from ecological and governance perspectives, highlighting their contribution to biodiversity conservation beyond legally designated reserves. Through a systematic review using the PRISMA framework, 386 publications (2010–2023) were analysed to identify patterns, gaps, and future directions in OECM research and implementation. Key findings include the need for more adaptable effectiveness criteria, integration of underrepresented ecosystems such as small islands and freshwater systems, and innovative approaches to monitoring and governance. A case-study from Montserrat offers insights into how OECMs can align local stewardship with global conservation goals. By supporting ecological connectivity, resilience to climate change, and social equity, OECMs are shown to be essential tools in the evolving landscape of area-based conservation.

Catherine Wensink (University of Exeter, Jersey International Centre for Advanced Studies (JICAS), and UK Overseas Territories Conservation Forum)

Introduction

The need for effective and inclusive biodiversity-conservation tools has intensified in response to the dual crises of climate-change and ecological degradation. Among emerging strategies is the concept of Other Effective Area-Based Conservation Measures (OECMs), formalised in Aichi Target 11 of the Convention on Biological Diversity (CBD) and central to the post-2020 Global Biodiversity Framework's "30 by 30" target – aiming to conserve 30% of Earth's land and ocean by 2030.

Unlike traditional protected areas (PAs), OECMs are defined by their conservation-outcomes rather than their designation. This flexibility allows for recognition of a wide range of governance types, including Indigenous territories, community-managed lands, and private conservation-initiatives. This study explores how OECMs can complement protected areas through a global evidence-review and a case-study focusing on Montserrat, a small island in the Caribbean.

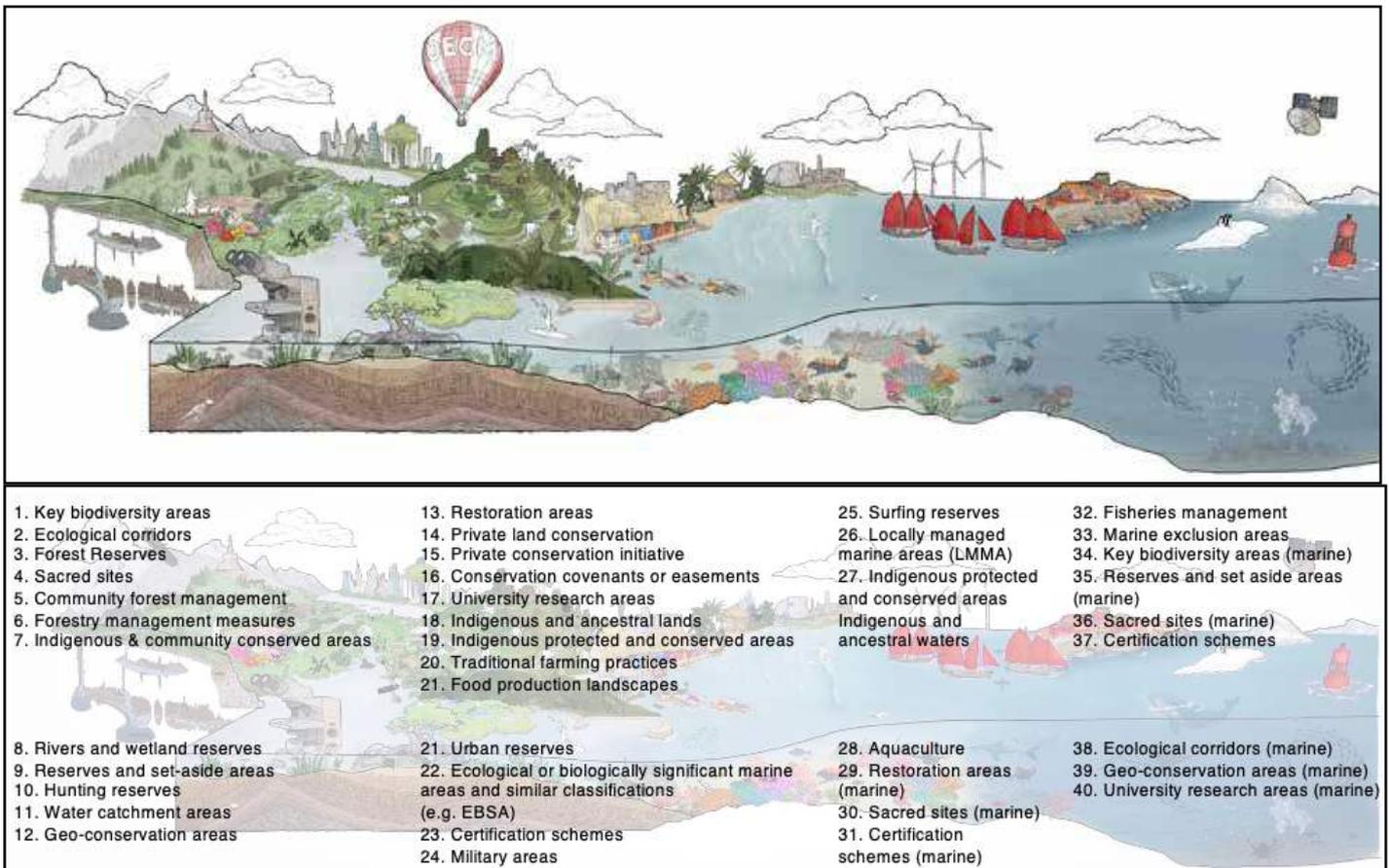
Methods

A systematic literature review was conducted following PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. A total of 386 publications related to OECMs (published between 2010–2023) were identified and screened.

Key themes were extracted and categorised around:

- Effectiveness-metrics
- Ecosystem-representation
- Governance-models
- Legal recognition
- Risks (e.g. PADDD – Protected Area Downgrading, Downsizing, and Degazettement)
- Monitoring tools and data-needs.

Figures 1a and 1b (*overpage*; adapted from Cook 2024) illustrate updated OECM typologies and their conservation objectives across terrestrial and marine contexts.



Key Findings and Discussion

1. Criteria for Effectiveness

Current frameworks are adapted largely from protected-area management-effectiveness (PA-ME) tools but require flexibility for diverse OECM contexts. Future criteria should balance ecological outcomes with social and cultural dimensions.

2. Underrepresented Ecosystems

Significant gaps exist in the application of OECMs to freshwater systems, groundwater reserves, and small island ecosystems. These areas often have rich biodiversity and strong community-governance, making them ideal for OECM recognition.

3. Legal and Customary Recognition

OECMs exist often within customary law or community-managed frameworks, which may lack formal statutory protection. Efforts must ensure legal clarity without undermining local governance-rights.

4. Risks of Downgrading (PADDD)

As with PAs, OECMs are not immune to land-use pressures and policy-reversals. Transparent tracking and reporting mechanisms are needed to mitigate PADDD risks.

5. Monitoring and Data

Emerging tools, such as environmental DNA (eDNA), drone-based surveys, and citizen-science, offer scalable,

cost-effective ways to monitor biodiversity and ecosystem health in OECMs. However, long-term datasets remain limited.

6. Governance Transparency

Governance-quality is critical. Clear roles, responsibilities, and benefit-sharing arrangements enhance OECM effectiveness and legitimacy. Overlaps with PAs and other designations must be clarified to avoid confusion or double-counting.

Case Study: Montserrat

Montserrat offers a compelling example of how small-island environments can apply the OECM framework. With a mix of government-reserves, community-managed forests, and areas of cultural significance, conservation here integrates traditional ecological knowledge with formal biodiversity-objectives. Current fieldwork (2024–2025) is focused on mapping these areas, evaluating their ecological contribution, and supporting local stakeholder engagement.

Conclusion

OECMs provide a vital mechanism to recognize and support conservation-efforts beyond traditional protected areas. Their strength lies in blending biodiversity-outcomes with socio-cultural values and diverse governance-systems. To realise their full potential, greater attention must be paid

to adaptive criteria, inclusive representation, long-term monitoring and robust governance.

As the global conservation-community shifts toward more inclusive and resilient strategies, OECMs will play an increasingly central role in safeguarding biodiversity, promoting equity, and achieving international conservation-targets like the 30-by-30 goal.

Key References

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Restoring Biodiversity with urban pockets

Katrina Jurn (Sustainable Cayman)



Katrina Jurn

Jurn, K. 2025. Restoring Biodiversity with urban pockets. pp 139-140 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

Sustainable Cayman's pilot initiative, Nature at the Water's Edge, explores youth-led, nature-based coastal resilience in small public spaces. These "urban pocket parks" use simple, replicable techniques – such as coir terraces, native plantings, and mangroves – to stabilise shorelines, restore biodiversity, and maintain public access. Backed by Darwin Plus Local and corporate sponsors, the pilot projects at Pirate Cove (2024) and South Sound (2025) demonstrate real-world impact: thriving native ecosystems, increased community-use, and practical pathways to scale. Designed for island realities – modest budgets, low maintenance, and ESG/CSR alignment – this model is building the foundation for sustainable, community-owned restoration. Protecting Cayman's coastlines requires both restoring what has been lost and safeguarding what remains.

Katrina Jurn (Sustainable Cayman)

My name is Katrina Jurn and I am the Founder and executive committee member of Sustainable Cayman. We'll be sharing about our experience restoring biodiversity with urban pocket-parks.

In the Cayman Islands, climate-change is already shaping our coasts. Rising seas, stronger storms and decades of unsustainable coastal development have left many shorelines vulnerable. But with tangible, community-driven action, we can restore biodiversity and build resilience together.

In 2024, Sustainable Cayman launched its first shoreline-restoration project, Pirate Cove Nature Park, to demonstrate how small, targeted projects can deliver measurable impact. This initiative was designed around three goals: strengthening shoreline-resiliency, implementing nature-based coastal defences, and enhancing community-wellness through access and education. By reshaping the beach-profile and restoring a foredune-system with native vegetation. The site now supports coastal stabilisation and provides critical habitat for shorebirds and pollinators. The foredune reduces vehicle-impact, buffers against erosion, and contributes to a more diverse and resilient ecosystem.

But restoration is also about people. Pirate Cove now provides an accessible public beach with educational signage, community-seating, and youth-led conservation activities. Clean-up events and outreach-programmes have built broad support, turning the shoreline into both a protective barrier and a community learning-space.

Our second project builds on this model. Along the South Sound Boardwalk, where mangroves once thrived, we are piloting a red-mangrove restoration-project. Using coir terraces and widely spaced seedlings, this small-scale installation will demonstrate cost-effective methods for stabilising shorelines while engaging the public in hands-on conservation. Companion coastal plants above the high-water mark will add further stabilisation and biodiversity benefits.

Our "Mangroves Thrive, Life Survives" campaign continues to raise public awareness of the importance of protecting our threatened – and still largely unprotected – Central Mangrove Wetlands. This trial is designed as a visible, hands-on experiment, supported by the Cayman Turtle Centre and corporate partners like RF Bank & Trust and Grant Thornton.

By aligning scientific best practice with community-involvement and youth-leadership, we are creating scalable approaches to address erosion, habitat-loss and climate-adaptation. Sustainable Cayman's pocket-parks are proving that small, well-designed initiatives can restore biodiversity, protect coastlines, and empower Caymanians to shape a resilient and sustainable future.

Q&A

Myles Darrell: What role has the community played in maintaining or monitoring these sites once they are established, and how do you keep those volunteers

engaged?

A (Melanie Carmichael of Sustainable Cayman on behalf of author): As far as keeping volunteers engaged at the moment, the work is very much community-led, and we have chosen spaces that are very much in a very highly active community. So, they are highly visible, easily accessible, and pretty much on our main traffic-route into town.

In South Sound, it is a public boardwalk; you can't miss it if you're driving past – so it is creating that curiosity. Monitoring is by our group, while we see if it establishes, because mangroves will be self-maintaining themselves.

The Pocket Park is an unusual one, simply because, it is part of a strata association. So, the strata owns a beach access that they were not doing anything with. So, we approached them to offer to beautify the area and do the Darwin project. As far as ongoing, it would be up to the strata to maintain the park but, at the moment, we are still working that part out. The point of pocket-parks is they are really small. So, one person going there and doing a bit of tidying up really isn't a problem. They are not identified as being public parks, so they are not going to have facilities with lighting, toilets and things like that. They really are just going to be as close-to-nature spaces as possible that you can enjoy and appreciate what island-biodiversity is supposed to be all about.

Myles Darrell: What have been the most effective indicators for tracking the ecological success of this project? Is it the species diversity? Is it the shoreline?

A: I don't think they are stabilising anything, because they're quite small, or is it really just the community use and the beautifying? So, at the moment, I think the one thing we are demonstrating is that local plantings work. We have worked with Caribbean Blooms, the only local licensed plant-propagator on the island. So we are very lucky to have that resource. She is working on landscape-projects with local endemic species. That is what this park is, and it shows. First of all, it's a demonstration to everyone that you don't need to bring in plants from Florida. You can create your nice local garden like this – which is similar to our sand-gardens that we always used to have.

Myles Darrell: There is no irrigation on site, right? So it's showing drought-tolerance and salt-tolerance?

A: On the coastal ridge, that is what we are hoping it's going to do. We are in the early stages yet, but I'm already seeing that it is actually capturing the sand. It is building up that beach-ridge, because we are not allowing people to remove any of the beach-vegetation that is growing there. You know that everyone likes to see a nice golden sand-beach. This is not that type of beach, It is going to be one where you are going to be stepping over vines and things like that but, as a result, you can definitely see that layering is creating a build-up of the protection of the ridge there and retaining the sand, basically, in place, so it doesn't get washed back out.

Manx Birdlife

Allison Leonard (Manx Birdlife)



Allison Leonard

Leonard, A. 2025. Manx Birdlife. pp 141 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

Manx BirdLife is a leading independent wildlife-conservation charity based on the Isle of Man, working to protect, restore, and enhance wild-bird populations and the habitats on which they depend. This poster-presentation showcases a multifaceted conservation approach, combining scientific research, habitat-management, environmental education, and citizen-science. Highlights from recent work include: the 2022 Hen Harrier Census and the forthcoming 2025 Chough Census, the landmark *Birds of Conservation Concern in the Isle of Man* (BoCCIoM) publication, and long-term engagement initiatives such as the Garden Birdwatch scheme and education outreach to over 2,000 schoolchildren annually. Recent innovations include satellite-tracking of Hen Harriers and pioneering work on urban and coastal-habitat restoration. Together, these programmes provide critical data, foster public engagement, and inform policy to secure the future of wild birds and biodiversity on the Island.

Allison Leonard (Manx Birdlife)

[Poster originally shown at the Inter-Island Environment Meeting, Isle of Man, September 2025; no proceedings material available.]

General Discussion on Topic 3

Joan Walley: One of the points that Minister for Nature Mary Creagh made yesterday was the fact that we have a new UK Parliament with lots of new members of Parliament in it who are not necessarily well briefed on how to meet the sustainability targets, for example. I am sure that is the same in the Overseas Territories, as well. Are there things that we can be doing to get across to those who are making the legislation the importance of embedding some of the thinking we have been talking about here.

Nancy Pascoe: That is obviously very relevant indeed because you can be working with people in politics for a few years, and then elections come and they change and you have got to tell and re-interpret the whole thing all over again. What we find, and I am sure other territories find the same, when we are doing our workshops for our Darwin Projects, we always invite our Ministers for the Environment. We try to be so inclusive of so many different Government Departments – so we are not including just the Environment people; it will include, for example, the town-planners, people in Public Works.

Naqqi Manco: I will be proposing to incorporate use of GBIF data-portals into the new position for Data and GIS Manager we have proposed for the Department of Environment and Coastal Resources in Turks and Caicos Islands (no guarantee we will get the position approved in budget but it is a top priority).

Nancy Pascoe: So yes, learning about the data-sets that are available to all of us, that we can all dip into.

St Helena National Trust: I will await on the conference summaries and recommendations, and provide them to island Legislative Council, particularly our Minister of Environment.

Nancy Pascoe: And I think it would be great if, when we do these things, not just sharing them by email, we are actually presenting them and having conversations. This is because I think if you are not here and you are not listening to all these presentations and you just share a document, it might not come alive as much as a person saying “This is relevant to us right here.” This happens in another territory; these are the recommendation; this is so relevant to us in our UKOTs.

Mike Pienkowski: Ideally to each other as well so we can copy it in different territories – so we know what each territory has done.

Nancy Pascoe: Exactly. There is some great input from people about how what we are learning today can be shared.

Catherine Wensink: So far, the number registered for the conference is 165. Not the same folks attending at the same time. There are also some still registering!

Joan Walley: The point has been made in different presentations about telling a story. And how you can

present a map or a graphic or a piece of raw data but there is actually nothing like telling a story, how it impacts on a place or a person or an animal. How it can be conveyed through a different communication-means. Is that something we should be looking at, how we tell a story of why this is so important?

Nancy Pascoe: I agree. We found that recently, when we were doing a project on climate-change. It seems that, when we have these big hypothetical topics, how is it really relevant to us as a person, an individual living in the territory as well, and sometimes that's when Ministers and politicians also listen when the voting public is impacted – so, if we can also tie all these messages to how individual people in our communities, all of us, the youth who are the people who are going to inherit all of this, I think maybe we have to find ways to make it relevant, things that politicians listen to as well. Climate-change is not just ice melting far away. When we are on a Caribbean Island, it is from hurricanes; it is rebuilding; how do you find the money to rebuild, so you are trying to make yourself more resilient? How do we turn all these messages into something specific to our Territories?

We encourage all our UKOT participants to jump in and tell us what they think. What I think in the Caribbean might be very different to what someone thinks in the South Atlantic. We are all very different in our territories but we have some of the shared issues: not enough capacity, resources.

Catherine Wensink says that **Melanie Carmichael**, Sustainable Cayman asks: “For the end of the Question & Answer, are there any wetland trusts that fund land-conservation acquisition in the Caribbean, specifically mangroves?”

Nancy Pascoe: This might come up again in the funding discussion around nature-based solutions. That would be really interesting if anyone has the answer to that one. Finding money to buy land is a really big question. Land is very expensive, especially in the Caribbean, and high tourism property as well, so finding the money. Mike, are we having a discussion on finding money, sustainable financing?

Mike Pienkowski: On Thursday, most of the day is on that topic.

Nancy Pascoe: **Rickeem Lashley** says: Amazing discussions so far! Where do we leave our comments on the recommendations? Should people email you directly Mike?

Mike Pienkowski: If anybody has got any serious problem then please let me know because, if we have got to change anything, then we have to do a wide consultation which takes time. We cannot change substantively without consulting everybody.

Rickeem Lashley: Good afternoon everyone. Thank you so much for taking up my queries. Basically I am a PhD researcher at the University of Essex. I am from

the Cayman Islands. I am basing my PhD on looking at nature protection and restoration, these two conservation measures, and looking at who wins and who loses out, based on which method of conservation you want to do. I am trying to focus my thesis on the Overseas Territories, looking at how protecting a particular ecosystem; there are people attached to it, so these stakeholders are impacted very differently, for example the marine protected area and fisherfolk. Are you locking away their economic potential if you are declaring a marine protected area and putting regulations in? You might see compliance over a period of time but then not. How do you manage that tug and pull relationship? What are we trying to preserve with the protected area? Does a protected area over time threaten people's livelihoods? I am looking through the recommendations and wondering about equity from the community perspective, and seeing where the gaps fall with that in mind. From my perspective, if anything is going to be sustainable long term, if people are going to enforce it and follow the rules, the community has to be engaged with it on a daily basis. The recommendations are pretty strong; they mention equity throughout, but could the language be a bit stronger and clearer in places, so it does not fall by the wayside – which we have seen historically, dealing with environmental things and targets etc, with the community as an afterthought. I don't want to go into detail here, but I could email my thoughts. Does what I am saying make sense? I am thinking of equity within coastal communities, where relevant indigenous people, a bottom-up perspective rather than top-down.

Mike Pienkowski: Thank you very much for that. By all means, email me so that we can see the details of that. I think what I should probably say is it is certainly not a top-down evolved document. There are certainly some top-level recommendations, but that is because people lower down the triangle have been saying "Can we get the government to do this?" We have done a lot of juggling over the 5 drafts, and much of it was addressing the sort of point you said. Someone says "that's not strong enough" and someone else says "that's too strong." So we tried to take a middle course, using some of the weasel-words that drafters tend to use in these situations, so that the essence is there rather than being prescriptive. Looking at your particular example of fisheries, and I am not a fisheries expert – there are much more fishery experts on this grouping than me – but I do recall some of the stories about this. Some of the best fishery protected areas are the ones set up by consultation between interests, often led by the fisher-people, I think all of the ones in the Isle for Man, for example, were led by the fishery-people. Also I do remember an old story from the Bahamas where they couldn't get agreement in the first place, so they rather bravely went ahead and made some no-fishing zones and, within a year or two, fishermen in other areas were saying "Can we have one of those too?" – because, of course, what was happening was there was high productivity in the protected areas which was then

flowing out. So we certainly, all of us, want to do things in collaboration and consultation with those interested in using those resources. Because as you rightly say, if it is not done that way, it is not going to last.

Joan Walley: Just to reiterate, some of these recommendations are designed to go to UK Government, some to Overseas Territories government, and then it is for those governments to work out if and how to implement these recommendations. Thinking about what you have just said, I would have thought that, if these go to the Cayman Islands Government, then it would be for the team there inside the government, not just the environment department but all the different departments to then work out in detail how that recommendation might be made a reality – working with the National Trust there, working with the youth groups, working with whoever else has an interest, which would then take account of the points you are making about equality, so that policy is top-down but bottom-up as well. And engaging the wider community as well. Having visited Cayman, I know the context in which those decisions are being made. I do hope, and you said you are from the Cayman Islands and doing this PhD with the University of Essex, that you will be able to go back and enriched with that research, to perhaps be able to be part of that process back in the Cayman Islands.

Rikeem Lashley: Yes, that is the hope.

Joan Walley: I hope so too.

Nancy Pascoe: Amdeep Sanghera says: It would be interesting to see what comes out of the conference with respect to sustainable finance, and with the JMC [Joint Ministerial Council] next month having a focus on climate-finance, it could be very timely (e.g. potential prior engagement with UKOT environmental ministers)!

Catherine Wensink: Thanks so much Rikeem. Very interested in conservation and equity. I'd like to get in touch.

Amdeep Sanghera: Hi Rikeem, likewise it would be great to connect with you as our work with Caribbean UKOT partners focuses on equitable community conservation. amdeep.sanghera@mcsuk.org / emily.bunce@mcsuk.org

Nicholas Watts: We have seen here outstanding examples of community-engagement. The work of the Anguilla National Trust was praised in June by the Governor for bringing youth to nature – and away from guns. There should be joined-up thinking on funding that takes account of positive secondary effects of youth volunteering with nature projects. (My interview with Governor Ms Julia Crouch.)

Nancy Pascoe: Reiterating the secondary importance of getting youth out into the environment, so keeping that funding is vital, and links to safety and crime. Sadly that is an issue that is increasing here in the BVI too, with youth. So how do we make it a positive spin, as well?

Paul Edgar: Inspiring conference, congratulations everyone! We (i.e. Amphibian & Reptile Conservation, a UK-based NGO) are developing an internal strategy to strengthen our specialist support for local work in the UKOTs and Crown Dependencies. We have already done a lot to support herpetofauna conservation on Jersey, working with the Jersey Government and local groups and taking an integrated approach across many areas. We have also had a smaller involvement in other British Territories and are looking to expand this role. We support all the conference recommendations, particularly recommendation B of course!

Nancy Pascoe: So partnerships. How can we grow some partnerships here? Mike, you opened up the chat so anyone who wanted to get in touch could do so. Having mentioned invertebrates, I have already had someone I was talking to some months ago message me, saying they were happy to hear me talking about invertebrates and let's work together. We really need to broaden our horizons of who we work with and learning from each other. About what we can do on our own territories, continuing the research, making sure we can fund that, and then Rickeem who is doing his PhD. How can we harness more students (something Myles talked about yesterday [in the Ground lecture]), students who are going away and doing Masters and PhDs and helping the National Trust? We really need to harness all this work that is going on out there. Rather than students choosing a random topic, we need to put out there what our research needs are and what are the questions you want answered, so that when students are looking for projects we could have a list. Is that something we could do as Overseas Territories, have a shared list of research needs, strategic planning needs, all these other things – and match partners and Universities with those topics? Putting it out there so we are not just reacting to I want to study a tiny spider in your country, I would like to study all the spiders, how do we make it bigger and meaningful for all of us ?

Mike Pienkowski: We would be very happy to facilitate that. Catherine had a go at doing that a while back, we are always ready to re-open ideas.

Joan Walley: I was going to say the same thing. That has long been a wish of mine as well, Nancy. When you look at the Universities which are proactive in this, it should not be an impossible task to be able to try to match needs with what they have got to offer, what their students are interested in, and encourage them to apply for further research funding that could help address this capacity issue that we have got and the lack of funding as well. That is a really a partnership that is waiting to happen.

So I think we have just about covered what is there on the chat. We did say we would return to rewilding and I know I felt very inspired by that particular contribution and I hope Mike that that is something that fellow trustees, directors can actually return to and perhaps have a more

focussed look at rewilding. We did perhaps undertake to follow that up. That would be a good outcome from this.

Mike Pienkowski: That might well be a subject for one of our webinars. We can only hold a conference every few years but, in between, we do try each year to hold a one-day webinar, and that might well be a topic. We should certainly discuss that. Given that Kathleen is one of our Council members, we could perhaps twist her arm to lead it when she gets back off her ship!

Janet Mackinnon: IUCN have just published new guidelines for rewilding <https://iucn.org/press-release/202510/iucn-commission-environmental-management-launches-new-guidance-rewilding>.

Joan Walley: Thank you for all the many contributions and thank you to the 42 participants who are here to the bitter end. That's my task for today finished in the Chairmanship. It's been a pleasure being with you all.

John Pinel: Thanks for another excellent session

Nicole Esteban: Thank you for a great session - really interesting talks

Main topic 4: Poster session

Chairing: Catherine Wensink; Question-master: Myles Darrell (Bermuda); Rapporteur: Jodey Peyton

Introduction

Posters are listed and the material based on them in the Topic sections to which they were allocated. This topic session gave poster-presenters the chance to speak briefly about their poster and answer questions about it. Below is a summary of the session by Rapporteur Dr Jodey Peyton, with just a few example posters, selected by vote. We apologise for any ineligibility; this is one reason why we consider it impracticable to continue to publish posters, rather than articles based on them in the proceedings.

Poster-presentations summary by Jodey Peyton

(* indicates student poster)



Catherine Wensink (above) opened the session with the first poster for the **Topic 1 Theme Sharing Experiences, 1-10P**

Managing the effects of Human Impacts on our marine environment (Leeann Henry, St Helena Government), which was an initiative looking to protect the marine environment from tourism.

The second poster, presented by Nell Cava, was on *1-11P* The Gibraltar Biodiversity Portal – Enhancing access to The Rock's research gems (Nell Cava & Caroline Moss-Gibbons, University of Gibraltar)* which looks to make biodiversity-data easier to access.

The next poster in the theme Sharing Experiences, was *1-12P Isle of Man bats (Nick Pinder, Manx Bat Group)* which outlined 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

The Gibraltar Biodiversity Portal:
Enhancing access to The Rock's hidden research gems
<https://unigib.sputron.net/Portal/Biodiversity/>

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
- 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!

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**.

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

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).

Nell Cava | nell.cava@unigib.edu.gi
GBP Project Officer | University of Gibraltar

Caroline Moss-Gibbons | caroline.moss-gibbons@unigib.edu.gi
Parasol Librarian | University of Gibraltar

3-11P Predation of sea-turtle eggs by rats and crabs Holly Stokes et al, Swansea University

how, alongside a systematic control strategy, working closely with an engaged community can enable large-scale invasive non-native species control.

The next set of posters was in the *Topic 3 Theme: Achieving Biodiversity & Sustainability Targets*. The first of these posters was actually a fold-out guide: *3-10P Grasses of Montserrat (Virginie Sealys, Montserrat National Trust et al.)* and it shows a really nice example of a communication aid that will support plant-identification. There is a lack of field resources for Montserrat on their flora and this guide forms part of a toolkit of resources to help Montserratians to support biodiversity on their island.

We then moved to poster (*top of this page*) *3-11P Predation of sea-turtle eggs by rats and crabs (Holly Jayne Stokes, Swansea University*

et al.). I was personally delighted to see Dr Holly Stokes as she was undertaking her PhD in Diego Garcia in 2022 when I was there. This fascinating poster reported for the first time the predation of green turtle eggs by coconut crabs and rats, and highlights the importance of making initial clutch-counts.

The next poster, *3-12P Other Effective Area-Based Conservation Measures (Catherine Wensink, UK Overseas Territories Conservation Forum)* highlights the growing importance of Other Effective Area-Based Conservation Measures for supporting not only global biodiversity-

Predation of sea turtle eggs

Holly J. Stokes, Nicole Esteban, Graeme C. Hays

holly.stokes@swansea.ac.uk

BACKGROUND

- UK Overseas Territories (UKOTs) provide important nesting beaches for sea turtles (e.g., Ascension¹, Chagos Archipelago², Cayman Islands³)
- Female sea turtles lay multiple clutches of 100s of eggs with no parental care and face threats that influence offspring survival (e.g., native and invasive predators⁴)
- Invasive predators - shared challenge across UKOTs

Objective: Assess green turtle nest predation on an isolated island (no egg harvesting or poaching) and identify sea turtle nest predators around the world

RESULTS

Fig. 2. Relationship between clutch size and the number of eggs removed from the nest between (a) oviposition (laying eggs) and (b) nest excavation

Category	Percentage
Successfully hatched	64.9%
Undeveloped / Pipped	18.1%
Removed	13.9%
Depredated in nest	3.1%

METHODS

Fig. 1. a) Remnants of a green turtle nest predated by a coconut crab (*Birgus latro*). **b)** Coconut crab burrow into a green turtle nest which was used by other predators (e.g., black rats (*Rattus rattus*))

CONCLUSIONS

- First report of coconut crab and invasive-rat predation on eggs
- Findings support rat eradication
- Highlights the importance of initial clutch counts
- Main predators: mammals, crabs, and monitor lizards
- Opportunity for future studies in UKOTs

NEXT STEPS

- Set up camera traps to:
 - Understand predation across the incubation period
 - Quantify the impact of each predator
- Study the predation of hawksbill eggs

LINKS & ACKNOWLEDGEMENTS

Paper Instagram LinkedIn

References: 1. Godley et al., 2001. [https://doi.org/10.1016/S0006-3207\(00\)0027-0](https://doi.org/10.1016/S0006-3207(00)0027-0)
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 Funding: Bertarelli Foundation

LINKS & ACKNOWLEDGEMENTS

Fig. 3. Common sea turtle nest predators across the world. Symbol colour: green = green turtle; yellow = loggerhead; blue = olive ridley; red = hawksbill; brown = flatback; black = leatherback; purple = Kemp's ridley

insect populations and wider ecosystem-health. This poster highlighted the broad range of work the Bat Group is doing.

The next two posters were from the Falklands, *1-13 Managing Calafate Berberis microphylla in the Falkland Islands: A Strategic Approach to Landscape-Scale Invasive Species Control (Michael Lavery, Kaitiaki o te Ngahere & Indigena Biosecurity International)* and *1-14 Calafate & Community in the Falkland Islands (Erica Berntsen, Department of Agriculture, Falkland Islands Government)*. These posters both show the challenges experienced on these islands in managing this problematic species but

protected and this work is helping scientists understand what is needed to support marine biodiversity.

The next poster 5-13P* *Invasive Species dominate tree canopies in Bermuda's protected areas* (Alison Copeland,

Durham University et al.) gave a fascinating insight into the plant community composition around Bermuda. It showed staggering levels of invasion of both inland and coastal areas and indicated where conservation-management

Invasive species dominate tree canopies in Bermuda's protected areas

Alison Copeland¹, Adrian Brennan¹ and Wayne Dawson²

¹Department of Biosciences, Durham University; ²Department of Evolution, Ecology and Behaviour, University of Liverpool
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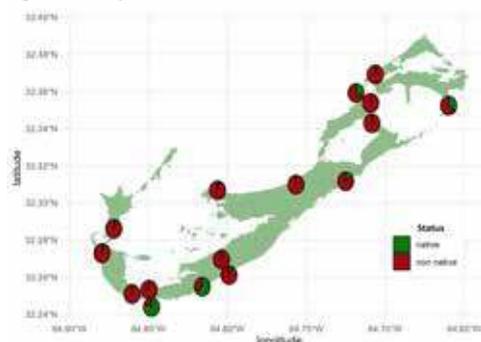
Bermuda and its Flora

- Bermuda is a subtropical archipelago in the western north Atlantic, with a total land area of 54km² and a human population of ~63,000.
- Bermuda's flora contains at least 1,587 vascular plant species from 162 families. Of these 1,424 or 89.8% are non-native. 52 species are considered invasive, including 15 trees, 9 shrubs and 1 palm species (Copeland and Dawson, 2025).
- We aim to quantify plant invasions of unmanaged vegetation in nature reserves and natural parks using quadrats at stratified random sites.

Survey Summary

- We surveyed the vegetation of 16 protected areas in 246 canopy plots of 20m x 20m (400m²).
- 30,873 trees, palms and shrubs were counted from 65 species.
- 4,206 (14%) of stems counted came from 18 native species, while 26,667 (86%) were 47 non-native species.

Figure 1: Proportion native and non-native trees in parks



Top: coastal plot, South Shore Park
Lower: upland plot, Walsingham Trust



Key Findings

1. 10/16 parks had canopies >95% non-native trees, and 4 had >99% non-native trees (Fig. 1).

2. Twenty invasive species comprised 84.8% of stems counted (n=26,179) and 31% of species recorded.

3. Coastal plots contained more native species and native trees than uplands (Figs. 2&3).

Upland Plots

129 plots.
54 canopy-forming species.
22,999 counted stems - 98% invasive or naturalized, 2% native.

Figure 2: Trees, palms and shrubs counted in upland plots

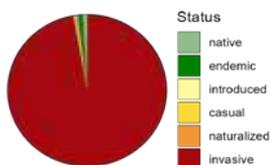
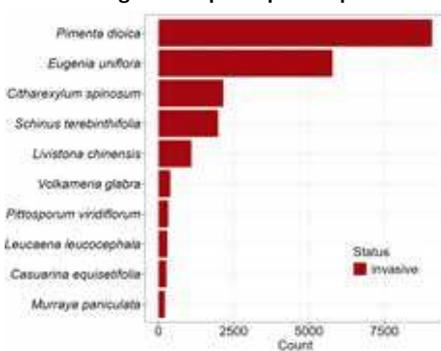


Figure 4: Top 10 Upland Species



Coastal Plots

117 plots.
47 canopy-forming species.
7,874 counted stems - 51% invasive or naturalized, 48% native, 1% others.

Figure 3: Trees, palms and shrubs counted in coastal plots

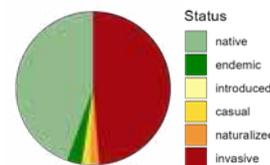
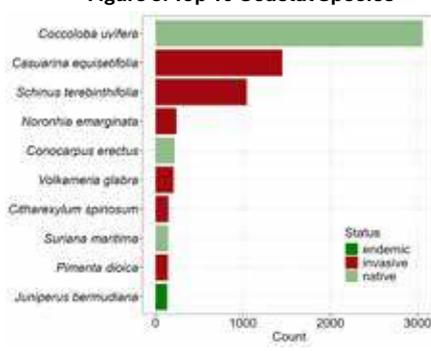


Figure 5: Top 10 Coastal Species



Conclusions

1. Upland parks contain novel plant communities of primarily non-native trees.
2. Native-dominated vegetation in coastal parks should be protected from damaging developments and activities.
3. Past planting of endemic trees has maintained their presence in upland and coastal parks despite invasion by non-natives (Figs 2&3). These conservation plantings must continue.

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This project was funded through a Durham Doctoral Scholarship from Durham University. A grant to attend this conference was gratefully received from the Bermuda Botanical Society.

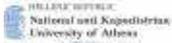




Ants of the Akrotiri UK SBA (Cyprus)



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INTRODUCTION

- Ants are crucial components of ecosystems, facilitating ecosystem functions such as soil aeration, habitat creation and maintenance.
- However, some invasive non-native species have detrimental effects to nature and socioeconomic parameters.
- Located at the southernmost point of the island of Cyprus, the Akrotiri UK SBA is a biodiversity hotspot for migrating birds, including a designated RAMSAR site, SPA and SAC.
- Throughout DPLUS200, a Darwin Plus project funded by the UK government, we surveyed the ant biodiversity of the Akrotiri SBA.

METHODS

- Unstructured sampling: hand collecting and entomological umbrella.
- Structured sampling: pitfall traps in 10 different habitat types for one week during Feb, May, Aug and Nov 2024.
- Specimens preserved in 75° - 95° EtOH and identified based on available identification keys, descriptions and species diagnoses.

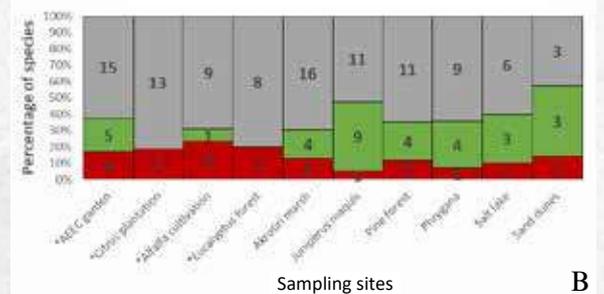
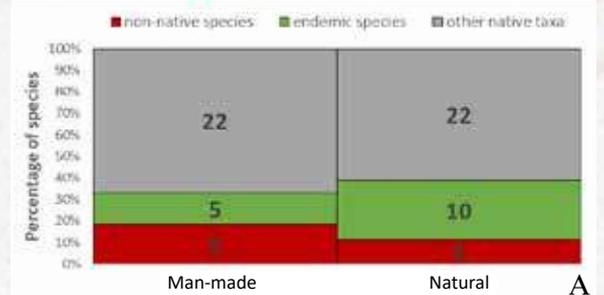
RESULTS

- 52 ant taxa, including 12 of the 18 endemic and 9 of the 18 non-native species known from Cyprus (Fig. 1).
- *Monomorium exiguum* (non-native) was first reported from natural habitats in the Mediterranean (Fig. 2A).
- *Temnothorax akrotiriensis* (endemic) is more widespread than previously thought in the peninsula (Fig. 2B).
- *Oxyopomyrmex pygmalioni* (endemic) was collected outside its only known locality i.e. the Akamas peninsula (Paphos) (Fig. 2C).
- The little fire ant *Wasmannia auropunctata* was detected in the Cyprus UK SBAs (Fig. 2D).
- Pitfall traps showed higher % of non-native taxa in man-made habitats and higher % of endemics in natural habitats (Fig. 3A,B).

CONCLUSIONS

- Despite its small size (123 km²), the Akrotiri SBA is an important biodiversity hotspot for Cypriot ants, hosting 59% of known species.
- Urbanization and land use regimes seem to affect endemism maintenance and biological invasions.
- Nevertheless, further research is necessary, especially regarding the management of invasive non-native species, as well as the conservation of endemic species.

REFERENCES



Percentages and numbers of non-native, endemic and other native ant taxa in man-made and natural habitats (A), as well as per sampled locality in Akrotiri (B). Man-made habitats are denoted with an asterisk (AEEC = Akrotiri Environmental Education Centre).

priorities should be given to protect endemic and native trees.

5-14P* *Ants of the Akrotiri UK SBA, Cyprus (Jakovos*

Demetriou, Joint Services Health Unit, et al.) showed, as with many of the posters, the importance of getting out and surveying for species on the ground. The surveys

found that the Akrotiri SBA holds 59% of the ant-fauna of Cyprus, with more invasive non-native species being found in urban areas and more endemic species found in natural areas.

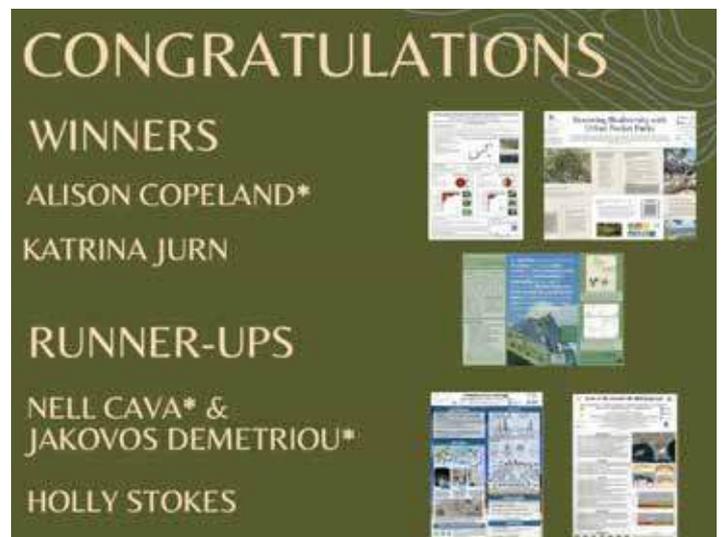
Poster 5-15P *Persistence, Accuracy and Timeliness: Finding, Mapping and Managing Non-Native Plant Species on the island of South Georgia* (Bradley Myer, Indigena Biosecurity International) gave an overview of the inspiring work of the Government of South Georgia and Indigena in eradicating and managing invasive plants on South Georgia. Since 2016, seven species are no longer present after successful control and 10 species have been discovered and prevented from establishing further. This work is ongoing as the risk of emergence from the seedbank is high.

Poster 5-16P *Bailiwick Eelgrass Project, BEEP* (Dr Mel Broadhurst-Allen, Alderney Wildlife Trust) was presented on behalf of multiple organisations in the Bailiwick of Guernsey. The BEEP project was set up in 2019 and using a range of techniques to monitor the sea-grass, volunteers from the community are getting involved.

5.17P *Bugs in our drawers* (Laura McCoy, Manx National Heritage) was a wonderful poster looking at the major effort to conserve their entomology collection – the largest natural science collection in its care, with over 78,000 insect specimens, mostly pinned and historically significant.

Poster 5-18P *Sea turtles at shallow depths* (Kimberly Stokes, University of Swansea) was the last in this Topic and showed several fascinating discoveries. The first was that hawks-bill turtles in the waters around Diego Garcia were spending a lot of time in shallow lagoons, avoiding predators in the deeper water of the lagoon. The second finding, from tracking female green turtles across the western Indian Ocean, was that they spend a lot of time in shallower water (3 times their body depth on average), which helps to conserve energy. This relationship was also seen in other taxa.

The only poster in **Topic 7 Theme Funding/resourcing** was 7-08P* *Evidence of Barriers to Marine Conservation in UK Overseas Territories: A Practitioner-Informed Study* (Natalie Muirhead-Davies, University of Gibraltar). This poster highlighted the importance of enabling existing initiatives through sustainable financing and for these to be supported in-house rather than relying on external support. The poster gave examples of multiple barriers including limited funding and resources, data-gaps, and weak enforcement-capacity, governance-challenges, political disputes, and low community buy-in.



The results of the voting (above) were totalled and announced on the last day of the conference.

Main topic 5: Using technology and data to inform and monitor conservation and novel approaches to address threats to biodiversity

Chairing: Andy Pearce (UK); Question-masters: Jodey Peyton & Lord (John) Randall;
Rapporteur: Keith Bensusan (Gibraltar)

Introduction (The numbers before each title below are links to that item.)
5-01 The use of satellites for environmental monitoring in the UK Overseas Territories: Social considerations for the collection and use of data <i>Jasper Montana (Australian National University; University of Oxford)</i>
5-02 25 years of collaboration: combining field data, genetics, seed biology, and GIS for conservation planning <i>Thomas Heller (Royal Botanic Gardens Kew) & Nancy Woodfield Pascoe (National Parks Trust of the Virgin Islands)</i>
5-03 Updated population estimates for the Endangered Northern Rockhopper Penguin <i>Eudyptes moseleyi</i> at Tristan da Cunha in the South Atlantic <i>Antje Steinfurth^{1,2}, Richard B. Sherley^{3,4}, Trevor Glass⁵, Chris Bell¹, Ben J Dilley², Delia Davies², Rukaya Johaadien², Fabrice Le Bouard¹, Mara Nydegger¹, Norman Ratcliffe⁶, Karen Bourgeois¹, Jan Bradley¹, Jaimie Cleeland^{1,6}, Roelf Daling¹, Sylvain Dromzee¹, Bruce Dyer⁷, Carmen Ferreira¹, Derren Fox¹, Simon Glass⁵, Ivan Green⁵, Kirsty Green⁵, Matthew Green⁵, Christopher W. Jones¹, David Kinchin-Smith¹, Werner Kuntz¹, Kate Lawrence¹, Henk Louw¹, Greg McClelland¹, Graham C. Parker^{1,8}, Vonica Perold¹, Michelle M. Risi¹, Julian Repetto⁵, Riaan Repetto⁵, Kalinka Rexer-Huber^{1,8}, Andy Schofield¹, Kim L. Stevens^{1,2}, George Swain⁵, Chris Taylor¹, Paul Visser¹, Otto Whitehead², Alex Whittle¹, Emma Witcutt¹, Richard Cuthbert^{1,9}, Brad Robson¹, Peter G. Ryan², Alexander L. Bond^{1,10} (1 RSPB Centre for Conservation Science; 2 FitzPatrick Institute of African Ornithology, University of Cape Town; 3 Environment and Sustainability Institute/Centre for Ecology and Conservation, University of Exeter; 4 Department of Biodiversity and Conservation Biology, University of the Western Cape; 5 Tristan Conservation Department; 6 British Antarctic Survey; 7 Department of Environment, Forestry and Fisheries, South Africa; 8 Parker Conservation, Karitane, New Zealand; 9 World Land Trust; 10 Bird Group, The Natural History Museum, Tring)</i>
5-04 iRecord St Helena: a community platform for biodiversity knowledge empowering conservation action and decision making <i>Selene Gough & Rebecca Cairns-Wicks (St Helena Research Institute)</i>
5-05 Safeguarding Tristan da Cunha: Using Areas to be Avoided and Virtual Markers to Protect the World's Most Remote Marine Reserve <i>Katie McPherson (Head of Compliance and Enforcement, Marine Management Organisation)</i>
5-06 The Cyprus Database of Alien Species (CyDAS) <i>Jakovos Demetriou (Laboratory of Vector Ecology and Applied Entomology, Joint Services Health Unit Cyprus, Akrotiri, Cyprus; Enalia Physis Environmental Research Centre, Nicosia, Cyprus; Department of Ecology and Systematics, Faculty of Biology, National and Kapodistrian University of Athens, Greece)</i>
5-07 In Search of the eDNA Bounty: Uncovering Marine Biodiversity in the Mutineers' Seas <i>Kirsten J. Harper, J. Murray Roberts, Jason Cleland, Simeon Archer-Rand, Georgia Holly & Rob Ogden (The Royal (Dick) School of Veterinary Studies and The Roslin Institute)</i>
5-08 Beyond bases: modern remote monitoring of animal populations <i>Tom Hart & Laure Cugnière (Seabird Watch, Oxford Brooks University)</i>
Posters related to this session
5-09P Tracking Change: Phytoplankton Trend Analysis in British Gibraltar Territorial Waters (BGTW) <i>Marre Linthorst¹, Stephen J. Warr² and Awantha Dissanayake¹ (1. School of Marine and Environmental Science, University of Gibraltar; 2. Department of Environment, Sustainability, Climate Change and Heritage)</i>
5-10P The Dietary Dynamics of Red Foxes <i>Vulpes vulpes</i> amidst Changing Rabbit Availability <i>Jemila Mellin (University of Gibraltar), Bethany Maxwell (Gibraltar Botanic Gardens / University of Gibraltar) & Dr Awantha Dissanayake (University of Gibraltar)</i>
5-11P Ecological insights and conservation challenges for the Orange Cup Coral <i>Astroides calycularis</i> in the Western Mediterranean <i>Awantha Dissanayake (School of Marine and Environmental Science, University of Gibraltar)</i>
5-12P Establishing a Baseline Characterisation of Marine Benthic Taxa and Trophic Structure in Guernsey: Evaluating the Ecological Impact of Local Fisheries <i>Eve Torode, Jamie Selina Davies & Awantha Dissanayake (University of Gibraltar)</i>
5-13P Invasive Species dominate tree canopies in Bermuda's protected areas <i>Alison Copeland¹, Adrian Brennan¹ and Wayne Dawson² (1 Department of Biosciences, Durham University; 2 Department of Evolution, Ecology and Behaviour, University of Liverpool)</i>
5-14P Ants of the Akrotiri UK SBA (Cyprus) <i>Jakovos Demetriou, Christos Georgiadis, Evangelos Koutsoukos, Lech Borowiec, Helen E Roy, Angeliki F Martinou & Sebastian Salat</i>
5-15P Persistence, Accuracy and Timeliness: Finding, Mapping and Managing Non-Native Plant Species on the island of South Georgia <i>Bradley Myer (Indigena Biosecurity International)</i>
5-16P Bailiwick Eelgrass Project <i>Mel Broadhurst-Allen (Alderney Wildlife Trust)</i>
5-17P Bugs in our drawers <i>Laura McCoy (Manx National Heritage)</i>

5.18P Sea turtles at shallow depths: from foraging in a shallow lagoon to crossing an ocean basin *Kimberley L Stokes, Nicole Esteban, Holly J Stokes, Paolo Casale, Andre Chiaradia, Yakup Kaska, Akiko Kato, Paolo Luschi, Yan Ropert-Coudert & Graeme C Hays (Swansea University)*

5.19 General topic discussion

Introduction

Andy Pearce, UKOTCF Council Member and Former Governor of Montserrat

Welcome, everyone — good morning, good afternoon, good evening, and perhaps even good night, depending on where you’re joining us from. It is a pleasure to welcome you to Session 5, which focuses on “Using Technology and Data to Inform and Monitor Conservation, and Novel Approaches to Address Threats to Biodiversity.”

We are now halfway through the conference and the momentum continues to build. My name is Andy Pearce, I serve on the UK Overseas Territories Conservation Forum Council, and I’m a former Governor of Montserrat – in whose honour, I might add, Mike Pienkowski is proudly wearing a tie today.



Andy Pearce

Due to some last-minute changes, including Lord Randall being called away to Parliament, we have slightly adjusted the facilitation of questions for this session. Jodey will begin the Q&A, followed by John, and then Jodey will resume. Thank you in advance for your flexibility as we adapt.

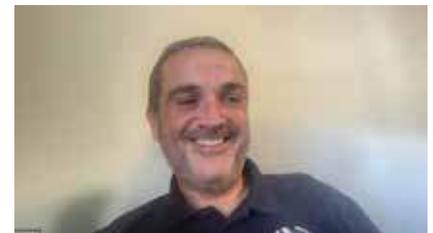
We are also fortunate to have Keith Bensusan acting as rapporteur for this session. Keith has already broken all records for the speed and accuracy of his reporting, and we are grateful for his contributions in keeping the documentation process on track. With a packed agenda ahead and strict instructions to keep things moving briskly, let’s dive straight into the session.



Lord (John) Randall



Dr Jodey Peyton



Dr Keith Bensusan

The use of satellites for environmental monitoring in the UK Overseas Territories: Social considerations for the collection and use of data

Jasper Montana (Australian National University; University of Oxford)



Jasper Montana

Montana, J. 2025. The use of satellites for environmental monitoring in the UK Overseas Territories: Social considerations for the collection and use of data. pp 153-157 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

With reduced costs and easier access to data, there are growing opportunities to use satellites for environmental monitoring in the UK Overseas Territories (UKOTs). Remote sensing by satellites can be used for a range of applications, including monitoring the movement of fishing vessels in UKOT waters, tracking the spatial distribution of important marine or terrestrial species, and detecting changes in coastal erosion or coral bleaching. However, there are important insights that can be drawn from past experience around the world about the collection and use of data in environmental management that can inform future practices. This paper identifies some lessons learnt about the use of satellites and other technologies for tracking and monitoring environmental change. Specifically, the paper sets out the importance of a) paying attention to what is included and excluded from monitoring and tracking data; b) who has access to that data and how, and finally; c) the assumptions made in the use of that data about what policy and practice options are the most appropriate and why. The paper explores these lessons through two cases from the UKOTs: one focused on tracking marine turtle distribution around the Turks and Caicos Islands; and one focused on monitoring fishing vessel activity to support marine protection around Ascension Island.

Dr Jasper Montana

1. *Centre for the Public Awareness of Science, Australian National University, Australia*
2. *School of Geography and the Environment, University of Oxford, UK*

Background

The UK Overseas Territories (UKOTs) are home to a vast array of iconic landscapes and rare species (Churchyard *et al.* 2016), which are vulnerable to human-induced pressures (i.e. Clubbe *et al.* 2020; O'Leary *et al.* 2019; Weber & Weber 2020). Threats such as climate-change, pollution, coastal development and invasive species can have devastating effects on this biodiversity, and lead to knock-on effects for the social and economic wellbeing of local communities. The use of satellites for environmental monitoring is one tool to support biodiversity-conservation and environmental management in the territories. However, the social considerations of producing and using satellite-derived data need also to be taken into account (Montana 2025).

Remote sensing technologies, such as satellites, provide access to viewpoints that are otherwise impossible for human perception. Collecting data from satellites can help scientists to understand everything from large-scale

processes of the ocean to the small-scale movements of a bird searching for food. Satellites can be used to monitor ice-loss, the movement of greenhouse-gases, and to detect trends in habitat-degradation. In combination with machine-learning technologies, remote sensing and other Earth Observation technologies offer powerful new means of more automated monitoring of life on Earth and can help to fill data-gaps in areas that are otherwise understudied or inaccessible to ground-based researchers (Bennett *et al.* 2022; Maxwell *et al.* 2018).

With reduced costs and easier access to satellite-derived data, there are growing opportunities to use satellites for environmental monitoring in the UK Overseas Territories (UKOTs). Remote sensing by satellites has already been used actively for a range of applications, including monitoring the movement of fishing vessels in UKOT waters as part of the Blue Belt Programme, tracking the spatial distribution of important marine or terrestrial species in the planning of marine protection strategies, and detecting changes in coastal erosion

or coral bleaching. While the technical opportunities and challenges of using satellites for environmental monitoring are widely known and discussed, this is only part of the picture. There is need also to draw insights from past experience about the social considerations of collecting and using data from satellites in environmental management.

Why social considerations matter for satellite-based monitoring?

Critically, how we organise data infrastructure for the environment is never neutral. Social-science research has challenged the widely held misconception amongst some technical communities that digitally-mediated data-production offers “a neutral, more comprehensive picture of the planet” (Nost & Goldstein 2021: 4). The infrastructures we make for producing and using environmental data involve many human choices that are shaped by individual and collective preferences and values. For satellite-monitoring, this includes choices about what to monitor, how to monitor, who is involved, who has access to the data, how the data are presented and shared, etc. And all of these choices are in turn shaped by the uneven distribution of resources and power. Scholarship has argued that environmental management should attend to these “value-laden choices” (Nost & Goldstein 2021: 4).

Understanding the social considerations for satellite-based monitoring of the environment includes asking questions such as:

- Who participates and how in environmental monitoring?
- What values, worldviews and knowledge types are considered in the design of environmental monitoring?
- What justifications are made about the purpose of environmental monitoring and the decision-makers that will receive data?
- What are the social, cultural, political, and economic benefits and costs of environmental monitoring? Etc.

In this conference talk, I explore these questions through an examination of the literature and some previous work in the UK Overseas Territories.

Methods

This talk offers a short introduction to some lessons learnt from the use of satellites in environmental monitoring around the world and in the UK Overseas Territories. The study involved a review of literature on the social considerations of environmental data-collection and -use. This supplemented the collection of qualitative data (Bryman 2015), including 20 semi-structured interviews with marine managers and scientists

involved in designing and implementing interventions involving satellite-based environmental monitoring in the UK Overseas Territories and observations at stakeholder-meetings for conservation-projects in the UKOTs, including the Blue Belt Programme, between November 2019 and July 2022. Ethical approval was provided through the Central University Research Ethics Committee of the University of Oxford in June 2019.

The two cases that I focused on mostly were the satellite-tracking of marine turtles in the Turks and Caicos Islands, and satellite-monitoring of fishing vessels around Ascension. The satellite-tracking of turtles in TCI aimed to develop a long-term fishery-management regime for turtles through stakeholder-engagement, including management-planning, research, outreach and education (Richardson 2014). The project led to a set of proposed management-measures for updating legislation with regards to turtle-fisheries. These included the introduction of size-limits and closed-fishing seasons, which were approved and came into force in 2014 (Doherty *et al.* 2020). The second case involved the satellite-monitoring of fishing vessels around Ascension Island as part of the Blue Belt Programme, which sought to establish 4 million square kilometres of marine protected areas around a number of the UK Overseas Territories. Here, the use of satellites was deemed particularly important, because the vast ocean-areas around Ascension Island were beyond the surveillance-capacity of any patrol-ship-based approaches to monitoring and enforcement (Rowlands *et al.* 2019).

Findings

Through the review of existing literature and qualitative data-collection about specific examples in the UK Overseas Territories, this talk identifies some lessons learnt about the use of satellites and other technologies for tracking and monitoring environmental change.

1. Inclusions and exclusions

The first finding is that environmental data that are derived from satellite-monitoring draws attention to some things and ignores other things. For example, satellite-tracking of species typically leads to researchers receiving a series of coordinates - “a stochastic pattern traced across a blank page” – or what Benson (2014 39) terms a ‘minimal animal’. These then need to be mapped on to a representation of physical space, such as a topographic or bathymetric map. This tells one some things, such as where the individual went in horizontal space, but it does not necessarily tell other things, such as why they went there and what they encountered along the way. Such two-dimensional maps, which are often used for management, have often been criticised for failing to show social dimensions, such as who owns the land and sea, why parts of the land or sea might be culturally (as well as ecologically) important, or other

local and traditional knowledge (Boucquey *et al.* 2019). Other scholars have noted that environmental monitoring with satellites can also sometimes underlie a limited ambition to understand and address the root causes of environmentally damaging activities, which are often social in nature and difficult to perceive through remote sensing (Toonen & Bush 2020: 133).

As such, anyone using satellite-monitoring data might want to be aware of what satellite-monitoring and -tracking data include and exclude. This means also ensuring that satellite-monitoring is complemented by other strands of work that attempt to capture these missing dimensions so they do not get lost or forgotten. In both the case of the Turks and Caicos Islands Turtle Project and the Blue Belt Programme, there has been productive attention to this point. In the Turks and Caicos Islands, satellite-monitoring was complemented by extensive on-the-ground social research working with the local communities to understand their practices and needs (Richardson *et al.* 2009). And, alongside the Blue Belt programme, a small amount of important work has been done to understand the motivations of regional communities to fish in parts of the ocean that may be subject to marine protection (Collins *et al.* 2021).

2. *Access to data*

The second finding is that there is likely to be unequal access to satellite-based monitoring data which has impacts on who can and cannot use it and for what purposes. Technologies such as satellites are recognised to have the potential – at least – to contribute towards “democratising” environmental governance (Toonen & Bush 2020: 134). However, this is not always the case. Even though satellite monitoring data may be made available on public websites, such as Global Fishing Watch or www.seaturtle.org, it does not mean that everyone everywhere has the knowledge and capacity to access and use that data equally. Different communities will also have different preferences for how they want to access information. Just because some communities are not interested in graphs and statistics, this does not mean that they are not interested in the underlying stories that those graphs and statistics might tell.

Therefore, anyone using satellite-monitoring data might want to consider equitability in access to satellite-derived data, and tailor access to the needs and interests of different communities. As one of the Turks and Caicos Islands Turtle Project team reflected, “we really disseminated that information to the community through posters, showing them maps of these migrations, and the tracks, along with text that was locally sensitive – written in a way that fishers would understand – and this would really help build support for the research and an understanding of what the project was doing” (interviewed in 2019). By involving also the local fishing community in the collection of data about the turtles,

the team enabled them to have a first hand in the science and thereby build support for the uptake of new fishing regulations (Campbell *et al.* 2009). Thinking about what different audiences might need to understand and engage with environmental monitoring work is vital to increase the legitimacy and effectiveness of any subsequent policy or regulatory conditions based on that monitoring.

3. *Environmental management is based on assumptions*

The third and final finding is that when satellite-data are used, they are likely to be used in a world where a number of assumptions have already been made about what are the most appropriate policy and practice options. These assumptions may be wrong. For example, the management of tuna-fisheries in the Atlantic Ocean became challenged by monitoring data that showed that there was an interconnected tuna population across the western and eastern Atlantic. Persistent political interests have traditionally separated management regimes based on an assumption that there were two largely distinct populations (Havice *et al.* 2022). This is a classic example of a ‘scalar mismatch’ problem encountered when the scale of an environmental phenomena differs from the scale of the political organisations available to manage it (Cumming *et al.* 2006).

This example reminds that anyone using satellite-monitoring data might want to reflect critically on the assumptions that are made about how best to govern the environment and identify when these assumptions may be unproductive to achieve stated goals. One emerging example of this concern that I detected in the UKOTs pertained to the increasing interest and resource-capacities to carry out desktop-based environmental monitoring using satellite-imagery. On one hand, having access to historical and current images of changing environmental conditions can expand dramatically the area that individual environmental officers can monitor. But on the other hand, this approach may lead also to environmental officers spending more time in their offices rather than being out in the field. In small islands with small communities, in particular, the importance of face-to-face interactions and the ability of environmental officers to be on the ground talking with people and seeing first-hand what is happening is not to be undervalued. A shift to desk-based monitoring may not always be best, even when there are efficiencies to be found.

Conclusion

Social considerations matter when it comes to using satellites to monitor the environment in the UK Overseas Territories. This is because: the way we organise data-infrastructure for the environment is never neutral; environmental monitoring shapes and is always shaped

by people's imaginations of the environment. And it reflects and reinforces existing assumptions about how the environment should be governed. Designing and implementing satellite-monitoring of the environment will inevitably involve making choices that reflect our individual and collective preferences and values. But learning to be aware of the choices that are made, and understanding the impacts that they may have on the people and places that we seek to care for is critical to achieving desired environmental and social outcomes.

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Q&A

Andy Pearce: Thank you very much indeed, Jasper: a very crisp and clear excellent talk. Always when you get into the details of things, there are vastly more layers of complexity, and you exposed those very thoroughly and clearly for us.

Jodey Peyton: Thank you Jasper, that was a great talk. Very interesting, and it ties in very well with what we were talking about yesterday as well, to a degree. Interesting points you raised given the increasing use of remote sensing data.

Nancy Pascoe: Using remote sensing can help guide field-work on small islands which is important when staff and resources are limited, especially when boats are needed to monitor remote places.

Jodey Peyton: I was wondering, thinking about the key points from using satellite-data, or remote sensing data, is it paralleled by traditional field-surveys. Is it different because you are literally in the field doing surveys?

A: First of all, I just wanted to thank everyone for organising this conference and all the people I spoke to throughout the project. There are similarities between field-based data-collection and some of the challenges around that, and also remote sensing. I think that the difference potentially is that remote sensing can be done quite removed from communities and quite removed from the actual places you are trying to study. So it is a bit easier to fall into a trap of assuming, or forgetting, those details of the environment that might be really crucial: the environment or the communities and the social aspects that might be really important, to which to pay attention also if you are working in a remote capacity. One thing I thought was really interesting while I was doing this work, I think it was in St Helena, when they

were doing tagging tuna, they were also, there were some opportunities, for local communities to also go out and do tuna-tagging. Even that opportunity to understand what the scientists were looking at, and also how the science is done, helps the interpretation of that research later down the track, once the results come in, and the policies are being formulated. If people have had an opportunity to understand “Oh this comes from that complex tagging and satellite tracking process that I was part of”, it helps people make sense of it a bit.

Jodey Peyton: Thank you. This ties in really well with what we were talking about in the poster session yesterday and, over the last few days, in sharing experiences with people, the co-creation of a project, of getting people involved from a really early stage to understand what is happening, and to understand the data.

Paul Edgar: Are some satellite-data available on a regular enough basis, e.g. daily, to carry on effectively real-time environmental monitoring of events such as storms or volcanic eruptions?

Jasper Montana: I don't know the specific context we are talking about here. Increasingly, satellite-data are being made available. Some are available under subscription (you have to pay to access), and other forms of data are available free, depending on the providers. Increasingly, there is more and more information available. You need to have the technical capacities to be able to interpret, download, process and represent it. I think that AI again detaches the human a little bit out of some of the data-collection and -analysis because you can actually automate remote sensing of the interpretation of images to an AI system. The major lesson is: let's keep the person, the people, in the picture and always recognise that we need to take account of: what are the other social factors that might be missing from the satellite remote sensing, but also what are the effects on people if we are automating or using remote sensing to understand the environment?

Jodey Peyton: If any GIS people are out there that might know the answer to the question about Sentinel data which Paul Edgar was asking about, maybe they could put that in the chat.

Thank you Jasper, that was really useful.

Andy Pearce: Thank you Jodey, and thank you once again Jasper; that was a really thoughtful. Keep people in the picture, I shall remember that. It seems simple, but it is clearly very important indeed.

Jodey Peyton: <https://dataspace.copernicus.eu/data-collections/copernicus-sentinel-data/sentinel-2>

Katie Medcalf: Sentinel pass about ever 3-6 days, so near real-time data are possible. However, in the Caribbean, the clouds can cause issues on Sentinel 2

Samuel Pike: Sentinel-1 imagery (radar, looks at things like vegetation-texture/structure) passes every ~6 days.

This can 'see through' clouds (not massive storms though). It can be used also to map volcanic surface-deformation and lava-flows. It is quite tricky to process and interpret though.

25 years of collaboration: combining field data, genetics, seed biology, and GIS for conservation planning

Thomas Heller (Royal Botanic Gardens Kew) & Nancy Woodfield Pascoe (National Parks Trust of the Virgin Islands)



Thomas Heller
Nancy Pascoe



Heller, T. & Pascoe, N.W. 2025. 25 years of collaboration: combining field data, genetics, seed biology, and GIS for conservation planning. pp 158-164 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

With over 25 years of collaboration between the National Parks Trust and Kew, there is a huge body of data on plant distribution across the BVI. With technological advances in GIS, remote sensing, seed biology, and DNA sequencing, the ways that this data can inform on-the-ground conservation is greatly expanding. From Important Plant Areas, phylogenetic diversity, species distribution modelling, genetic fingerprinting, and identification of ecosystem services for climate change mitigation, this presentation will give an overview of the range of tools used in conservation planning in the BVI.

Thomas Heller (Royal Botanic Gardens Kew) & Nancy Woodfield Pascoe (National Parks Trust of the Virgin Islands)

In this presentation, we wanted to take a broad look at the range of technologies and approaches that have been used in plant-diversity research in the 25+ year collaboration between the National Parks Trust of the Virgin Islands and the Royal Botanic Gardens, Kew. We wanted to reflect on how advances in techniques become particularly powerful when paired with a solid foundation of field-data built up over this time. The presentation is structured around the approaches, rather than the projects in which they were used.

The Virgin Islands are part of the Caribbean Biodiversity Hotspot – a region with an exceptional concentration of endemic vascular plants that have experienced also huge loss of habitat. Though historically visited by botanists collecting herbarium specimens from across the region, the BVI were still relatively understudied and much of that knowledge not easily accessible to those responsible for conservation-practice in the BVI. This was reflected in the existing protected areas, with the conservation of plant-diversity tending to be underrepresented.

The National Parks Trust of The Virgin Islands (NPTVI) was established under the National Parks Ordinance of 1961 as a statutory body, responsible for parks and protected areas. Our mission is to “preserve and manage designated natural and cultural areas in order to improve the quality of life in the British Virgin Islands.”

Kew’s mission is “to understand and protect plants and fungi, for the wellbeing of people and the future of all life on Earth”. One of our five commitments in our “manifesto for change” is to “deliver science-based knowledge and solutions to protect biodiversity and use natural resources sustainably”. Kew has had a dedicated UKOTs team for over 20 years.

Documenting plant distributions – vital baseline data

The first Darwin collaboration between NPTVI and Kew looked at plant inventories inside and outside protected areas in Gorda Peak National Park and Anegada, and created a vegetation map for the first time for Anegada. It involved also training people from different Government Departments to consider plant-diversity in their work. So, we invited Town Planning, Agriculture, Conservation and Fisheries and, of course, the NPTVI staff to start learning about the BVI’s plants.

Thus, through a series of Darwin and Darwin Plus projects from 1998 to 2015, involving several partners including the BVI Government, as well as colleagues at the University of Puerto Rico and US Fish and Wildlife, over 6000 plant occurrence records were made, supported by herbarium-vouchers and/or photographs. Further field-surveys in the years since have continued to fill spatial and taxonomic gaps, almost doubling the point-data in the



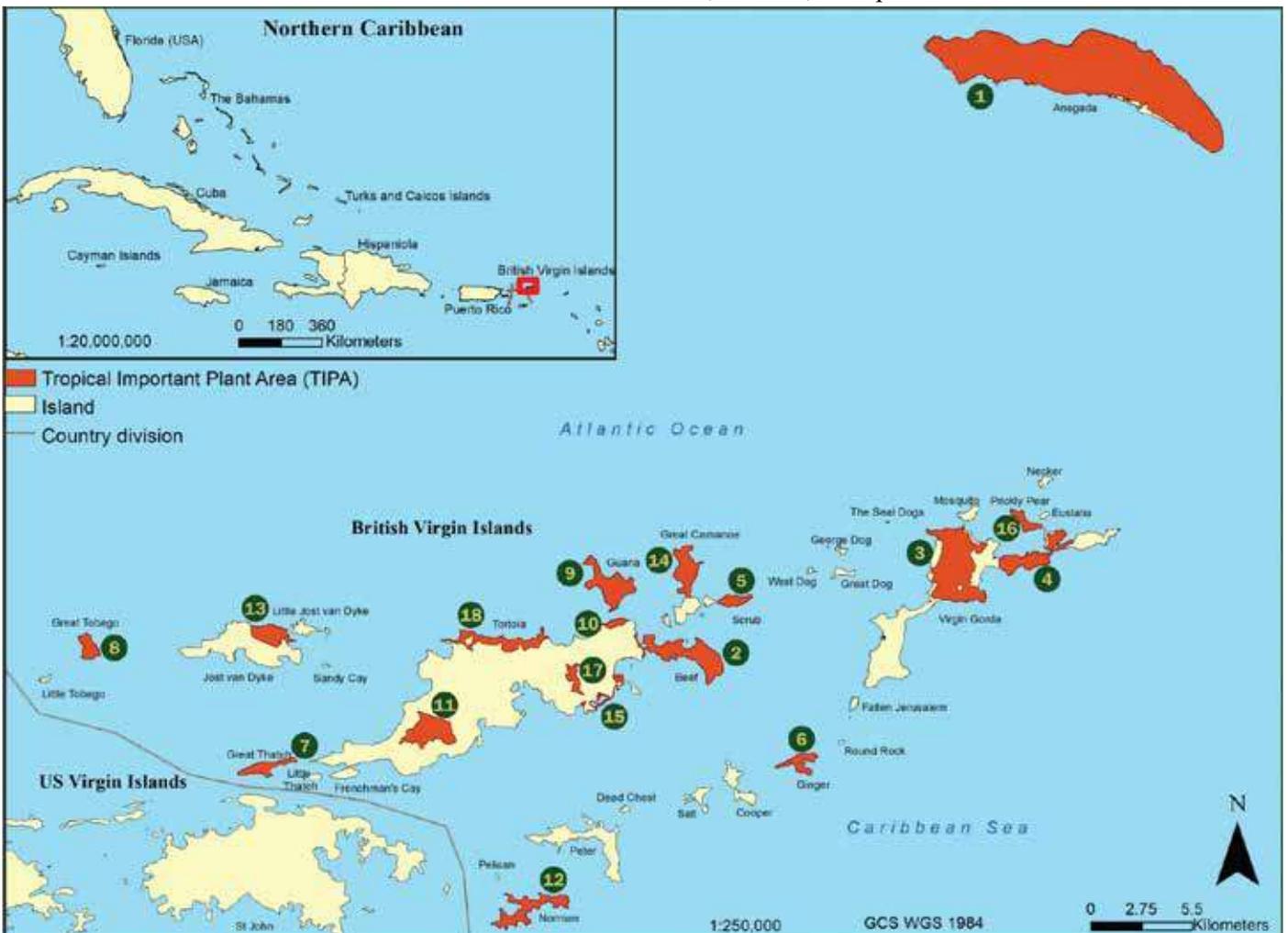
Map of over 6000 plant records made 1998-2015 from across the BVI

IUCN Red List assessments and Tropical Important Plant Areas (TIPAs)

Another big area of work has been undertaking global extinction-risk assessments and identifying a network of globally important sites for plants in the BVI, in many ways a synthesis of the field-data. IPAs are

not a legal designation, but a process to help prioritise sites, habitats, and species for conservation. 18 sites were

database. This has provided the foundation for much of the following work.



Network of 18 TIPAs of the BVI

- 1 Anegada Island
- 2 Beef Island and the Channel
- 3 Central Virgin Gorda
- 4 Eastern Virgin Gorda
- 5 Eastern Scrub Island
- 6 Ginger Island
- 7 Great Thatch Island
- 8 Great Tobago Island
- 9 Guana Island
- 10 Hawks Nest
- 11 Mount Sage
- 12 Norman Island
- 13 Northeastern Jost van Dyke
- 14 Northern Great Camanoe
- 15 Paraquita Bay and Bar Bay
- 16 Prickly Pear Island
- 17 Sabbath Hill
- 18 Tortola North Shore

Map showing the network of 18 Tropical Important Plant Areas in the BVI

identified based on threatened species, botanical richness, and threatened habitats (<https://natureconservation.pensoft.net/article/73544/>). More than 30 IUCN Red-List assessments were completed for the TIPAs process. Current project activities include global assessments for the entire native flora, over 700 species. This would not be possible without a robust dataset of plant-records.

We have used all of these plant data to inform protected-area planning. After identifying the TIPAs we had to narrow these down into the areas that we would recommend for national-park status as some areas were too big and encompassed entire islands in some cases. We worked with an MSc student from Copenhagen University using MARXAN software to select the best areas (<https://natureconservation.pensoft.net/article/116844/>). We followed this same approach for marine-protected-area planning years ago and worked closely with the US-based organisation The Nature Conservancy, and they were very willing to provide assistance and advice for this terrestrial-protected-area planning exercise.

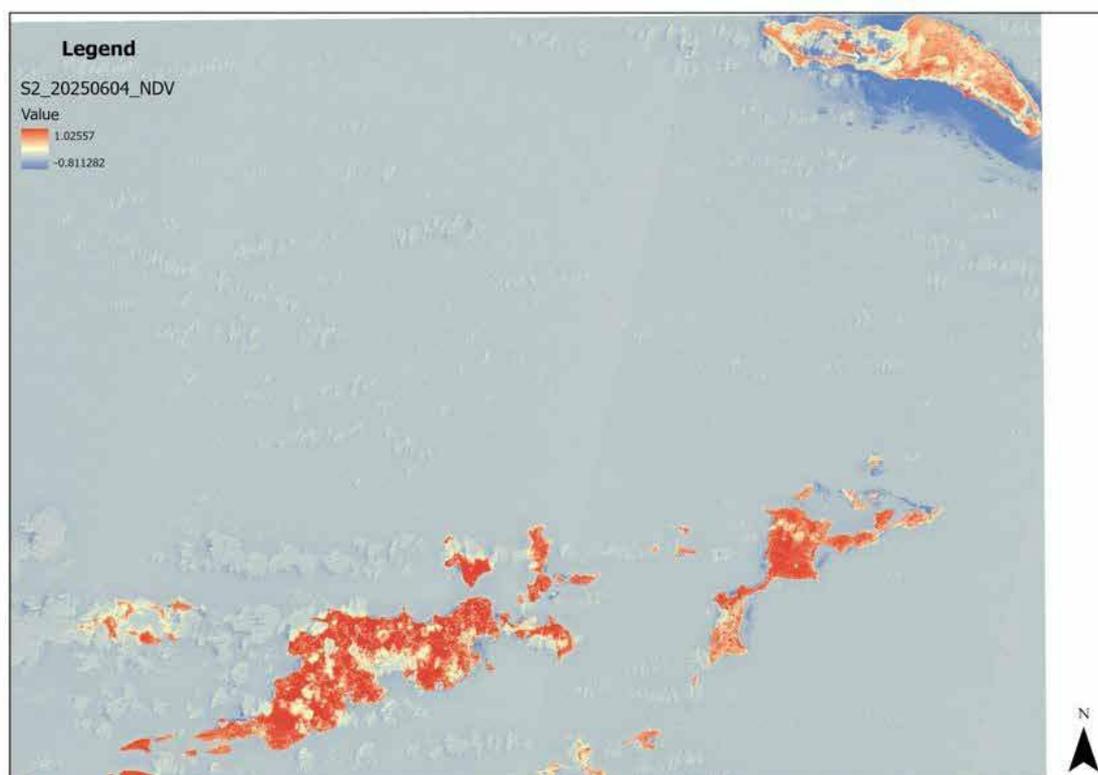
As the BVI consists of 60 islands and cays, we divided the country into 3 geographic areas and set our conservation features and targets. This included 34 threatened plant-species and 5 threatened habitats, and then we ran the MARXAN software. The reason for dividing the country was to prevent bias to the island of Anegada, which has the most plant-data and highest biodiversity-value. This builds resilience into our protected-area network by spreading out the risk if something impacts one of the islands.



Using MARXAN to incorporate TIPAs data into protected areas planning

Using remote sensing data

NPTVI’s partnership with Environment Systems Ltd has enabled the use of remote sensing data (predominantly Sentinel 2) to inform conservation planning and management. Beyond our shared Darwin Plus projects, we use Environment Systems Ltd data-sharing services to receive regular processed map-outputs such as NDVI, to give us regular updates on vegetation-health and drought-induced stress. This can inform fieldwork plans to ground-truth areas that stand out.



NDVI remote sensing data can be an invaluable insight into forest-health

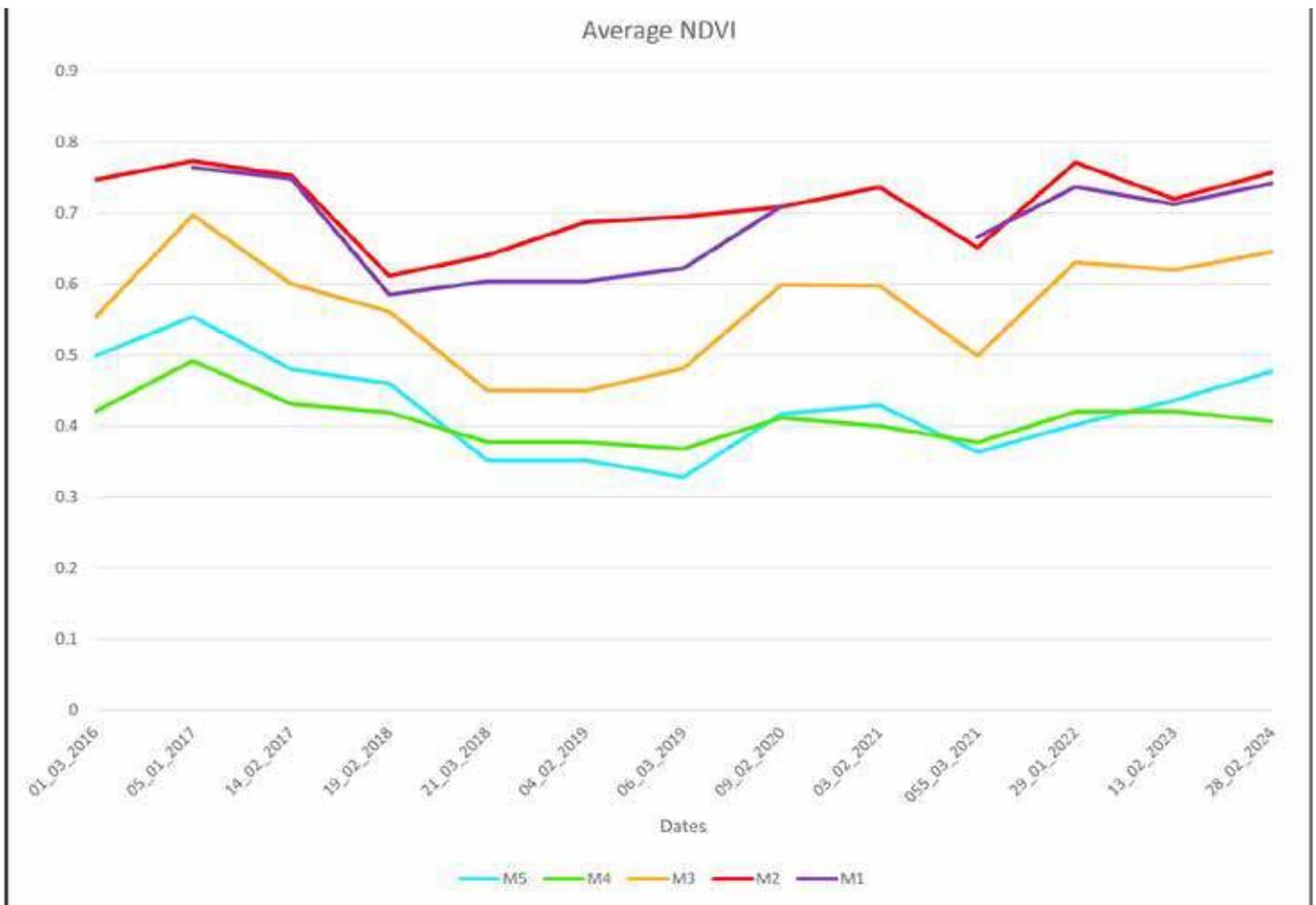


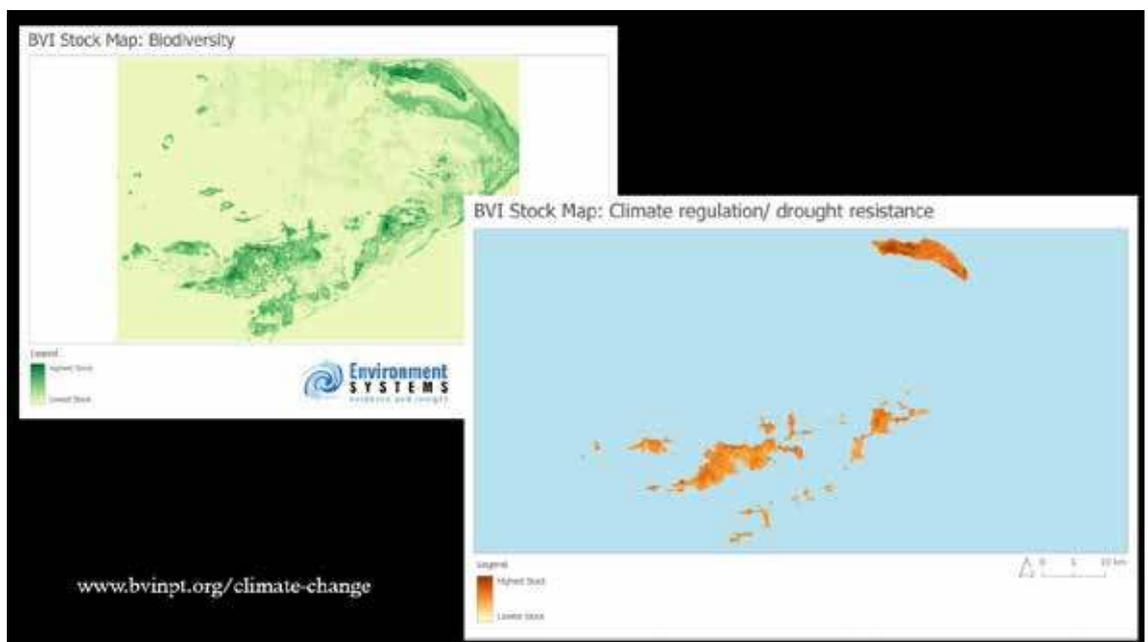
Chart showing the NDVI values of vegetation survey sites, averaged for each of 5 vegetation classes during the dry season 2016-2023

However, using NDVI as an indicator must be fully understood in the context of individual habitats and vegetation-types with a baseline-range created. Identifying the natural variation of an island or habitat’s NDVI through different seasons where rainfall and temperature changes are critical.

NPTVI has worked with Environment Systems Ltd using their SENCE tool to create a series of maps, including biodiversity stock maps to inform climate-change modelling and the associated impact on the BVI. SENCE stands for Spatial Evidence for Natural Capital Evaluation and it provides an up-to-date status of habitats and land use. The biodiversity stock maps were created using remote sensing data, our plant data and other biodiversity data that we have in the BVI and valuing the

Remote sensing and identifying ecosystem services

An example of the use of these kind of data from recent Kew MSc student Gaia Caravella: combining data from Rapid Botanical Surveys with NDVI across sites in the BVI in the aftermath of Hurricane Irma to understand habitat resilience, and how this relates to differences in vegetation composition (*image above*).



NPTVI and Environment Systems Ltd biodiversity stock maps as part of the SENCE tool

ecosystem-services that these areas provide.

We were then able to create maps that show the best areas for climate-regulation and drought-resistance as healthy natural ecosystems help to balance our climate by regulating temperature through the presence of trees and vegetation. They also promote rainfall, whilst helping to retain and channel rainwater into the soil, reducing flash-flood events and reducing erosion.

Conservation in the age of genomics

Molecular methods have been previously used to study two BVI threatened species: *Varronia rupicola* (phylogenetic analysis of ITS and trnL-trnF DNA sequences, population genetics using microsatellites, Martin Hamilton) and *Vachellia anegadensis* (AFLP, Sara Barrios). Newer target-capture approaches (Hyb-seq) have been a huge advance in genetic studies: able to generate sequence data for hundreds of genes, sourced from historical material (herbarium-specimens), as well as purpose-collected tissue-samples. These have been used in resolving broad-scale phylogenetic relationships, species delimitation, as well as a source of infra-specific population genetic data.

These have already been used to resolve taxonomic uncertainty in *Zanthoxylum thomsonianum* and patterns of genetic diversity across populations in the Virgin Islands – useful information in formulating a conservation plan. (This work is being prepared for publication.)

Current project activities aim to sequence all native and non-native angiosperms in the BVI. These data are used to construct a ‘tree of life’ for the native plants, giving insights into phylogenetic diversity in the BVI, as well as a reference library for DNA fingerprinting in the identification of invasive species.

GIS and Species Distribution Modelling

A further approach that such a rich data-set (alongside regional data from GBIF) enables, when combined with increasingly sophisticated analytical methods, is Species Distribution Modelling. Incorporating spatial data such as climate (temperature, rainfall) and physical (elevation,

slope, aspect), it is possible to model the suitability of habitats for plant-species based on recorded locations and, with these models combined, maps of predicted species-richness can be generated. Alongside Red-List assessments and phylogenetic diversity, these provide a suite of metrics on which to base conservation decision-making.

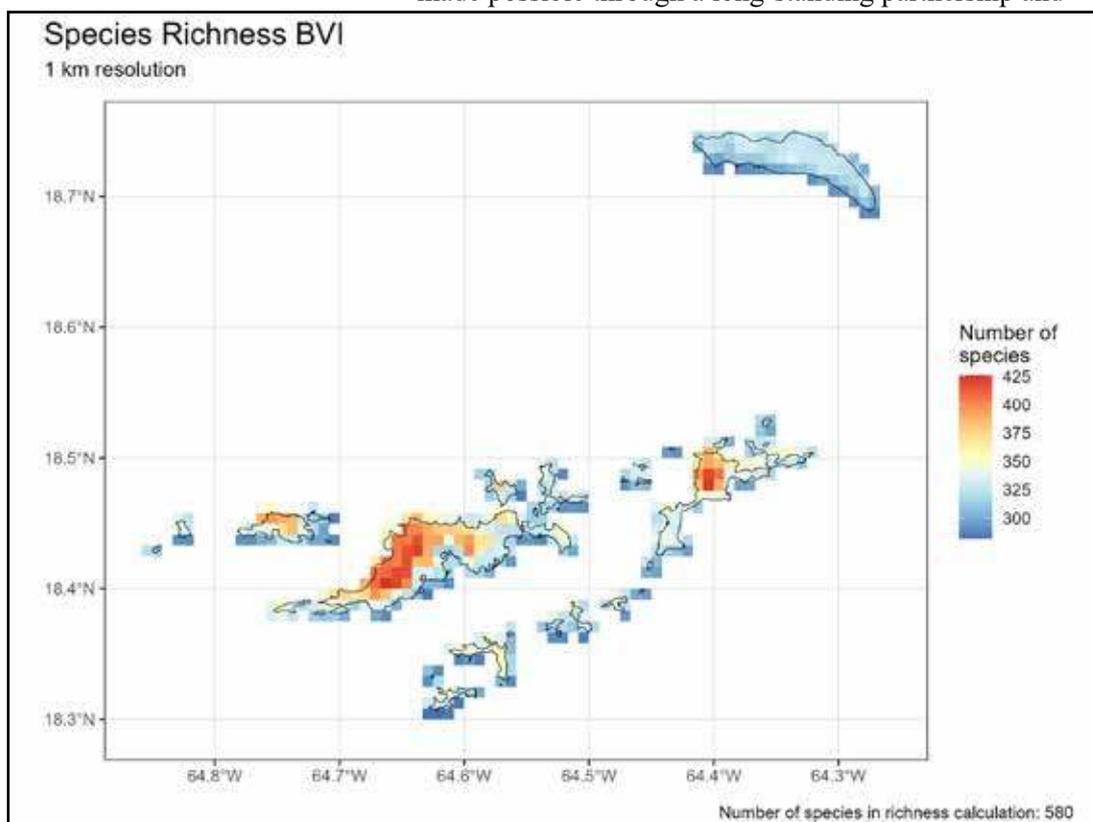
Seed biology – habitat restoration and invasive species

Seed-science has been a part of our collaboration for much of this time, with many of BVI’s priority species collected and banked as part of the Millennium Seed Bank Partnership.

The application of seed-science is going further, applying it to invasive species and habitat-restoration. In parallel with the eradication of goats and invasive plant-species from Great and Little Tobago National Parks, we are investigating what plants are present in the soil seed-bank – both to understand possible future threats from invasive plants as well as natural regeneration from native species. Soil-samples are sent to Kew’s Quarantine House and sown. This makes use of advances in genomics, as we can identify seedlings by genetic fingerprinting with reference to a genomic reference-library of all native and non-native angiosperms.

Future directions

We hope that this presentation gives you a sense of how advances in technology in a range of fields have opened up new approaches for understanding the environment, made possible through a long-standing partnership and



Draft species richness map of the BVI based on species distribution models



NPTVI's Simeon Cabral working with soil-samples from Great Tobago National Park in Kew's Quarantine House

the data collected through many weeks of field-work. It has also been exciting to see what building on progress through successive projects with different partners brings, as the remote sensing and GIS work with Environment Systems Ltd illustrates.

We use all of this to help us to determine what areas in our small islands provide the most value and should be given long-term protection. The genetic work will help to inform reforestation-activities and guide landowners in the BVI as to what species to protect and value. This is in a context where approximately 90% of land in the BVI is privately owned.

There are still outstanding taxonomic questions to address, along with several species which would benefit from conservation genetic studies.

In summing up, we are using all of this information to help the BVI to make informed decisions for development-planning, climate-change mitigation and biodiversity-protection.

Acknowledgements

We would both like to thank all our colleagues at NPTVI and Kew, both past and present, whose hard work this presentation showcases. In particular, we note those working on current Darwin Plus projects: Dr Cassander Titley O'Neal, Keith Grant, Creightanya Brewley, Dequan Leonard, Glendon Gregg, Chane Smith, Sara Barrios, Dr Juan Viruel, Dr Rosemary Newton, Freya Cornwell-Davison, Elloise Budd, Dr Carolina Tovar, Marcella Corcoran, Dr Felix Forest, Amy Barker, Dr Martin Hamilton and Dr Colin Clubbe. Also thanks to the Darwin Initiative and HSBC for funding much of this work over the past 25 years.

Q&A

Andy Pearce: Thank you very much indeed, Tom and Nancy, for your excellent presentation. Thanks very

much for that, and crisp too, keeping us on time. Lovely pictures, you are probably used to it, but when you are sitting here in a rather muggy and grey Kent, the views of the British Virgin Islands are really lovely.

Jodey Peyton: A really lovely talk, and really inspiring to see what a long-term collaboration can bring. Thank you for that. Some of the excellent work on BVI being discussed is at:

<https://www.kew.org/science/our-science/projects/tropical-important-plant-areas-british-virgin-islands>

Alison Copeland (from Bermuda): How did you identify your forest types for BVI?

Tom Heller: In an MSc project by Kew MSc student Gaia Caravella, those forest-types were determined directly from the rapid botanic-survey data. We did botanic surveys at 105 different sites across the main islands of BVI and she conducted a cluster-analysis on those and it really quite well identified a number of principal vegetation-types. There were three main clusters that represented coastal vegetation, dune-vegetation, the Caribbean dry forest, and moist or evergreen forest at higher elevations. The results were also able to pick out some sub-types, and reflects what we understood from the ground and previous vegetation mapping work. What we have identified is the next step in directly relating those clusters to the botanic survey-data and vegetation-mapping which has been done, a lot of it based on remote-sensing data.

Katie Medcalf (Environment Systems): Tom, do these amazing genetic techniques give any insight on what has been historically present, Thinking back through the huge land-use changes on the islands through the last 3-400 years?

Tom Heller: That is a really interesting question. There have definitely been some interesting insights from the population-genetic work. So, for example, Martin Hamilton's work on *Veronia rupicola* which, in the Virgin Islands, is found only on Anegada, but is also found in dry areas of Puerto Rico. At one time when sea-levels were much lower, Puerto Rico and the Virgin Islands were connected as one land-mass and the population genetics reflects that history. My own work on the St Thomas Prickly Ash, which I am in the middle of writing up at the moment, I think has been quite interesting in that it is a species that is very rare in the Virgin Islands, restricted to very small patches of good-quality forest and has much higher levels of genetic diversity than you might otherwise expect. My thinking is that a lot of those trees are quite long-lived and pre-date a lot of the habitat-change that has occurred in the Virgin Islands, so in some ways represent a genetic debt; they are the repository of really important genetic diversity. If we do not take action to conserve them, we will lose that genetic diversity quite quickly.

Katie Medcalf: That's really interesting; thanks Tom.

Graham Makepeace-Warne (Manx WT): Can genetic data give any clues to bio-abundance?

Tom Heller: If you mean in terms of abundance rarity, or abundantly particular species, I don't know; it is not something I have done myself. I know lots of people are working on eDNA, particularly in the marine environment; this is not something of which I have particular experience. The aim of the population-genetics work we are doing, the phylogenetic diversity, is to be able to identify which species contribute most to phylogenetic diversity, so whether particular species represent particularly distinct lineages. We do a lot of work to prioritise species on threat-status and their rarity and their function in the ecosystem phylogenetic diversity as an extra element of how evolutionary important or how evolutionary unique they are.

Jodey Peyton: It is a fascinating topic. Thinking around the neighbouring islands, and the links especially with the US Virgin Islands, do you get to work much with the US Virgin Islands, either of you?

Nancy Pascoe: Yes, we do have good connections with our colleagues in the US Virgin Islands and Puerto Rico. Through many of our projects over the years, we have tried to integrate more. As Tom just said, the Puerto Rico Bank includes the US and British Virgin Islands and Puerto Rico, so it is natural that we should all want to collaborate. Things that might be abundant on Anegada are quite rare in Puerto Rico. So understanding, particularly when you are doing Red-List assessments, you really need to understand that. In practice and field-work that is coming up, with Kew coming here in November, there is a plan to take a trip over to the US Virgin Islands. They have different geographical and political restrictions, especially if they are federal workers, so there are some complications of working but we plan ahead. US Fish and Wildlife are always keen and interested, and an amazing resource that are helping to build capacity in our organisation too. The one thing we want to say with all this work and our relationship with Kew, is it's always been very high priority to build capacity amongst our staff. I know Jodey met one of our staff at Kew when she was recently there, and we have just got another staff-member there. Through the *People and Skills* Darwin grant we just managed to get, we are going to be training a lot of our staff by sending them to Kew. The relationship is really important because it is not just Kew coming here doing work for us; it's with us, and that's really important, and that is why we have had such a great long-standing relationship.

Tom Heller: I don't think I have acknowledged Colin Clubbe's role in all of this. Obviously his work, right from the beginning of the relationship with Kew and the National Parks Trust, is really key to that. He is still there and working with the team and supporting us.

Jodey Peyton: I think lots of people owe lots of thanks to Colin, who does an amazing job and is an incredible

advocate.

Roland Lines: Can image-analysis of site-photographs be used to complement rapid site-surveys?

Tom Heller (to Nancy Pascoe): One of the really interesting ones is the example you were highlighting on Tobago; so you have got photos of visits you've made before Hurricane Irma. Over time, those have been really informative, haven't they?

Nancy Pascoe: Yes: time-sequences of images on that particular site where we are doing invasive-species removal, I have been at the Trust for 27 years, so I've got photos over a 27-year period. Also, Tom, from the rapid botanic surveys we are doing, we have hundreds if not thousands of photos. We took a picture of every single plant-species that was documented. And then what also helped was an inventory identification-guide. So we definitely have great photos. Being able to manage and identify the species, which is again where our colleagues in Puerto Rico have really helped us because they have a lot more experience with the moist tropical forest and they have been a great resource in helping with identification of species that we might not have known in the field.

Catherine Wensink: Do you use iNaturalist Nancy?

Nancy Pascoe: No, I don't tend to use iNaturalist. I don't need to because I have WhatsApp chat with Kew and my Puerto Rico colleagues. So, in real time, I could be out in the field and if I don't know what something is I can post the picture and literally within 5 minutes, once I have a good connection, either one of our botanists in Puerto Rico or somebody from Kew, depending on the time difference, has helped identify it. So I don't need iNaturalist. I've got iKew!

Tom Heller: We get very competitive, so there is usually a rush of who can come in with the answer first.

Jodey Peyton: Thank you very much, everybody, and thank you for the great questions in the chat as well.

Updated population estimates for the Endangered Northern Rockhopper Penguin *Eudyptes moseleyi* at Tristan da Cunha in the South Atlantic

Antje Steinfurth (RSPB) *et al.*



Antje Steinfurth

Steinfurth, A., Sherley, R.B., Glass, T., Bell, C., Dilley, B.J., Davies, D., Johaadien, R., Le Bouard, F., Nydegger, M., Ratcliffe, N., Bourgeois, K., Bradley, J., Cleeland, J., Daling, R., Dromzee, S., Dyer, B., Ferreira, C., Fox, C., Glass, S., Green, I., Green, K., Green, M., Jones, C.W., Kinchin-Smith, D., Kuntz, W., Lawrence, K., Louw, H., McClelland, G., Parker, G.C., Perold, V., Risi, M.M., Repetto, J., Repetto, R., Rexer-Huber, K., Schofield, A., Stevens, K.L., Swain, G., Taylor, C., Visser, P., Whitehead, O., Whittle, A., Witcutt, E., Cuthbert, R., Robson, B., Ryan, P.G. & Bond, A.L. 2025. Updated population estimates for the Endangered Northern Rockhopper Penguin *Eudyptes moseleyi* at Tristan da Cunha in the South Atlantic. pp 165-169 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

Tristan da Cunha, in the central South Atlantic, is a globally important breeding site for the Endangered Northern Rockhopper Penguin *Eudyptes moseleyi*, supporting most of the global population. However, the lack of recent breeding-pair estimates for the South Atlantic population has hindered reassessment of the species' conservation status.

Using hierarchical state-space modelling of counts from Gough Island (since 2008) and the Tristan da Cunha archipelago (since 2010), our initial analysis suggest 295,400 breeding pairs (95% CI: 293,830–296,970), representing ~96% of the global population, with Middle Island holding the largest population (97,000; 95% CI: 96,790–97,300), followed by Gough (88,400; 95% CI: 87,620–89,180), Inaccessible (73,400), Nightingale (28,600; 95% CI: 28,300–28,900), and Tristan (8,000). A reliable trend could be calculated only for Gough Island, where monitored colonies indicate an increase of ~6% per year between 2008 and 2020.

Previous counts may have underestimated true population sizes, and comparisons should be made cautiously given methodological differences. Nevertheless, major changes in population-size would probably have been detectable. While our preliminary results do not indicate strong evidence for substantial shifts in breeding-pair numbers, we recommend that these estimates are considered as an updated assessment of the current South Atlantic breeding population, rather than direct evidence of change from earlier counts.

Our study emphasises the need for pragmatic monitoring protocols and highlights the importance of survey-timing for a highly synchronised breeding species. We recommend continuing monitoring through annual censuses of a subset of selected breeding colonies to track population trends, complemented by comprehensive island-wide censuses every ten years to ensure that changes observed at annually monitored colonies are representative of the regional population. This approach will provide a robust framework for future conservation assessments, including the IUCN Red List re-evaluation.

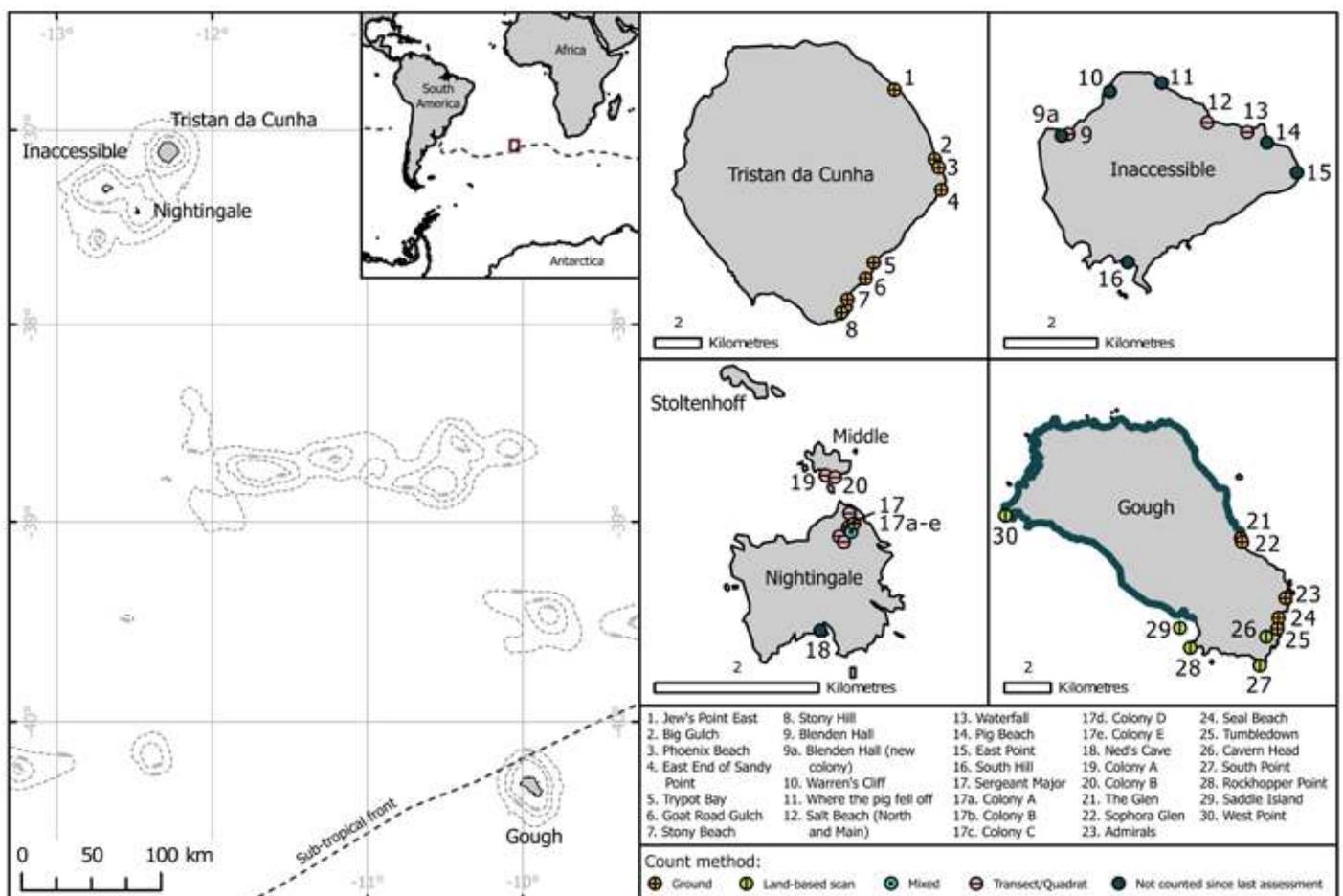
Antje Steinfurth^{1,2}, *Richard B. Sherley*^{3,4}, *Trevor Glass*⁵, *Chris Bell*¹, *Ben J Dilley*², *Delia Davies*², *Rukaya Johaadien*², *Fabrice Le Bouard*¹, *Mara Nydegger*¹, *Norman Ratcliffe*⁶, *Karen Bourgeois*¹, *Jan Bradley*¹, *Jaimie Cleeland*^{1,6}, *Roelf Daling*¹, *Sylvain Dromzee*¹, *Bruce Dyer*⁷, *Carmen Ferreira*¹, *Derren Fox*¹, *Simon Glass*⁵, *Ivan Green*⁵, *Kirsty Green*⁵, *Matthew Green*⁵, *Christopher W. Jones*¹, *David Kinchin-Smith*¹, *Werner Kuntz*¹, *Kate Lawrence*¹, *Henk Louw*¹, *Greg McClelland*¹, *Graham C. Parker*^{1,8}, *Vonica Perold*¹, *Michelle M. Risi*¹, *Julian Repetto*⁵, *Riaan Repetto*⁵, *Kalinka Rexer-*

Huber^{1,8}, Andy Schofield¹, Kim L. Stevens^{1,2}, George Swain⁵, Chris Taylor¹, Paul Visser¹, Otto Whitehead², Alex Whittle¹, Emma Witcutt¹, Richard Cuthbert^{1,9}, Brad Robson¹, Peter G. Ryan², Alexander L. Bond^{1,10} (1 RSPB Centre for Conservation Science, David Attenborough Building, Pembroke Street, Cambridge, CB2 3QZ, UK; 2 FitzPatrick Institute of African Ornithology, University of Cape Town, Rondebosch 7700, South Africa; 3 Environment and Sustainability Institute/Centre for Ecology and Conservation, University of Exeter, Penryn, TR10 9FE, UK; 4 Department of Biodiversity and Conservation Biology, University of the Western Cape, Bellville 7535, South Africa; 5 Tristan Conservation Department, Edinburgh of the Seven Seas, Tristan da Cunha, TDCU 1ZZ, South Atlantic; 6 British Antarctic Survey, High Cross, Madingley Road, Cambridge, CB3 0ET, UK; 7 Department of Environment, Forestry and Fisheries, PO Box 52126, Cape Town 8000, South Africa; 8 Parker Conservation, Karitane, New Zealand; 9 World Land Trust, Blyth House, Bridge Street, Halesworth, IP19 8AB, UK; 10 Bird Group, The Natural History Museum, Tring, HP23 6AP, UK)

The Northern Rockhopper Penguin *Eudyptes moseleyi* is the most northerly breeding species, restricted to just seven islands between 37°S and 40°S: five in the Tristan da Cunha group in the central South Atlantic, and Iles Saint-Paul and Amsterdam in the southern Indian Ocean (BirdLife International 2020). Despite the remoteness of these islands, numbers declined by over 90% between the late 19th and early 20th centuries, including a decline of over 50% in the Atlantic population between 1975 and 2005 (Cuthbert *et al.* 2009), prompting the species' IUCN Endangered status in 2008 (BirdLife International 2020).

Overall, the global population is thought to be in continued decline due to the species' restricted breeding

range and vulnerability to multiple and ever-increasing threats, both terrestrial and marine (BirdLife International 2020). These include shifts in oceanographic conditions (Guinard *et al.* 1998; Green *et al.* 2023), as well as island-specific pressures such as disease outbreaks (Jaeger *et al.* 2018; Barbraud *et al.* 2021), habitat degradation (Lesage *et al.* 2024), chronic and catastrophic oil pollution (Ruoppolo *et al.* 2013), and competition or predation from the expanding Subantarctic Fur-seal *Arctocephalus tropicalis* population in the South Atlantic (Bester *et al.* 2019, 2020). The magnitude and mechanisms of these impacts, however, remain poorly quantified and uncertainty over current population numbers in the South



Northern Rockhopper Penguin breeding sites in the South Atlantic



Northern Rockhopper Penguins are rated as Endangered by IUCN.



Above: Rockhopper breeding site in the open
Below: Rockhoppers breeding in tussock



Atlantic hinders reassessment of the species' IUCN Red-List status and hampers evaluation of conservation-effectiveness.

To address this issue, our study aimed to update population estimates and, where possible, provide trends at the Northern Rockhopper Penguin's South Atlantic breeding sites. We compare our results with the most recent published estimates from the Tristan da Cunha group (Cuthbert *et al.* 2009; Robson *et al.* 2011) to evaluate potential changes in population-size, review the census-methods, and provide recommendations to strengthen future monitoring protocols, ensuring improved tracking of this globally threatened species.

The UK Overseas Territory of Tristan da Cunha comprises the Tristan da Cunha archipelago and Gough Island, approximately 380 km south-southeast. Northern Rockhopper Penguins breed at five islands: the three main islands of Tristan da Cunha, Inaccessible, and Nightingale, along with its satellite islet Middle, as well as at Gough Island, the only breeding site for this species south of the sub-Tropical front.

Like all *Eudyptes* penguins, Northern Rockhopper Penguins are highly synchronous breeders with defined parental shifts. In the northern islands, they return to their breeding sites in late July–early August; eggs are laid in September and incubated for 32–34 days. Chicks hatch from mid-October and fledge from the end of December. On Gough Island, breeding is later by 3-4 weeks, with eggs laid in October and chicks fledging in January-February (Cuthbert 2013).

How to count a penguin?

Survey methods are chosen for each site according to colony extent, habitat and topography. Regardless of count-method, the timing of surveys is of the essence and aims to coincide with peak egg-laying when breeding pairs can be counted at defined nest-sites, eggs have been laid and ideally only a minimum of nests has failed (i.e. at the end of September in the northern islands and in the second half of October on Gough Island; Cuthbert 2013).

Penguins on Gough and Tristan breed along the islands'

rocky shores. Here, total ground-counts of breeding pairs are conducted on foot by walking slowly through or along the perimeter of the colony and recording all active nests, carefully checking around boulders, in crevices and among dense vegetation.

For colonies that are inaccessible from land, and with no suitable landing sites from the sea, for example Rockhopper Point on Gough Island, scan counts are conducted from a vantage point with two observers independently tallying breeding birds using binoculars and click-counters. Since 2014, the colony at Rockhopper Point on Gough has been photographed from the same vantage point to produce high-resolution images. Incubating birds are then counted using the software iTag (Viquerat 2015). In both methods, only “apparently-incubating” birds, those tightly sitting in a posture indicative of incubation, are included.

Penguins on Nightingale, Middle (or Alex) and Inaccessible breed in dense, 2 m-high *Spartina arundinacea* tussock grass, which dominates most of these islands and prevents colony ground-counts. The number of breeding pairs for each sub-colony is estimated from the colony-area and mean nest-density. Nest-density (nests m⁻²) is derived from transect-counts, in which observers walk slowly along a rope and record all active nests with >50% of the nest-bowl within 1 m either side of the transect line.

To produce robust population-estimates, we summarised colony-counts since their last published assessments, i.e. post-2006 for Gough, and after 2009 for the northern islands (Cuthbert *et al.* 2009; Robson *et al.* 2011) and accounted for several factors that could influence the

availability and detectability of nests during surveys, including breeding phenology, daily nest-survival, survey-date, and count-method (accuracy and precision).

Once island-counts had been processed and yielded a single year of new population-estimates (Tristan and Inaccessible), the adjusted population count (N') was used to generate the estimate for the respective island. For islands with time-series of population-estimates (Nightingale, Middle and Gough), we applied hierarchical state-space models (SSM), following Veleviski *et al.* (2015).

Despite standardised survey-protocols, the review of the database revealed that data for some colonies or entire years were often missing, or of poor quality, due to surveys being cancelled or conducted too late in the breeding season, sometimes as late as the crèche stage. For a highly synchronous breeder, such as the Northern Rockhopper Penguin, late surveys introduce substantial uncertainty, as the proportion of active nests declines as the season progresses (Williams & Stone 1981).

While there is still some fine tuning to the analysis to be done, our initial analysis suggest 295,400 breeding pairs (95% CI: 293,830–296,970) for the South Atlantic, representing ~96% of the global population, with Middle Island holding the largest population (97,000; 95% CI: 96,790–97,300), followed by Gough (88,400; 95% CI: 87,620–89,180), Inaccessible (73,400), Nightingale (28,600; 95% CI: 28,300–28,900), and Tristan (8,000). A reliable trend could be calculated only for Gough Island, where monitored colonies indicate an increase of about 6% per year between 2008 and 2020.

Although our preliminary results do not suggest a substantial change in breeding-pair numbers in the South Atlantic population, comparisons with previous estimates (Cuthbert *et al.* 2009; Robson *et al.* 2011) should be approached with caution due to key methodological differences. We therefore recommend that our population-estimates be interpreted as a reassessment of the current South Atlantic breeding population, rather than as direct evidence of changes relative to previous counts.

Conclusion

Our study emphasises the need for pragmatic monitoring protocols and the importance of survey-timing for accurate population-counts of a highly synchronised breeding species. To achieve this, surveys must be fit-for-purpose, i.e. appropriately designed and achievable with the resources and capacities available. Without consideration of purpose (what are we monitoring; why are we monitoring it; do we want population estimates and/or trends) and technical details (methods, sample-sizes, spatial distribution of monitoring points), monitoring is ineffective, and time and resources will be wasted. Incorrect conclusions could lead to misplaced priorities in the species' conservation, in the assessment

of the species' conservation status, or in the effectiveness of actions, potentially leading to misallocation of resources and interventions.

As these are globally important breeding sites for the Northern Rockhopper Penguin, we recommend the continuation of a monitoring programme but, instead of aiming to achieve island-wide counts on an annual basis, annual efforts should focus on a subset of selected breeding colonies to track population-trends, complemented by comprehensive island-wide censuses every ten years to ensure that changes observed at annually monitored colonies are representative of the regional population.

This annual-plus-10-yearly approach will provide a robust framework that will contribute to the identification of regional and global conservation-priorities for this species and provides information necessary for its IUCN Red-List re-evaluation.



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Dr Harry Marshall

Laure Cugnière: Thanks, Harry

Jodey Peyton: Thank you very much. A great talk. I think Laure has a talk later on which would be alluding to that kind of work; so that might be interesting for you Harry.

Q&A (addressed by Dr Harry Marshall)

Andy Pearce: Thank you very much, Antje, I thought it was a fascinating presentation. Very encouraging to see those numbers, with all the caveats you rightly gave.

Jodey Peyton: Thank you from me for the pictures lovely baby penguins. I know it's not very scientific but very sweet.

Laure Cugnière: Have you noticed any shifts in breeding timing? Have you tried thermal drones for counts in inaccessible areas?

Harry Marshall: Antje is currently on the ship coming back from Gough, so unfortunately could not be with us. I will try to answer as best I can. As far as I am aware, we have not noticed any significant shift in breeding timing – with the caveat that I am not Antje. But, as she pointed out, the surveys are inevitably a little bit patchy and, when they are in very inaccessible places, getting there at the right time is always quite difficult. That is not something that has come out but I am not sure that would necessarily be picked up. I am not confident at the moment, given the differences in timing of these surveys. Thermal drones: a great idea. Getting to some of these places is hard, so that is definitely a technique to look into; it's a technique that our group in general is currently working on with the St Helena National Trust on seabirds. It is definitely something that we can potentially look at expanding to Tristan. But obviously particularly inaccessible areas take a long time to get to. So it is a question of making that work.

iRecord St Helena: a community-platform for biodiversity-knowledge empowering conservation-action and decision-making

Selene Gough & Rebecca Cairns-Wicks (St Helena Research Institute)



Selene Gough



Rebecca Cairns-Wicks

Gough, S. & Cairns-Wicks, R. 2025. iRecord St Helena: a community-platform for biodiversity-knowledge empowering conservation-action and decision-making. pp 170-176 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

As a free, locally-managed online platform, iRecord St Helena empowers citizens, researchers, and conservationists to contribute and access biological records that support evidence-based decision-making.

This presentation highlights the outcomes of Darwin Plus Local project DPL00090, which focused on strengthening bird conservation science by collating, validating, and mobilising historic seabird datasets. In partnership with the St Helena National Trust and the RSPB, the project delivered hands-on training in data management and monitoring, processed over 40,000 historical records; developed a governance framework, and applied FAIR data principles to support strategic conservation planning.

As the island prepares for fibre-optic broadband, iRecord St Helena is laying the digital foundation for national biological recording, enhancing local capacity, ecosystem monitoring, and cross-territory collaboration.

The talk will reflect on system-development, impact to date, community-engagement, and future directions.

Selene Gough & Rebecca Cairns-Wicks, St Helena Research Institute

Hello everyone. Firstly, I would like to introduce myself. I am Selene, the Data Manager at the St Helena Research Institute, I run the St Helena Biological Records System, known as iRecord St Helena.

iRecord St Helena is what's called a clonal system of iRecord UK. In simple terms, that means we have taken the existing iRecord platform and created a local copy, or clone, that runs independently for St Helena.

It uses the same open-source software and structure as the UK system, but we can customise it for our own needs: our species-lists, our data-governance rules, and our local forms.

iRecord UK is operated by the Biological Records Centre as part of the UK Centre for Ecology & Hydrology.

It is a digital platform designed to support the collection, management and sharing of biological records related to St Helena's unique wildlife.

Accessible via a website, mobile app, and customisable recording forms, iRecord St Helena enables a wide range of users, from scientists and conservationists to nature enthusiasts and the local community to log wildlife sightings in a structured, verifiable way.

The core aim is to build a comprehensive, accessible biodiversity-database that can inform and support targeted conservation-actions and support long-term environmental sustainability.

But beyond conservation, iRecord is also evolving into a tool for education and learning, providing opportunities for students, teachers, and the wider community to engage with nature, build data-literacy, and develop a deeper understanding of local biodiversity through hands-on involvement.

The journey of iRecord St Helena began with funding from the EU BEST 2.0+ project, which laid the groundwork for the platform and involved setting up the online database, the web-portal, and the mobile app.



iRecord St Helena's Timeline

EU BEST 2.0+ Project: Establishing a biological records database for St Helena

- System set-up (website and app)
- Initial species lists populated
- Training and workshop engagement

Nov 2021

Feb 2023

iRecord St Helena Official Launch

Darwin Local 27: iRecord St Helena: wildlife recording for research, education and decision-making

- Species list expansion
- Recording form development & testing
- System development
- Educational materials

April 2023

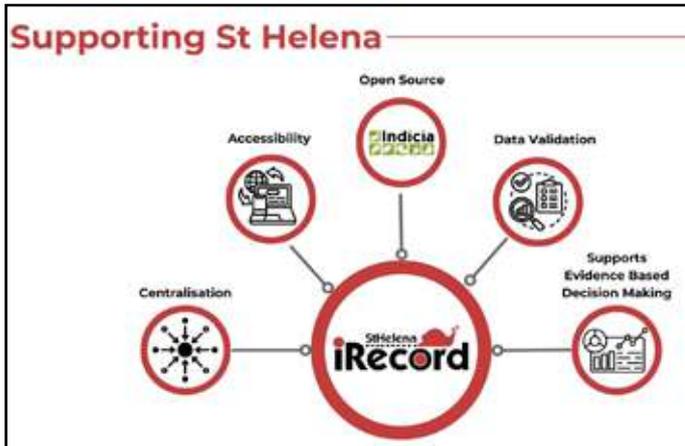
April 2024

Darwin Local 90: iRecord St Helena: A data-driven approach, empowering bird conservation

- Bird data audit for St Helena
- Historical seabird database processing
- Data training and workshops
- Seabird nesting form development for National Trust.

By February 2023, iRecord St Helena was launched officially.

Following this, we moved into Darwin Local 27. This phase built upon the foundation set by the BEST 2.0+ project, enabling us to expand significantly our species-lists. In addition, we developed and trialed recording-form technology.



In April 2024, we started Darwin Local 90, a collaboration with the Royal Society for the Protection of Birds (RSPB) and the St Helena National Trust, which had a focus on seabird-data.

iRecord St Helena aims to address several barriers and challenges the island faces when managing biodiversity-data. One of the main ways it does this is by providing a centralised database, which reduces the number of fragmented datasets. By bringing data together into a larger, shared pool, the information becomes more

useful, more reliable, and easier to manage.

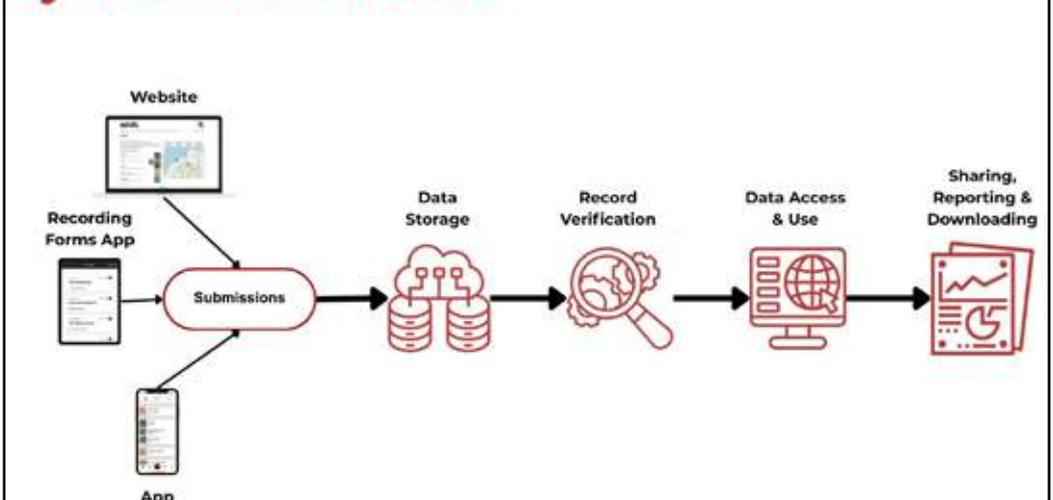
The system is also highly accessible. It can be reached globally via the website, while the mobile app allows anyone, including members of the public, to submit their sightings. The recording form provides a streamlined way of capturing survey-data in the field, making it quicker and simpler to log records as they happen.

iRecord St Helena has been built using Indicia, an open-source toolkit designed for biological recording. At its heart is a spatially enabled, relational data-warehouse, which supports secure storage, standardisation, rapid data-entry, and -reporting. All iRecord data are held in an Indicia warehouse hosted by UKCEH, on behalf of the wider recording community.

The system offers also basic validation checks, ensuring that the records submitted form a reliable foundation for biodiversity-datasets.

Altogether, iRecord St Helena provides a trusted and effective tool to support evidence-based decision-making, helping to strengthen how we monitor and manage biodiversity-data on the island.

System Architecture



The diagram at the bottom of the previous page gives an overview of the flow of data through iRecord St Helena.

It all starts with data-entry, which can be done via the website, mobile app, or through specific recording forms. These entries can be made by individuals, community-groups, or organisations, depending on the platform.

Once submitted, the data are uploaded into the iRecord St Helena database and stored. From there, the data are then available for verification by expert volunteers.

Both verified and unverified records are accessible for use, but verified records carry more scientific reliability. Data can be accessed by organisations, the public, citizen-scientists, and the owners of the recording forms. The public has access to all open-license public records, while recorders can download, analyse, and publish all of their own data.

One of our goals is to connect iRecord St Helena with other international biodiversity platforms, such as iNaturalist and the Global Biodiversity Information Facility. By linking these systems, we can put St Helena's biodiversity more firmly 'on the map', ensuring our data are visible, discoverable, and part of the global biodiversity knowledge-base.

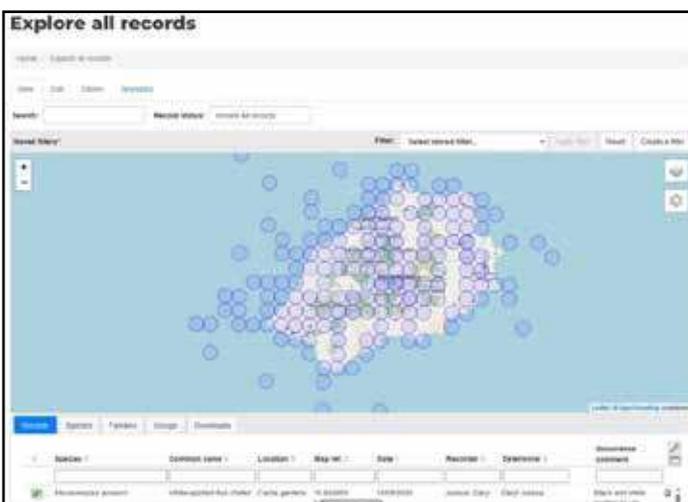
This means also that we can capture records that are submitted on other platforms, and share ours more widely.

Key features of iRecord St Helena

Now I would like to talk further about the key features of iRecord St Helena.

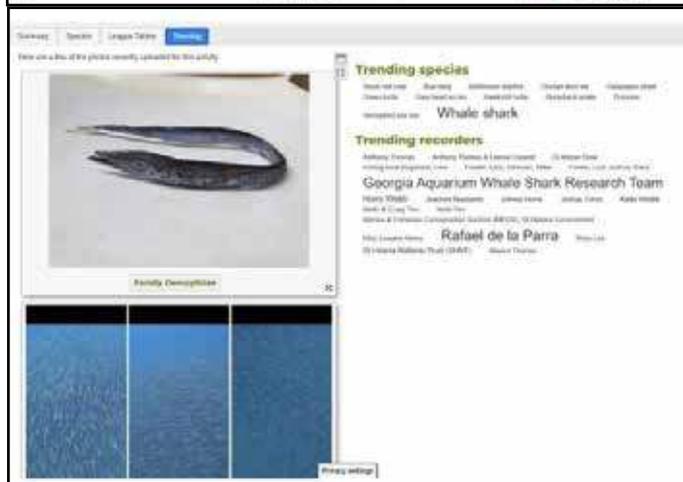
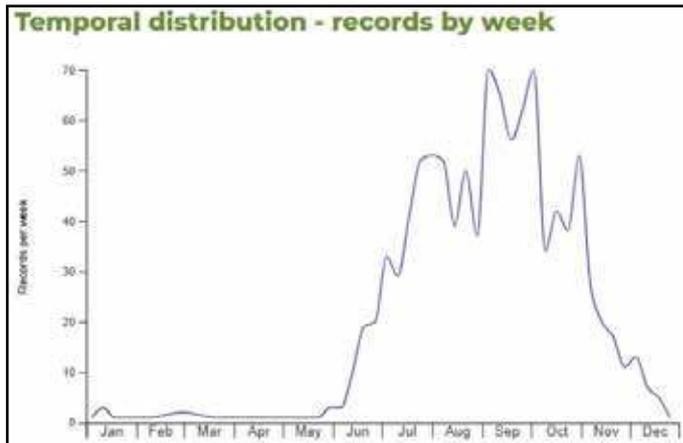
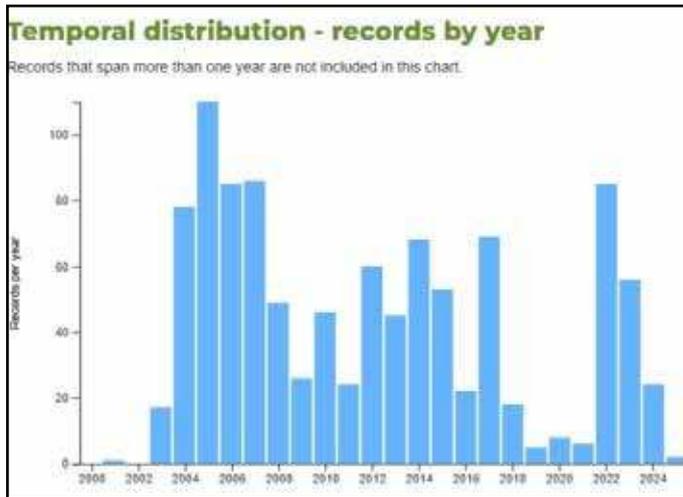
The iRecord St Helena website is a central hub for recording, managing and accessing biodiversity-data. It is designed to support everyone who uses the system.

Its flexibility caters to different recording needs and allows for more complex data-entry compared to the



mobile app. Including the ability to import larger datasets from csv files or Excel sheets.

The website offers tools for custom made filters and mapping layers to allow users to get the most of their data



Examples of other website tools. The top two take Humpback Whale *Megaptera novaeangliae* as an example.

and also explore other biodiversity data submitted to the database.

The website includes other interactive tools.

Firstly, integrated species insights, a tool that allow users to explore trends in the data. These tools provide the opportunity to gain insight quickly in species abundance and distribution over time, based on the data submitted into the system. In this particular example, one can see temporal distribution data for the Humpback Whale (*previous page*). This summary shows the number of sightings over different periods, providing a snapshot of how frequently this species has been recorded.

Another feature includes the activities tab. These are custom-made groups which can be tailored to include records of interest such as: particular species, geographic regions, dates, record-quality and even source, such as records only submitted via the app.

These types of activities can be made by the public, but also private groups. They are great tools for seeing citizen-science insights, such as top recorders, top species recorded and temporal information of when species were first and most recently recorded.

The filters tool on the website offers a flexible and easy way to manage the type of information one is interested in viewing on iRecord St Helena.

Filters can be created depending on species, geographic areas, date, recorders, record verification status and even the source of the record.

Since setting up iRecord St Helena, our next focus has been verification, making sure that the records coming into the system are accurate and reliable.

Verification is carried out by volunteer experts, who review records within their specialist groups. They assign each record a status from a standard set of terms, for example, whether it is accepted, needs more evidence, or is not accepted, and note the basis for that decision.

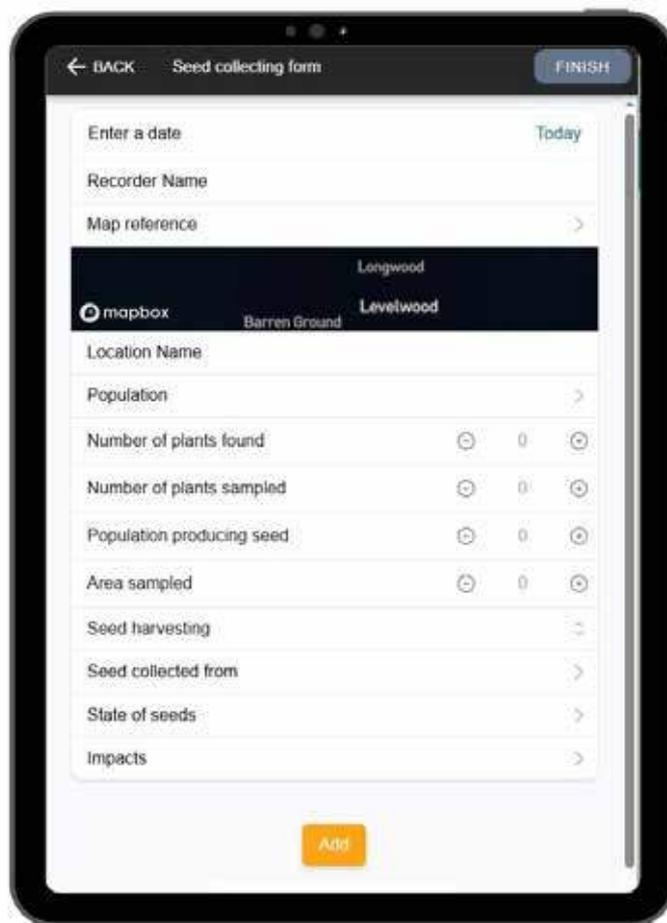
This process is vital, because high-quality, verified data are what makes our records truly useful for research, policy and conservation.

Recently we hosted our first demonstration session with local invertebrate experts from the St Helena National Trust, and we are excited to expand training opportunities to other volunteer verifiers very soon.

The mobile app is designed to be user-friendly and accessible.

The simplified recording process allows users to navigate easily through a simple form to log their sightings. The app prompts them to fill in essential details needed to capture a meaningful record, including features like capturing the location of each sighting using the device's GPS. Users can record sightings even when they do not have internet access and the photo-upload feature allows users to attach images to their records, which is a key part of the verification process and increases the likelihood that citizen-science records can be used for further analysis and research.

The recording form app is a relatively new and



developing technology, which we are testing actively with organisations/data collectors.

The recording form provides data-collectors with the option to collect detailed and tailor-made data to meet their surveying needs.

Forms offer a flexible alternative to paper-based recording, allowing data to be collected offline in the field, as well as map-referencing using devices' built-in GPS, and the option for photographs to be collected. Survey-form administrators can then review and export the data submitted using their form on the iRecord St Helena website.

Empowering conservation

How does iRecord St Helena empower conservation?

The DPL00090 I mentioned earlier in this presentation was a collaborative effort with our project-partners, RSPB and St Helena National Trust.

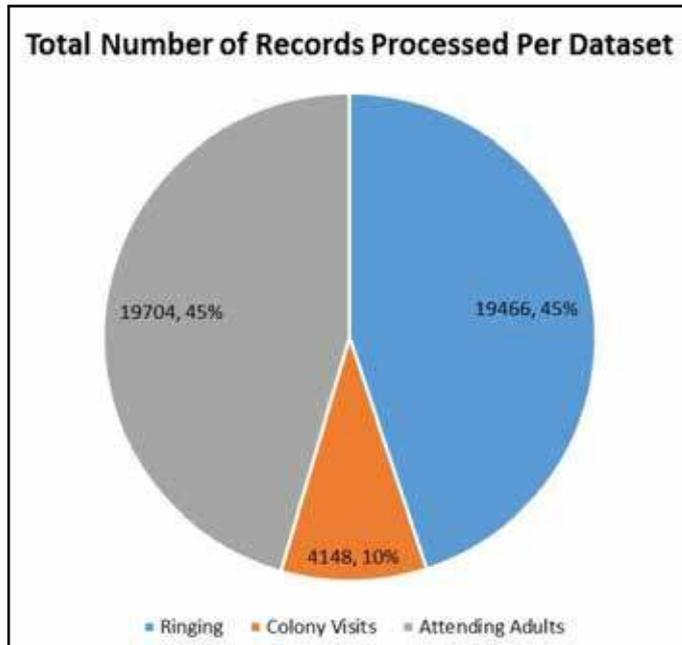
This project represents a vital component of the iRecord St Helena initiative, aiming to improve how bird-data on St Helena are collected, accessed, and utilised to support conservation efforts.

Some of the key project outputs and activities included:

- Developing a sensitive species-list to protect species being published online and ensuring appropriate data-sharing;
- Through governance and policy-development, we have a strengthened institutional understanding of

data-management best practices;

- Hosted a 2-week training and capacity-building workshop led by RSPB partners Luba Meshkova and Harry Marshall and which focused on scientific field-methods, data-analysis and management and upskilling both government and ngo staff;
- And, finally, a large part of the work focused on processing a historic legacy seabird access database from the Marine Department of SHG. The pie-chart on the screen shows the breakdown of the access database and how many records in total we processed during the project



One of the most exciting aspects of iRecord St Helena is its ability to engage a wide range of people in biological recording. The platform is designed to be user-friendly. By offering both mobile- and web-based tools, we have made it easy for anyone to contribute.

To support this, we run demonstration sessions with groups like tour-guides, conservationists and the wider community. These sessions not only teach people how to use the system but also show them how their contributions make a real difference.

What's more, we actively recognise and celebrate our recorders. Through newsletters and spotlights, we share their contributions, keeping the community connected.

Supporting data-providers and collaborating with local



experts are central to the success of iRecord St Helena. Since the inception of the BEST 2.0+ project, we have held numerous workshops to engage with researchers, conservation groups and experts. These sessions have been tailored to meet different needs, from small, focused groups to larger sessions, allowing us to share knowledge and gain user-feedback.

Supporting data-providers is a key part of our work, and we have been fortunate to collaborate with organisations like the Environmental Management Division and the St Helena National Trust. These groups are regularly out in the field collecting large volumes of data, and our role is to ensure they have the tools and knowledge to do this effectively when using iRecord St Helena.

An aspect of a continuously developing system requires feedback from these partners. For example, we are collaborating on the development of specialised recording forms, like the Seed Collection Form, which will be used to monitor and manage data from the Environmental Management Division's seed-collection efforts.

This kind of collaboration ensures that iRecord St Helena can evolve to meet the unique needs of conservation-work on St Helena while supporting long-term biodiversity-monitoring.

Since completing DPL00090, we have moved on to strengthen the foundation of iRecord St Helena: our metadata database.

Central to that work is standardisation, and supporting our commitment to making data Findable, Accessible, Interoperable and Reusable.

We have been working with data-experts to create a Darwin-Core-compliant metadata form that captures provenance, licensing and essential dataset descriptors. The form is web-based and designed for data-providers to fill out online; it includes online validation, so metadata are complete.

This makes our datasets easier to search, share and reuse, and ensures the datasets are working to meet international biodiversity-data standards.

iRecord St Helena, and the wider iRecord system, offers three key advantages that are especially powerful in the context of small islands and UK Overseas Territories:

First, it is open-source. This means the platform is cost-effective, customisable and adaptable to local priorities without reliance on commercial vendors. Importantly, because it is open-source, any investment made in developing the platform, such as new features or recording forms, can potentially benefit other UK Overseas Territories as well. This makes iRecord not just a local tool, but potentially a shared infrastructure across the UKOT's.

Secondly, it is centralised. Instead of biodiversity-data being scattered across spreadsheets, reports, and separate systems, iRecord brings it together, ensuring that

decision-makers, researchers and the community are all working from the same, high-quality information. As well as empowering data-owners to make the most out of their datasets.

And third, it is accessible. Whether you're a conservation-professional, a citizen-scientist, or a student, iRecord is designed to be easy to use, with mobile tools, offline support, and interfaces that encourage inclusive engagement.

Together, I believe these pillars make iRecord a powerful tool for supporting conservation and environmental resilience in the unique settings of the UKOTs.

As I conclude this presentation I would like to thank our funders, partners and collaborators.



If you are interested in subscribing to the iRecord St Helena quarterly newsletter, please scan the QR code.

And finally, if you are interested in supporting iRecord St Helena as a voluntary verifier, please contact us. Let us know your area of taxonomic expertise and we will explore whether we can accommodate you and whether there is a need in that group.



Q&A

Andy Pearce: Thank you very much, Selene: another very fascinating talk. iRecord St Helena is clearly a very powerful tool. I understand from Mike that Rebecca has moved on now from the Research Institute and has been

promoted to Chief Minister. So warm congratulations to her. She is a former Council member of UKOTCF. So a powerful conservationist now has political powers. Excellent news.

Jodey Peyton: Congratulations. Selene, on a really excellent presentation. It fits in very well with other talks yesterday, with Quentin talking about GBIF and where data ends up, and how you can access historic data. iRecorder is a really excellent system. I used to work at CEH with iRecorder which is a really nice example of how you can take *ad hoc* records and disparate data-sets and combine them into really useful tools, in managing and accessing data.

Jasper Montana: Have you had much citizen-uptake of iRecorder so far? What strategies do you think work best to promote uptake of apps use by citizen-scientists.

Selene Gough: Well, to start off, the first few years of iRecorder's development has involved mainly the system itself, but also working with automisation of data collected. A lot of our focus has not been with the community but we are working on that now. What we have found works best is directly engaging with people who already know, or are very interested in, the natural environment, like tour-guides, people who are regularly out in the field. I found it is best to approach them and take them out and show them how the system works, and why you should record

your sightings; then showing them that, once it has been uploaded, how it makes a difference: showing them the full life-cycle of the data and why it is important that they do that. In terms of younger people, we have found that youth in the communities are very interested in iconic species, like really attractive butterflies, so focussing on a specific species to get them interested in recording works really well as well.

Jodey Peyton: I was thinking as well that another great part of iRecorder is that linking to iNaturalist and the records from those two different platforms for collecting data. I know that iNaturalist is very popular in some parts of the world as a tool for collecting records. It does not have the capability of iRecorder but is another tool for data-collection. Do records that are verified on iNaturalist get re-verified in iRecorder St Helena or does the verification process change depending on where it has come from or how verified it is at its starting point?

Selene Gough: I don't know whether it was clear but I said that it is an aspirational goal for us to get there. So we haven't yet worked that process out, but ultimately I am thinking there will be some differences in the way the systems work. That is ultimately the goal to hook the systems up in a much larger network.

Jodey Peyton: I think working with your verifiers is a

really fantastic way to get engagement both on St Helena and wider. So thank you very much for an excellent talk, a really nice presentation.

Just a note from me: if people are interested in signing up for the iRecord St Helena quarterly newsletter, here's the link: <https://forms.gle/iKUQ4pLEGHHFVBQy6>.

Safeguarding Tristan da Cunha: Using Areas to be Avoided and Virtual Markers to Protect the World's Most Remote Marine Reserve

Katie McPherson (Head of Compliance and Enforcement, Marine Management Organisation)



Katie McPherson

McPherson, K. 2025. Safeguarding Tristan da Cunha: Using Areas to be Avoided and Virtual Markers to Protect the World's Most Remote Marine Reserve. pp 177-181 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

Tristan da Cunha, the world's most remote inhabited island, lies in the South Atlantic Ocean and is home to the Tristan da Cunha Marine Protection Zone (MPZ)—the largest marine reserve in the Atlantic, established in 2021. Despite its isolation, the island is near key trans-oceanic or transnational shipping routes, making it vulnerable to maritime incidents, including vessel groundings and pollution events such as the *MS Oliva* (2011) and *MFV Geosearcher* (2020).

In 2020, to mitigate these risks, the Tristan da Cunha Government (TdCG), with support from the Blue Belt Programme, designated two voluntary Areas to be Avoided (ATBAs) to improve navigational safety and protect the inshore marine environment by requesting vessels stay 25nm from the islands when on transit.

AIS-based surveillance by the Blue Belt Programme has shown a significant decline in vessel transits within the ATBAs since their designation. Data from 2016 to 2024 indicates a marked reduction in transits, despite stable overall traffic through the MPZ, suggesting deliberate avoidance by vessels. High-risk transits (those within 5nm of the island) trigger communications from TdCG to flag state authorities, promoting voluntary compliance.

To support the ATBAs, a Blue Belt study with the Northern Lighthouse Board recommended installing three physical beacons – two on Tristan da Cunha and one on Gough Island – to broadcast virtual markers. These beacons trigger alerts on the ships' navigation systems to the presence of the island, aiding collision-avoidance. Despite logistical challenges, including COVID-19 and limited transport, two beacons were installed in January 2025 with help from the Tristan community. The third is due for completion this year.

This presentation explores the successful implementation, monitoring, and impact of the ATBAs and virtual markers in safeguarding this ecologically significant maritime zone and protecting the local economy.

Katie McPherson (Head of Compliance and Enforcement, Marine Management Organisation)

The Blue Belt Programme is the UK Government's leading marine conservation initiative supporting its Overseas Territories.

Initiated in 2016, the programme has worked with UK Overseas Territories to support them in protecting and sustainably managing their marine environments.

This underpins the UK Government's commitment to protecting 30% of the world's ocean by 2030, as agreed at the Convention on Biological Diversity.

The Blue Belt programme has been central to the UK Government's ambition of leading action to tackle the serious global problem of biodiversity loss. It provides UKOTs with access to the resources, support and information to protect their unique ecosystems.

90% of the UK's endemic marine biodiversity is found within the UK Overseas Territories.

Together, these Territories are protecting around 4 million square kilometres of marine environment, making it one

The Blue Belt Programme works closely with the following UK Overseas Territories to assist them in creating and maintaining **healthy and productive marine ecosystems**.



da Cunha's existing fisheries patrol rib. Further to support this work the Blue Belt programme has provided extensive training to members of the Tristan da Cunha's fisheries department on vessel maintenance and at-sea survival techniques.

The programme has provided additional training in the UK for TdC fisheries department staff on compliance and enforcement, and provided and supported the training of additional scientific observers to monitor fishing operations.

of the largest networks of Marine Protected Areas of its kind on the planet.

The Programme has been implemented in eight Territory jurisdictions, covering 10 biologically distinct regions.

The Blue Belt Programme provides a range of support and technical assistance to UKOTs, working across five themes:

- Strengthening governance and management-frameworks;
- Understanding and protecting biodiversity, and building resilience to climate-change;
- Managing human impacts;
- Supporting compliance and enforcement; and
- Capacity-building and ocean-literacy.

Tristan da Cunha is the world's most isolated, permanently inhabited place on earth. It is located in the South Atlantic Ocean and comprised of four main islands. Its Marine Protection Zone (MPZ) covers around 700,000 square kilometres and was designated in 2020 making it the largest marine reserve in the Atlantic. Many species in Tristan's productive waters are endemic and depend on its environment,



The Blue Belt programme has been working with Tristan da Cunha since 2016, providing advice and support in a variety of areas. This includes: improving knowledge of TdC ecosystem, identifying key habitats, species and threats; and then working with the Tristan da Cunha Island Council to inform their marine protection strategy.

We have also provided TdC with a new vessel for inshore biodiversity monitoring and refurbished Tristan

TdC is accessible only via a seven-day sea-voyage from Cape Town, South Africa. Despite its isolation, the island lies near major shipping lanes connecting South America and Asia, with bulk-carriers transporting soya. The island's remoteness does not shield it from the risks posed by trans-oceanic vessel-traffic, which includes potential groundings and pollution events.

Tristan da Cunha has experienced these risks first-hand. In 2011, the *MS Oliva* ran aground, releasing over 800 tonnes of oil and affecting around 20,000 northern rockhopper penguins. These events highlighted the urgent need for protective measures to prevent future disasters. The island's economy and biodiversity are closely tied to the health of its marine environment, making proactive protection essential. These incidents served as a catalyst for the development of voluntary Areas to Be Avoided (ATBAs) to mitigate such risks.

What is an Area to be avoided?

Predetermined shipping routes are nothing new – the practice originated in 1898 for shipping companies operating passenger-ships across the north Atlantic.

Traffic-separation schemes and other ships' routing-systems have been established in most of the major congested, shipping areas of the world, and the number

of collisions and groundings has often been dramatically reduced.

The International Maritime Organisation’s responsibility for ships’ routing is enshrined in SOLAS chapter V, which recognizes the Organization as the only international body for establishing such systems.

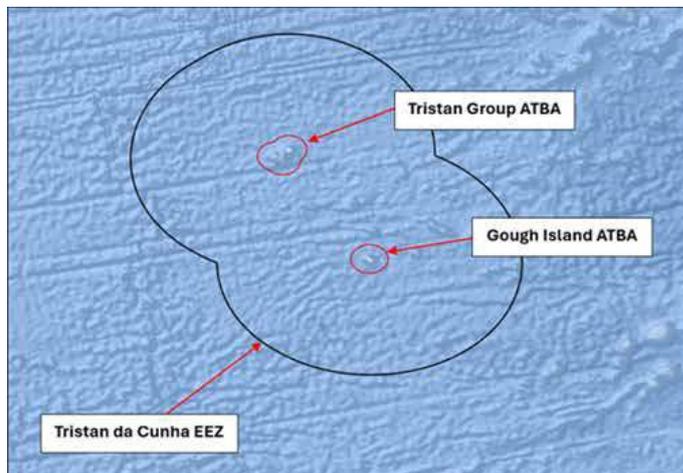
There are many routing measures that can be considered:

- traffic-separation schemes, 2-way routes, recommended tracks, deep-water routes (for the benefit primarily of ships whose ability to manoeuvre is constrained by their draught);
- precautionary areas (where ships should navigate with particular caution); and
- areas to be avoided (for reasons of exceptional danger or especially sensitive ecological and environmental factors).

To establish a new routing system for IMO’s adoption, a proposal is submitted to the IMO’s Sub-Committee on Navigation, Communications and Search and Rescue (NCSR), which will then evaluate the proposal and make a recommendation regarding its adoption by the Maritime Safety Committee.

To support TdC, the Blue Belt programme assisted in developing an evidence-base for the establishment of an ATBA and the MCA provided technical input. It is important to note that Tristan da Cunha has not signed the convention to implement legally binding measures – ATBAs are voluntary. Even though they are voluntary, it is likely that, if a vessel is involved in an accident and they have not followed this kind of voluntary measure, their insurance will not pay out – a major motivator to comply.

In April 2020, the Tristan da Cunha Government, with support from the Blue Belt Programme, designated two voluntary Areas to Be Avoided (ATBAs). These zones were established around the Tristan Group and Gough Island, each providing a 25 nautical mile buffer to reduce the risk of maritime incidents. The ATBAs apply to vessels over 400 gross tonnes that are transiting the area, excluding those engaged in permitted activities such



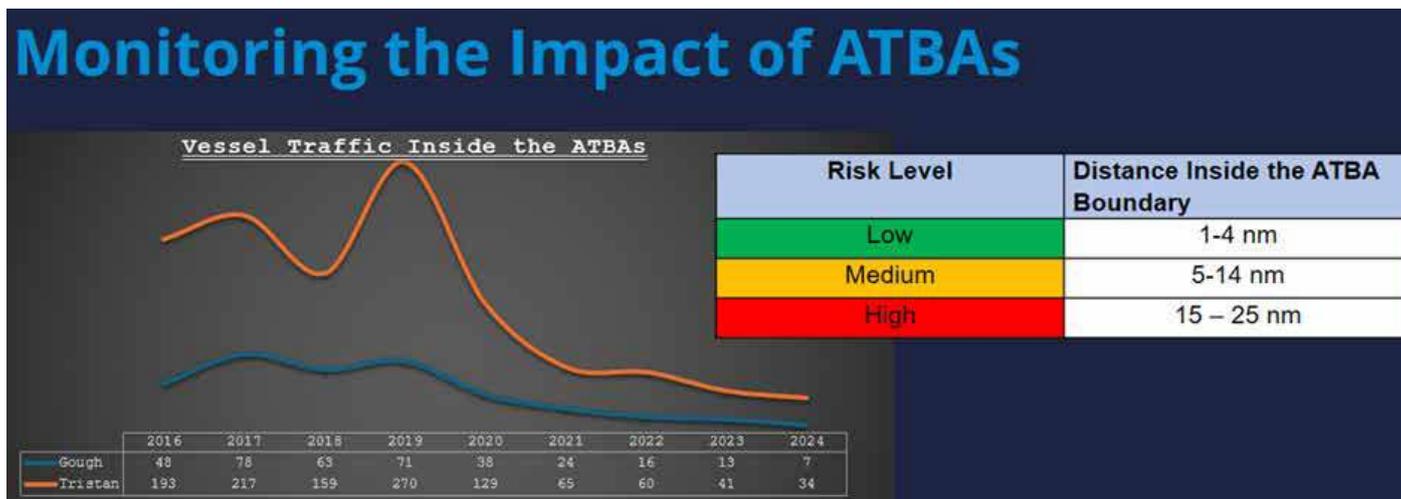
as fishing or research. The primary goal is to enhance navigational safety and protect the inshore marine environment from pollution and collisions.

The Marine Management Organisation (MMO) started surveillance of the ATBAs on behalf of Tristan da Cunha Government on 1st April 2020. Surveillance is conducted by analysing Automatic Information System (AIS) data. AIS is a maritime safety and collision-avoidance system that broadcasts a vessel’s identity, course, position, speed and generally its destination. Transmissions are received by surrounding vessels, shore-stations and satellites. .

Since the designation of the ATBAs, there has been a marked decline in vessel-transits through these zones. Data from 2016 to 2024 show that while overall traffic through the Marine Protection Zone (MPZ) has remained relatively stable, the percentage of vessels entering the ATBAs has decreased significantly.

The class of vessel, and their likely cargo, have also remained consistent. Bulk-carriers transporting dry goods such as soya from South America to Asia have dominated consistently from 2016 to 2024.

All the transits are categorised transits based on proximity to the islands: High-risk transits are those which are within 5 nm of the island. The ATBA is voluntary but it is essential that the TdC government respond to High-risk transits to continue to raise awareness and promote compliance. Where there is a high-risk transit, the Tristan da Cunha Government contact the relevant flag-state



Aids to Navigation (AtN)



authorities, encouraging voluntary compliance. This monitoring approach has proven effective in identifying and mitigating potential threats, and it has contributed to a significant reduction in ATBA incursions over time.

To support the ATBAs, a feasibility study conducted by the Blue Belt Programme and the Northern Lighthouse Board recommended the installation of three physical beacons – two on Tristan da Cunha and one on Gough Island. Several beacons are required as there is a volcano in the way and the multiple sites allow for all-round coverage.

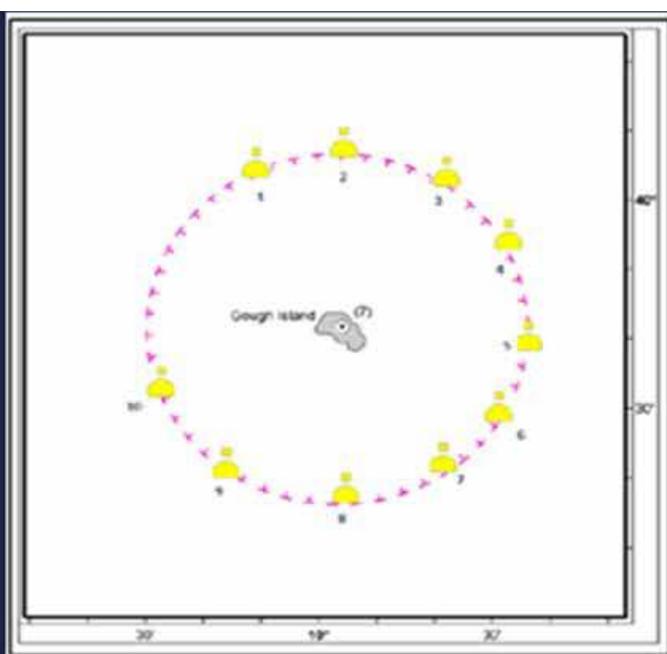
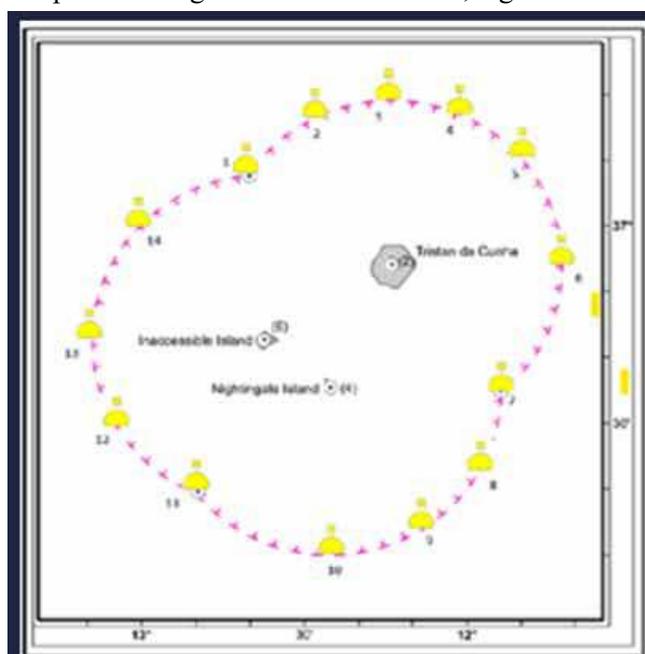
These beacons emit virtual Aids to Navigation (AtoNs) via AIS, making the ATBAs visible on vessel navigation-systems. The images (above) show the physical beacons that have been, and will be, installed at Green Hill, Burntwood and Gough Island and which will each produce 10 virtual beacons.

Despite challenges such as COVID-19, legislative delays,

and limited transport access, and a fire at the factory manufacturing beacons, two beacons were installed successfully in January 2025, with the help of the Tristan community. The third beacon is scheduled for a challenging installation this year, requiring helicopter access due to the remote terrain

The installation of virtual AtoNs has already shown positive results. As you can see (below and top of next page), AIS transmissions from the beacons are now visible to transiting vessels, enhancing awareness and promoting safer navigation.

Early monitoring indicates a continued decline in ATBA transits, suggesting that the beacons are contributing to improved compliance. This technological enhancement represents a significant achievement for both the MMO and the Tristan da Cunha Government, providing an additional layer of protection for one of the world's most ecologically significant maritime zones.

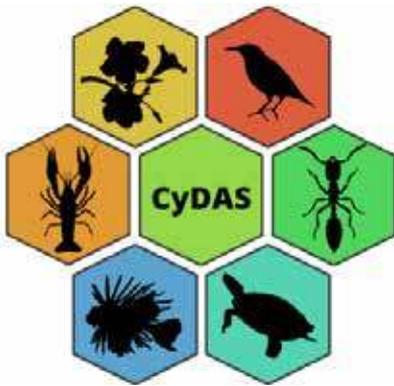


The Cyprus Database of Alien Species (CyDAS)

Jakovos Demetriou (Laboratory of Vector Ecology and Applied Entomology, Joint Services Health Unit Cyprus, Akrotiri, Cyprus; Enalia Physis Environmental Research Centre, Nicosia, Cyprus; Department of Ecology and Systematics, Faculty of Biology, National and Kapodistrian University of Athens, Greece)



Jakovos Demetriou



Demetriou, J. 2025. The Cyprus Database of Alien Species (CyDAS). pp 182-184 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

More than 37,000 species have been introduced outside their native range worldwide. Invasive non-native species (INNS) are a main driver of global biodiversity loss, also negatively affecting socioeconomic parameters and human health. Thus, regularly updated species inventories and databases on non-native and INNS are essential for informing policy and management decisions. The Cyprus Database of Alien Species (CyDAS), provides informational resources on non-native species on the island of Cyprus as a whole, through an openly accessible, free, online, and dynamic platform. To date (last updated to the end of December 2023) it presents information on 1,293 terrestrial, freshwater and marine taxa. The CyDAS aims to keep track and supplement our knowledge on non-native species of the island facilitating the development of early warning and rapid response systems, to raise public awareness of the risks posed by INNS, to strengthen and enhance engagement and public participation in surveys, as well as to inform INNS policy.

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jakovosdemetriou@gmail.com*

Introduction

There are >37,000 species introduced outside their native range worldwide. Only a subset may become invasive non-native species (INNS), *i.e.* affecting native biodiversity or ecosystem-functions, as well as society, economy and human health.

INNS are a main driver of global biodiversity loss. There is a need for regularly updated species-inventories and databases on non-native and INNS in order to:

- track changes/trends,
- inform public, policy and management decisions.

Island invasions

Islands are unique ecosystems, with unique evolutionary histories, and high endemism. Islands are particularly vulnerable to biological invasions. INNS are the main cause of extinction.

There are needs for action in respect of:

- risk assessment,
- horizon scanning,
- prevention,
- eradication,
- mitigation of impacts and spread.

The island of Cyprus

Cyprus is at a crossroad of three continents. It has a rich history since antiquity of trade, conquests and changing landscape. There has been movement of people, organisms and goods throughout the millennia. There is a complex geopolitical situation, with changing trade-routes and ever-growing trade. Despite the evident challenges, there are crucial needs for:

- up-to-date species inventories,
- early-warning and rapid-response systems,
- raising public awareness,

- engagement and stronger public participation.

Long story shortened

2014 – 2018: COST Action Alien Challenge (COST TD1209) → Cyprus Invasive Alien Species (CY.I.A.S) inventory (offline database).

2020: CY.I.A.S published as a checklist through the Global Register of Introduced and Invasive Species (GRIIS).

2017 – 2021: Supplemented, data standardised and renamed as the Cyprus Database of Alien Species (CyDAS) (DPLUS056, 088).

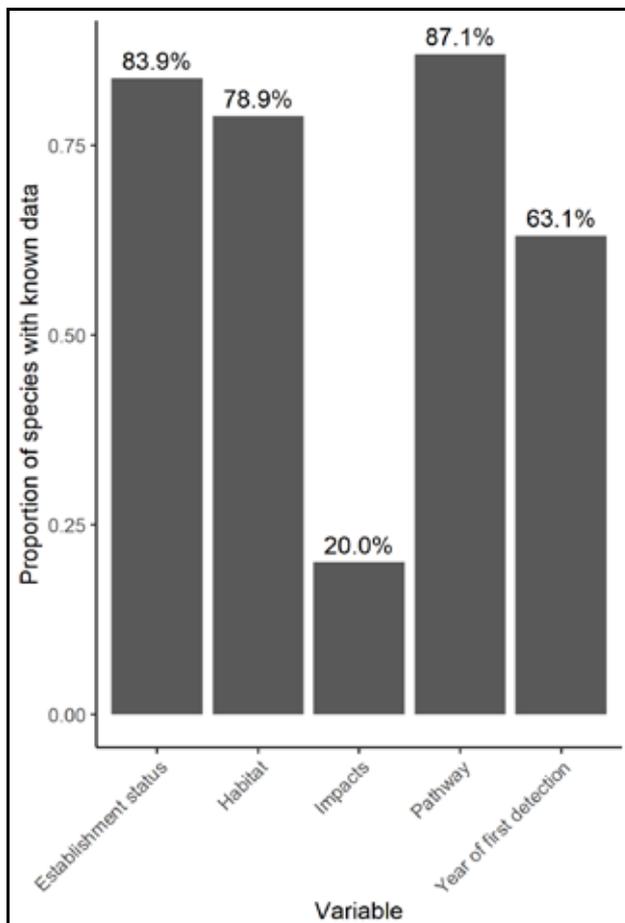
2022 – 2025: Further supplementing (DPLUS124, 200, 202), prototype system for other UKOTs (DPLUS175).

2025: Article in press (Scientific Data).

1,293 taxa and growing (<https://ris-ky.info/cydas>)

Deficiencies = opportunities

- Incomplete records and missing data.
- Lack of experts, boots on the ground, and monitoring.
- Inconsistencies in taxonomic placement in linked databases.
- Clarifying the status of cryptogenic and data-deficient taxa.
- Lack of documented habitat(s) and inconsistencies in



classification schemes used between databases.

- Lack of impact studies and assessments of invasiveness.
- Lack of an island-wide, centralised biological record centre and an infrastructure to host and support biodiversity-data.
- Sensitive geopolitical situation setting boundaries and restrictions in collaborations, and a unified INNS policy.
- Need for stronger collaboration, transparency, pathway management, biosecurity protocols and active participation.

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Joanna Angelidou, Sara Boschi, Michael Hadjiconstantis, Charlotte Johns, Argyris Kallaniotis, Evangelos Koutsoukos, Christodoulos Makris, Shyama Pagad, Lian Jenna Wong and many many others...

Joint Services Health Unit (RAF Akrotiri), UK Centre of Ecology and Hydrology, University of Cyprus, Akrotiri Environmental Education Centre, Enalia Physis Environmental Research Centre, Hellenic Agricultural Organization Demeter, Hellenic Centre for Marine Research and many many others...

Biodiversity Challenge Funds – The Darwin Initiative (DPLUS056, 088, 124, 175, 200, 202).

Q&A

Andy Pearce: Thank you very much, Jakovos. That was fascinating. Quite a frightening dramatic insight into the scale of the challenge of these invasive species. Thank you also to John Randall for standing in as question-master this afternoon after a busy time this morning in Parliament: much appreciated.

John Randall: That was a very interesting presentation. I found it fascinating. I think one of the challenges for any island is obviously invasive species, but in Cyprus you have got the three political entities that makes it even more difficult. I would imagine that co-operation is not necessarily forthcoming from two of those entities.

Jodey Peyton: Do you think there are any more invasive species that you will find? And I suppose, added to that, not just will you find more, but will more invasive species arrive?

A: Thank you very much for being here and for your questions. We do expect a lot of species to arrive because trade is increasing and, of course, with all the geopolitical

situations globally, we see that these routes also change constantly. So, as the routes of trade change, so do our expectations of species that might arrive. If we anticipate further species to be found, that is something that is already happening, even in the last 5 years. I would say, when I have been more active in the field trying to locate non-native species, we have to go by plants. For example, we have these plants and we know that these plants are associated with these insects. So we just go to the plants and check for those species and we do find the insects there. So that tells us that many species might have been here already for decades but no-one has bothered to check if they are here. And that is understandable with the large amounts of species around. But something we do have to continue and, when we have a good consensus of what is already here, we can try to stop further arrivals.

John Randall: Another one is whether management is an option for the most pervasive of these alien invasive species. Should there be active projects effectively to eliminate them?

A: Well, eradication of non-native species would rely on timely detection and rapid action. We have this situation, for example, with the Common Mynah where, just when the species was reported, action was taken. People were out trying to locate these birds and eradicate them. And that has worked very well. But, at the same time, there are other species that were detected rather late and they are now widespread and any management would be very costly. At the same time, it is interesting to see how policy on a European level works. Because for example we have the golden wattle *Acacia saligna* and this species should be eradicated but has been here for centuries and can be found everywhere on the island. So, yes these should be eradicated but practically it's almost unmanageable. So it would all come down to finding these species and taking any measures just right when you detect them when they arrive.

John Randall: I would like to thank Jakovos for a great talk.

Andy Pearce: Yes, thank you Jakovos. Here in Kent the big problem we are facing is Asian Hornets, which are wiping out all our native bees

Jodey Peyton: Check out the CyDAS website here: <https://ris-ky.info/cydas>

and the data are available here: <https://zenodo.org/records/17023319>

In Search of the eDNA Bounty: Uncovering Marine Biodiversity in the Mutineers' Seas

Kirsten J. Harper, J. Murray Roberts, Jason Cleland, Simeon Archer-Rand, Georgia Holly & Rob Ogden (The Royal (Dick) School of Veterinary Studies and The Roslin Institute)



Kirsten J. Harper

Harper, K.J., Roberts, J.M., Cleland, J., Archer-Rand, S., Holly G. & Ogden, R. 2025. In Search of the eDNA Bounty: Uncovering Marine Biodiversity in the Mutineers' Seas. pp 185-187 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

The Pitcairn Islands is the 12th largest Marine Protected Area (MPA) on Earth. Located in an isolated area of the Pacific, the MPA covers 841,910 square kilometres which includes an Exclusive Economic Zone as well as the territorial seas of Pitcairn, Henderson, Ducie, and Oeno Islands.

The MPA is one of the most pristine ecosystems on the planet with approximately 1,249 identified marine species, including five endemic fish species: Henderson squirrelfish *Sargocentron megalops*, Henderson triplefin *Enneapterygius ornatus*, Pitcairn sandlance *Ammodytoides leptus*, many-spined butterfly-fish *Hemitaurichthys multispinosus*, and an undescribed species of combtooth blenny *Alticus* sp. Given the MPA's isolated location, environmental DNA will enable baseline biodiversity data to be rapidly generated against which future changes can be measured.

In February 2023, a total of 58 1L water samples were collected from three sites (Adams Seamount, Henderson Island and Oeno Atoll) at five depths (2, 30, 60, 120 and 200m), while in February 2024 a total of 28 1L water samples were collected from three additional sites around Pitcairn Island (Bounty Bay, Down Rope, and Matt's Rocks) at three depths (30, 60, and 120 m). Six primer pairs covering four gene regions (12S, COI, 16S and 18S) were used to characterise biodiversity present. Results indicate communities differ between sites and depths due to species' life histories, while preliminary results indicate that there is high overlap in species detected by eDNA analysis and Baited Remote Underwater Vehicles (BRUVs).

Keywords: Environmental DNA, metabarcoding, Pitcairn Islands, marine protected area, biodiversity monitoring

Kirsten J. Harper, J. Murray Roberts, Jason Cleland, Simeon Archer-Rand, Georgia Holly & Rob Ogden (The Royal (Dick) School of Veterinary Studies and The Roslin Institute)

Introduction

Environmental DNA (eDNA) refers to genetic material shed into the environment by organisms via skin, mucous, gametes and waste products. This material can be collected from environmental samples such as water, and analysed through high-throughput sequencing to provide insight into community-compositions.

The Pitcairn Islands, a UK Overseas Territory in the South Pacific, encompass four volcanic islands and was designated a Marine Protected Area (MPA) in 2015. Covering 841,910 km², it is the third largest continuous MPA globally. Despite its near-pristine status and the presence of unique endemic fish-species, systematic

biodiversity surveys have been limited due to its extreme remoteness. As such, eDNA metabarcoding represents an option to provide a cost-effective, non-invasive and highly sensitive means of establishing a biodiversity-baseline.

Methods

In February 2023, 58 water-samples, each of 300 mL, were collected from Adams Seamount, Henderson Island and Oeno Atoll at depths of 2, 30, 60, 120 and 200 m. In February 2024, a further 28 such samples were collected from Pitcairn Island sites (Bounty Bay, Down Rope, Matt's Rocks) at depths of 30, 60, and 120 m. Water was



University of Edinburgh staff and Pitcairn Islanders conducting environmental DNA field sampling during February 2023 in the Pitcairn Islands.

collected with a handheld Niskin bottle, filtered using Sterivex filter-units, and frozen until DNA-extraction could be performed. DNA was extracted in a clean laboratory and PCR performed prior to sending samples for sequencing.

Results

Results presented here are from one marker only that targeted fish; other markers are currently under analysis. Species-richness was highest at shallower depths. Oeno Atoll displayed the greatest species-richness at 2 m, while Bounty Bay consistently exhibited the lowest diversity across depths. Community-composition varied significantly between sites and depths, reflecting habitat-specific assemblages and species' life-histories. Preliminary comparative data indicate also there was overlap in taxa detected by eDNA and BRUV surveys, suggesting complementarity of the two methods.

Discussion

Our results demonstrate the ability of eDNA to resolve biodiversity-patterns across depths and sites in one of the world's most remote MPAs. High diversity in Oeno Atoll's shallow waters probably reflects habitat-complexity, while consistently low richness in Bounty Bay indicates less diverse communities. The overlap with BRUV surveys validates eDNA findings and suggests that both methods could be integrated to capture a fuller

picture of marine biodiversity than by single methods. This complementarity is particularly valuable in remote MPAs where monitoring opportunities are limited.

Conclusion

This study provides the first eDNA-derived biodiversity-baseline for the Pitcairn Islands MPA. Future work will complete bioinformatic analyses across all gene-regions and compare further eDNA and BRUV datasets. Together, these efforts will contribute to a long-term monitoring framework for the Pitcairn Islands and demonstrate the utility of eDNA in managing remote MPAs.

Q&A

Andy Pearce: Thank you very much indeed Kirsten, a fascinating talk.

John Randall: **Keith Bensusan** asks: What makes elasmobranchs eDNA difficult to detect? (John: I had to check as a layman, but I guess it refers to sharks and rays.)

A: Some reasons can include the fact that sharks tend to shed less eDNA compared to bony fishes. They have tough denticles rather than scales. Other than that, they are often found offshore and in pelagic environments where eDNA disperses rapidly and degrades. They are also highly mobile, moving through large areas without remaining long enough to build up detectable eDNA concentrations.

John Randall: I found that absolutely fascinating, as somebody who didn't know anything about it. My question: is this able to be a good opportunity to sample it because of the pristine nature of the Pitcairn Islands? Would it work, say, in the English Channel which is pretty polluted? I am just wondering if it can work when only you've got a pretty good pristine marine environment.

A: No, it would work in numerous places. Obviously, when there are other factors involved, and depending on how quickly the eDNA degrades, that would obviously impact your results as well.

John Randall: And the other question: you mentioned sea-mammals. and I don't know whether birds would count, from their droppings or feathers that get in the water, but we are talking primarily about fish and other sorts of marine life.

A: Yes: for this study it was marine-focussed, marine mammals, marine invertebrates, marine fish etc. but you can use it for terrestrial eDNA. You can do eDNA captured from air samples. Often, when you are doing marine samples, you will actually get some local birds signals coming in there but, because we were not interested in that, I would probably filter those out.

John Randall: And a practical question, you said that

they were frozen and then sent off to Edinburgh. How long does that journey take from Pitcairn and how do you keep them frozen?

A: I think it takes several days to get back, and they just had to put it in whatever freezer was available to them along the route. Wherever they stopped, it went straight into a freezer. There are different ways that you can preserve the filtered units. Some people add preservation buffers to it so that might be something to look at, but ours were frozen along the route as best as possible.

Alison Copeland: Do you just get a presence/absence for species from eDNA, or can you get some sort of abundance/magnitude data – or is that what you use the BRUVs for?

A: So that's kind of a loaded question. It's quite complicated. Yes you get presence/absence. There is some thought that you can correlate counts, so the more there are, the more there are of that particular species, but that's not fully fleshed out yet. There is still a lot of modelling going on with that, so you do have to interpret that with caution. The BRUVs data does give you additional information, so sometimes you will use the two methods in tandem. I am not sure that eDNA is necessarily something that you would just use on its own in some places. Sometimes you need some other techniques there to complement it to get the full picture. That is where we are with the abundance.

Roland Lines: Do ocean currents have implications for marine eDNA evaluations?

A: They do, yes. There have been lots of studies actually modelling how far currents etc can move eDNA to give us an idea of whether we are getting a snapshot of what's actually here or we are detecting things from far away. So you have to interpret with caution.

John Randall: It sounds to me, as a layman, that this is an exciting new advance, but is it relatively new?

A: It's really increased in use in the last 10 years or so, but the first study was way back, I believe, in 2008, I would have to check, and that was on a type of bullfrog. So it's been around a while but it's usage is increasing by magnitudes year on year as we advance with the techniques and methodology, and the analysis, and what we can actually tell from that data.

John Randall: Thank you very much indeed, Kirsten.

Andy Pearce: Thank you very much, John. And thank you Kirsten, a fascinating topic. It leaves you with a burning desire to go and see Pitcairn: do so if you possibly can in your life, it is such a beautiful pristine place.

Beyond bases: modern remote monitoring of animal populations

Tom Hart & Laure Cugnière (Seabird Watch, Oxford Brooks University)



Tom Hart
Laure Cugnière



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From cliff-nesting seabirds to remote-island reptiles, colonial species across the UK Overseas Territories and Crown Dependencies often live in habitats that are difficult to access and monitor using traditional field methods.

However rapid advancements in technology are transforming what is possible for conservation. Many more colonial species in UKOTs could be monitored in more sites if the need for human presence is relaxed. This session explores how cutting-edge tools such as drones, autonomous cameras and artificial intelligence are being deployed to revolutionise under-monitored species in these regions.

Vast datasets on species distribution and abundance are being collected throughout the UKOTs and CDs particularly for hard-to-reach or spatially dispersed species like seabirds. We report how DPLUS174 has been tackling these issues and how the lessons may be generalisable to many more UKOTs. The talk will delve into how the data collected can be analysed efficiently and accurately by “artificial intelligence”, rapidly turning terabytes of images, video and audio into actionable insights. Real-world examples will be shared. Best practices will be highlighted, potentially feeding into the following general discussion, consideration of the challenges and opportunities of integrating these technologies into long-term conservation strategies.

This talk may be of interest to practitioners, policymakers, researchers and anyone keen to see how innovation is driving conservation impact in some of the UK’s most biodiverse but remote territories.

Tom Hart & Laure Cugnière (Seabird Watch, Oxford Brooks University)

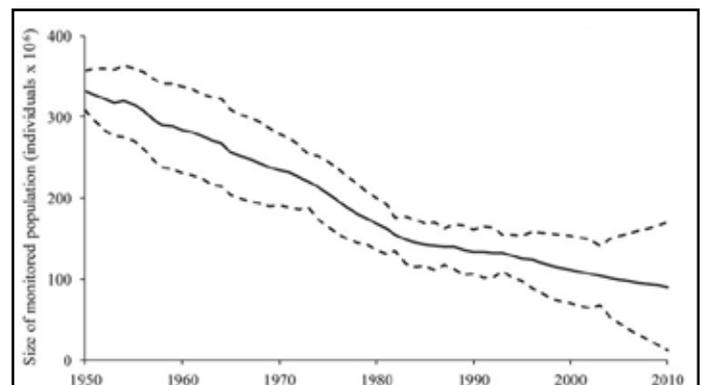
Hello, everyone. My name is Tom, and I am speaking also on behalf of Laure Cugnière. We are from Oxford Brookes University and Seabird Watch. Most of what I will be talking about today is funded by Darwin Plus. I would like to talk about how we monitor remote populations; that should be of relevance to many of us in the room.

So, traditional monitoring can be quite hard because areas are hard to get to, or specific animals may be hard to see. It may be that you have populations that you cannot get to every day. It might just be a time-resource. So, we aim to fill those gaps. And particularly, that is a lack-of-resource issue in a lot of the UKOTs, for where we have colonial species that might be appropriate to this kind of technology.

So, what we have been developing over the last few years is population-surveys using drones. I do not think of it as a new technique anymore; it has just come of age. We need to spin it out for a lot more people to access. We have spent a lot of time on phenology, but

also reproductive-success, using autonomous cameras. Our niche, or our added value to this, is that we can help people process this huge amount of data, using both citizen-science and artificial intelligence. And of course, the goal is to inform policy – which could be anything from localised protection to marine protected areas.

The world’s seabirds are in decline, and of the monitored colonies around the world, we have lost over half. This



Population trend of the World's Monitored Seabirds, 1950-2010



relates to monitored colonies. What about those that are not monitored? Also, do we have biases in these? Because it really does depend on where you look.

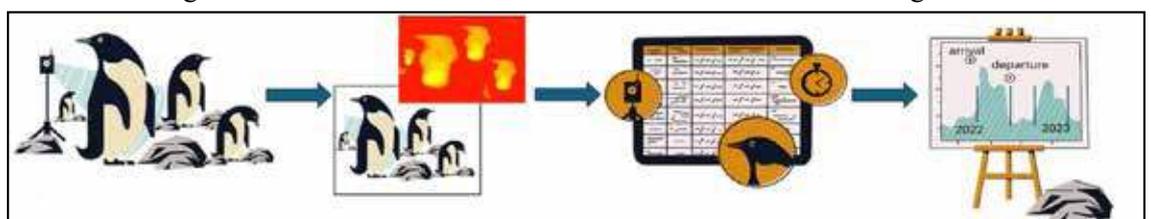
Historically, we have done this by field-visits and field-experiments, which usually involve counting. But there is also a lot of behaviour that we want to capture, like phenology and reproductive success. Ideally, we would have historic data that goes back over a time-series, and the longer that goes back, the better. But even if that does not exist, it is easy to start now. There are solutions that can help, such as remote sensing of populations. That has been done on everything from penguins and seals to albatrosses and turtles. That might be satellite-monitoring. It is very powerful, but it does presume that one can see the animals of interest; so that cannot be in places with a lot of cloud-cover, and it is not going to be regular.

On the ground, going around places, counting things, is robust in that we can all do it. However, it might be limited in: how often; when we can get there; and whether we can count some of the larger colonies of things. Also, whether there is an issue of disturbance. The coming-of-age techniques of drones and time-lapse

cameras are what I want to focus on today, to make people think about whether these are appropriate for them. This challenge started in Antarctica. Every year, thousands of seabirds arrive, and start to breed. Because many penguin colonies are very hard to get to, we have big data-gaps. We have tended to get data only from near scientific-bases.

We have tried to fix that by hitchhiking on a load of different ships, leaving cameras, and seeing what very regular observations can do. So here (*top of page*) you see a load of king penguins on South Georgia, an unmonitored colony, but now we can do chick-counts, timing of breeding and even look for things of other interest. In the foreground, the little white bird is a sheathbill. It has turned out that it might be quite a powerful indicator of avian flu.

This project is quite mature in Antarctica. We have about 100 sites we monitor regularly. In the diagram (*below*) a camera, takes photos of penguins. Those are now converted through AI, but until recently, it was also citizen-science. A data-sheet gives a count of

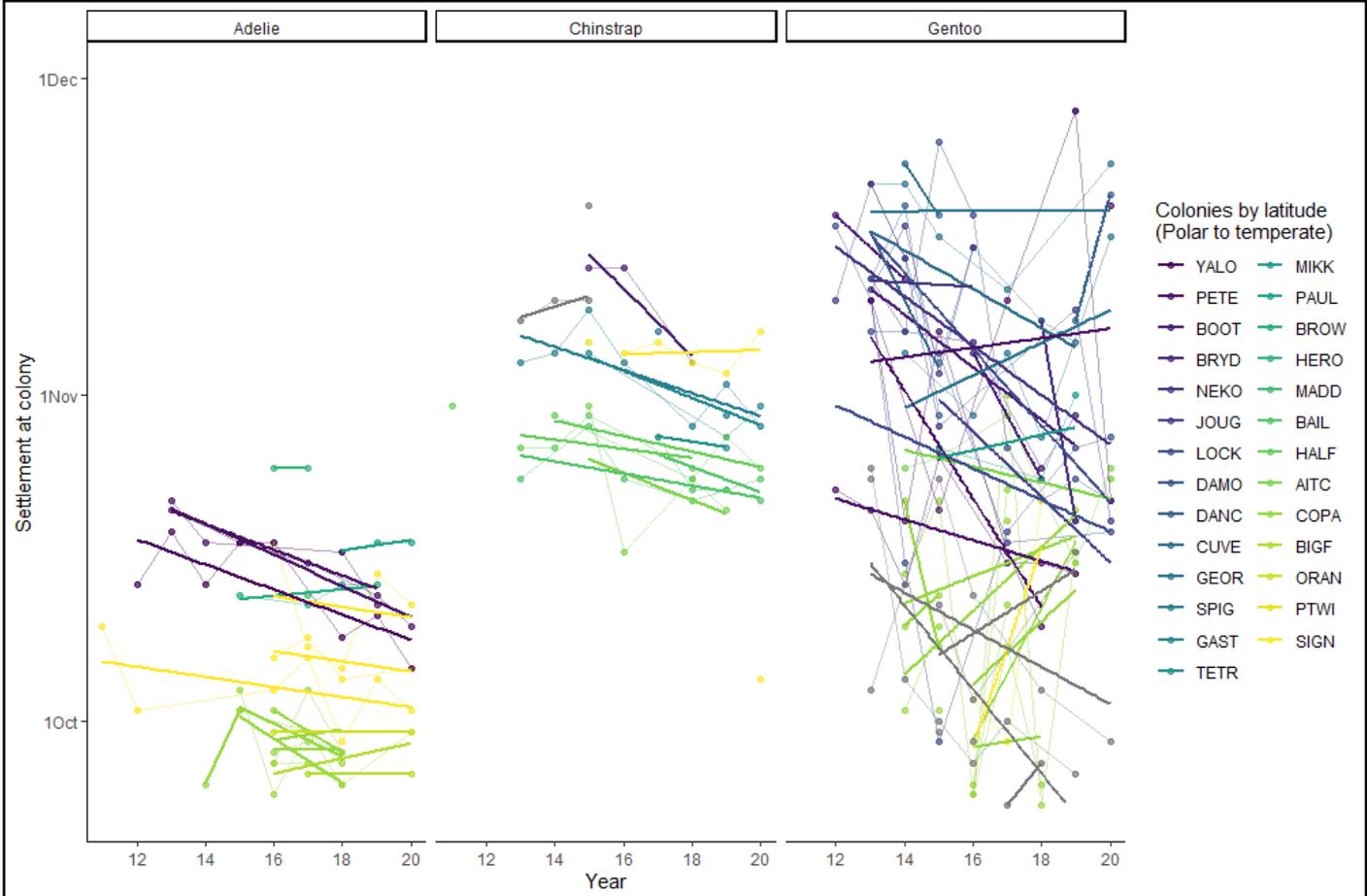


Camera Name	Pengbot Out Folder (.matlab)	Pengbot Density Maps (.jpg)	Pengbot Count Files (.csv)
AITCc	AITCc_pengbot_out	AITCc_density_maps	AITCc_pengbot_count
BAILa	BAILa_pengbot_out	BAILa_density_maps	BAILa_pengbot_count
BOOTA	BOOTA_pengbot_out	BOOTA_density_maps	BOOTA_pengbot_count
COPAa	COPAa_pengbot_out	COPAa_density_maps	COPAa_pengbot_count
CUVEb	CUVEb_pengbot_out	CUVEb_density_maps	CUVEb_pengbot_count
DAMOa	DAMOa_pengbot_out	DAMOa_density_maps	DAMOa_pengbot_count
GEORd	GEORd_pengbot_out	GEORd_density_maps	GEORd_pengbot_count
GEORe	GEORe_pengbot_out	GEORe_density_maps	GEORe_pengbot_count
GODTa	GODTa_pengbot_out	GODTa_density_maps	GODTa_pengbot_count
HALFb	HALFb_pengbot_out	HALFb_density_maps	HALFb_pengbot_count
HEROa	HEROa_pengbot_out	HEROa_density_maps	HEROa_pengbot_count
LOCKb	LOCKb_pengbot_out	LOCKb_density_maps	LOCKb_pengbot_count
MADDA	MADDA_pengbot_out	MADDA_density_maps	MADDA_pengbot_count
NEKOc	NEKOc_pengbot_out	NEKOc_density_maps	NEKOc_pengbot_count
ORANa	ORANa_pengbot_out	ORANa_density_maps	ORANa_pengbot_count



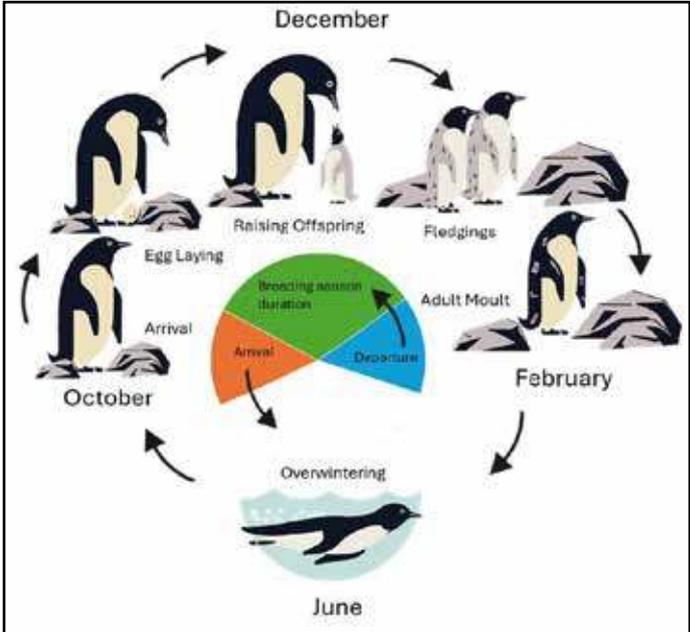
every image, the metadata, the time it was taken, the temperature, etc. We then convert that into parameters of interest, and this part is now all automated for penguins. We are just publishing the first paper, where every part of this process was automated. With a few tweaks, it may be applicable to your species and scenarios.

This (*below*) is what the last 15 years of monitoring in Antarctica has shown. We have shown that Adélie's and chinstraps now breed 10 days earlier than they did about 10 years ago, and Gentoos are, on average, 2 weeks

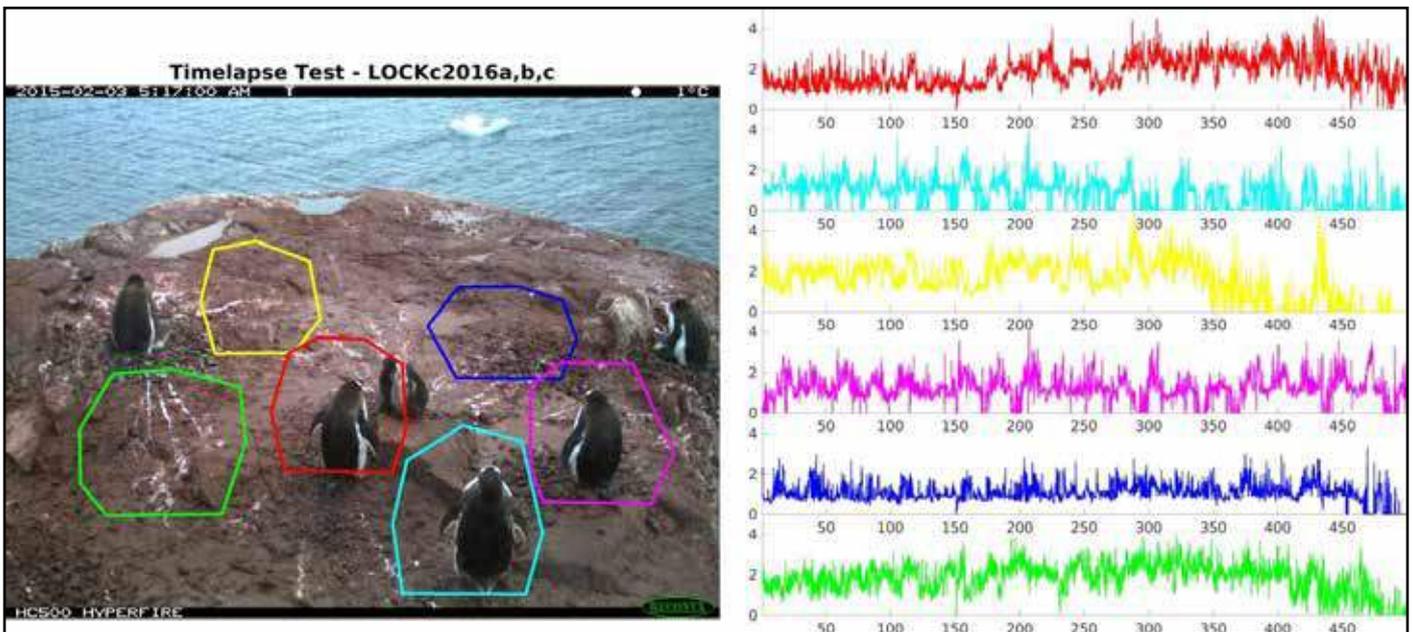


earlier, but you can see the huge variance. We show that these penguins are all adjusting their breeding season, so those that breed earlier, are also departing earlier, and seem to be shrinking the breeding season. This could be a good thing, other than we know that most of these populations are in decline.

Interestingly, we are now looking at a carryover effect, and we do see that those that depart earlier are also arriving earlier, so there is a knock-on dependency between years.



This (*above*) is the breeding cycle of penguins, and we're seeing both early arrival, early departure, shrinking of breeding season, and potentially a bit of a cascade across



seasons. Which, again, could be a good thing if they have more time to overwinter and feed up.

But, given these populations are in decline, it raises worrying questions about why that flexibility is not allowing them to adapt enough.

We do have some positives, though. With a collaborator in Argentina, Andrea Raya-Rey (at CADIC-CONICET), we found that, on her site, when penguins start earlier, they end earlier. And that is leading them away from hot days when the chicks have been shown to die in the heat. So it could be that this, whichever cue they are following, has advantageous impacts.

As we have got the AI working, we have got a lot bolder in what we do. I mean, it's really encouraged us, and it should encourage you to collect more data. And to do it now if you are in any doubt. So, this (*above*) is a one-minute interval camera from Lockroy, and we are using that to get foraging success.

This has been thanks to a huge, effort and collaboration with Andrew Zisserman and Carlos Artita.

And a new collaboration with the same group, with Nikki Armani, who has generalised this from penguins to all other seabirds. It does seem now that the new algorithm, CountGD, works on basically anything we can see in an image, and can tell it what to count (*below*).

So that has huge implications for the camera data, but also for drones. For the last few years, we have been using drones all around Antarctica. The population trends depend where you look.

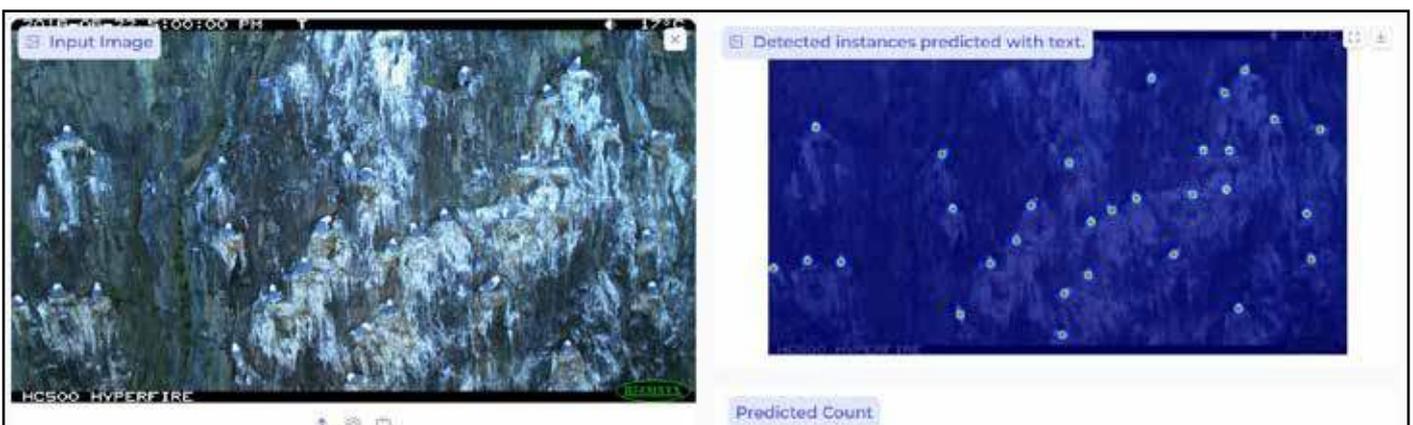
We see positive and negative trends. And our take-home from this is that, yes, we are seeing large-scale population-changes, and it depends where you look. Drones have allowed us to cover a lot more ground, and to get the nuance of what we need to, hopefully, mitigate some of these threats.

Considering these, what are the opportunities and limitations for monitoring across the UKOTs? Well, both cameras and drones work now; it is whether they work in your scenario.

There are also things we have not mentioned, such as invasive species and disturbance. Images from Montserrat show goats, donkeys and cats disturbing wildlife; this may help reprioritise what is needed to avoid disturbance.

The strengths and limitations: to set up a camera that will last at least 5 years costs probably about £500, and then a small annual monitoring cost.

But should you use that? If you can see your organisms, if they breed in groups, and if there is a good enough view, ideally looking down on them, and if you can get a suitable number of nests per view, or if you are happy



to spend on multiple cameras, so one per nest, then yes, this should work for you. It is worth checking whether the AI works for your species, and we can help you with that. We have a tool online. We are still working on productivity, and that does not automate yet. Phenology does, as does the detection of, invasive species or predators.

If you are interested in drones, then these cost a bit more, about £5,000. But we occasionally have spares or old drones that we can lend you, at least to get started. The big limitations are whether you can see your species.

If the targets of interest are burrow-nesters, this is a problem that we have not really fixed yet. I have mentioned this several times, in text, but you need to be able to recognise roughly what you're looking at within the image, and if you can, then AI should be able to do this. And you need to think about whether you can do that without disturbing wildlife. But we have lots more information on this we are more than willing to share. And we are also very happy to train you. We have a limited budget. We are very interested through this forum in holding a workshop for these techniques.. If you can get to us, we are more than happy to spend time training and help you set up for this in your scenario.

So, thank you very much.

Q&A

Andy Pearce: Thank you very much Tom for another fascinating presentation. Pretty arresting, particularly the figures at the start of your talk about the overall 50% reduction in seabirds – pretty shocking. Many thanks to you and your team for all the work you are doing.

John Randall: Thank you very much for a fascinating presentation. All of them have been so far but this one was particularly interesting for me as somebody who is very interested in bird-populations. What I was going to ask about is two things. First, as you said burrow-nesters are particularly difficult to monitor; presumably a lot of burrow-nesters are nocturnal species, so I was just wondering whether any of the technology yet has got night-vision involved. The other question, in regard particularly to penguins but I think elsewhere where their breeding season has been brought forward or whatever, is there any indication, apart from the fact that populations are declining, maybe their food sources are not adapting to the changes as well as perhaps the penguins breeding?

A: In response to the first question, are burrow-nesters a problem? Yes, they absolutely are. We have tried with thermals to look into burrows, and you need quite a big temperature-differential for that. So it works better towards the poles than it does in the tropics. It basically doesn't work in the tropics. The most close to success we've seen in this is Ellie Owen from National Trust for Scotland, and she has been looking at puffins and whether you can do very high resolved surveys of burrows. So

that's the closest we've got to that. Otherwise we are still going to have to do play-back, be on the ground, put an audio playback device down a hole and see if it is occupied or not. It is definitely something that we are looking at but it is a big gap. There is a possibility with time-lapse cameras with thermal or night vision. We have looked at those in penguins and they work because they are a lot more expensive and power-hungry so we have not been able to do it at the same level yet.

Your second question, predators and prey. We haven't looked at this in penguins yet. The only places where people study food-metrics as well as monitor colonies is really at one or two sites. We are looking at proxies for that, such as where whales are year-on-year because they have more flexibility. It remains a big problem. So elsewhere, wherever it has been studied, we see increasing mis-match so the prey and predator don't always respond at the same rate to changes in the environment. So we think it is a problem.

John Randall: I've got lots of compliments, and also, I think you will be able to see them from people interested in taking up the training offer you made. So that's Keith Bensusan, Nancy Pascoe, the Bermuda National Trust, and the St Helena National Trust [see below].

Keith Bensusan: Yes to a workshop, please Tom! I know plenty about your work and I think it would be of enormous benefit for everyone.

Bermuda National Trust: Thank you! This is so interesting and I am very keen to take advantage of any training available.

Helena Bennett (St Helena National Trust): Tom, we would love to have a chat with you. We are starting our Coastal Management programme with Darwin, including monitoring seabirds – masked boobies and storm petrels – what is the smallest animal the remote cameras can pick up, and how long do you keep them out for (*i.e.* battery life).

A: The smallest animal the cameras can pick up: as long as you can see them then it's fine. And in response to everyone who is reaching out, then please take our contacts and obviously if you want us to come to you you've got to figure out a way to pay for it. If it is possible for you to come to us, then yes we can host you. It only takes a couple of days to be able to train you.

John Randall: Harry Marshall has asked: whether bioacoustics methods are a better bet for burrows.

A: Yes, it could work, bioacoustics have been showing a link to relative abundance, so you can get relative numbers over time but it's a lot less precise. It's certainly brilliant for rough reproductive success, number of chicks, and definitely phenology; so yes, timing of breeding for sure.

John Randall: Nancy Pascoe, BVI, has asked whether you do any online training.

A: Very interesting, so could we do any online training? I think we would need to think about that. We have been very practical and hands-on until now. We will think about how we could do that.

Jodey Peyton: From **Laure:** Interested in a workshop or training on remote species monitoring using drones or time-lapse cameras, sign up here:

https://docs.google.com/document/d/1R6fwAFw19bQDjH8miRTIELLjWGXl_IJE7M4r3osc-zo/edit?usp=sharing

or email lcugniere@brookes.ac.uk.

Ajhermae White: Nice presentation, Tom! In Montserrat, our biggest issue with seabirds that nest in burrows is being able to find them and access them. If we were able to access one, the other challenge would be how to position the camera if the entrance is small.

A: There are smaller cameras available. There are cameras specifically developed for nest-boxes so I think that nowadays that's possible

Catherine Wensink: Can you give a flavour of what AI can do?

A: That's an interesting one. I tried to put that on the screen. But what can it do now? The penguins that we have been working on for a while, we can follow every nest and tell us nest-rate survival. Everything we have run through so far, in principle, if you can look at it as an expert, and say "That's a fulmar, that's a booby" and there's enough pixels in it, so if it is recognisable within the image, then AI can automatically count it. And this, very shortly, we hope to be a public website. Nicky, our collaborator in Oxford in the engineering department, is building that into a website so that it will be available to everyone. We are talking months now: I am hoping availability within the next 3 months – and that means you will be able to go and try it out yourself, and see if it works for your situation.

John Randall: I think that's everything. I would like to thank you again for a really interesting presentation. A lot of food for thought. And I now hand back to the hard-working Jodey to carry on, as I have to get back to some voting, I think. Thank you all very much.

Mike Pienkowski: Thank you very much for breaking out of voting for more important matters.

John Randall: My thoughts entirely.

Andy Pearce: Thank you very much John.

Tracking Change: Phytoplankton Trend Analysis in British Gibraltar Territorial Waters (BGTW)

Marre Linthorst¹, Stephen J. Warr² & Awantha Dissanayake¹ (1. School of Marine and Environmental Science, University of Gibraltar; 2. Department of Environment, Sustainability, Climate Change and Heritage)



Marre Linthorst

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Phytoplankton play a central role in marine ecosystems as primary producers, forming the base of the food web and contributing significantly to global carbon cycling and oxygen generation. Because of their sensitivity to environmental change, phytoplankton communities are widely recognised as effective indicators of ecosystem health, water quality, and early warning signals for eutrophication, climate change, and other anthropogenic impacts. Despite their ecological significance, long-term, high-resolution studies of phytoplankton dynamics are lacking in British Gibraltar Territorial Waters (BGTW) and the wider region, leading to a critical knowledge gap in the assessment of the marine environment. To address this gap, a comprehensive twelve-year dataset (2013–2024) of phytoplankton abundance (cell counts per Litre) from four representative coastal sites (Sandy Bay, Camp Bay, Runway, and Mid-Harbour) was analysed. The analysis followed international guidelines established by the OSPAR Commission, with indicators selected to align with both the OSPAR Quality Status Report and the EU Water Framework Directive.

Results demonstrate considerable interannual and seasonal variability in total phytoplankton abundance and diversity across the four sites, with a significant increase observed in winter. At the species-specific level, several taxa exhibited significant trends (both increasing and decreasing) across all four sites. Diatoms consistently dominated the phytoplankton community, while dinoflagellates and cyanobacteria exhibited episodic increases during particular seasons. Analysis of harmful taxa revealed sporadic peaks in the abundance of certain dinoflagellate species as well as toxic cyanobacteria associated with harmful algal blooms (HABs), with some taxa showing significant trends at particular sites. Community analysis further identified significant changes in community state space at three of the four sites (Sandy Bay, Camp Bay and Runway) when comparing recent years to the historical baseline, indicating a degree of community change potentially linked to environmental pressures or climate-driven shifts. However, due to the absence of supporting evidence linking these changes to specific environmental pressures, Good Environmental Status (GES) is considered 'unknown' according to OSPAR criteria, as assessment requires a demonstrable link between biological changes and anthropogenic or manageable pressures.

The findings provide the first detailed baseline of phytoplankton dynamics in BGTW and inform ongoing and future marine monitoring. Evidence of community shifts highlights the urgent need for consistent, high-resolution monitoring and adaptive management, particularly as climate change, nutrient shifts, and human pressures are expected to further alter phytoplankton communities and increase the risk of HABs. To support more robust GES evaluations, future assessments should incorporate concurrent environmental data to better identify the drivers of phytoplankton variability. By aligning with international frameworks, this

research supports Gibraltar's Water Framework Directive obligations and offers a replicable model for future assessments, ultimately facilitating evidence-based policy, conservation, and sustainable management of this vital marine ecosystem.

Marre Linthorst¹, Stephen J. Warr² & Awantha Dissanayake¹ (1. School of Marine and Environmental Science, University of Gibraltar; 2. Department of Environment, Sustainability, Climate Change and Heritage)

I am Marre Linthorst, and I am with the University of Gibraltar. This poster is part of my dissertation and represents the research I conducted. The study provides the first long-term, high-resolution assessment of phytoplankton dynamics in British Gibraltar territorial waters from 2013 to 2024. Phytoplankton are very sensitive to environmental change and serve as early indicators of ecosystem-health, eutrophication, and climate-change.

Prior to this research, no long-term, species-level analysis had been carried out in Gibraltar waters because previous assessments relied solely on A-data, which do not reflect changes in species-composition or trends in biodiversity. To address this gap, I analyzed a 12-year dataset from four coastal sites in Gibraltar: Sandy Bay, Camp Bay, Runway, and Mid Harbor. I applied the OSPAR Quality Status Report framework to evaluate trends in abundance, diversity, and community-structure using cell-count data, rather than just chlorophyll-a measures, employing three indicators.

The results establish the first baseline of Gibraltar's phytoplankton community across four sites. There has been a significant increase in total abundance and structural changes at three of the four sites, indicating emerging ecological shifts, potentially driven by climate-change or local pressures. Interestingly, the site where no changes were observed was also found to have a trend in one of the indices, showing that it is moving toward a more typical community for that particular site.

Despite these changes, good environmental status remains unknown under the OSPAR criteria due to insufficient supporting data linking these biological trends to specific human pressures. To strengthen future monitoring, I recommend including concurrent environmental data and standardising the sampling scheme to reduce sampling-bias.

Overall, this research fills a critical knowledge-gap in Gibraltar's marine environment, provides a policy-framework for future assessments, and supports evidence-based management to safeguard the region's pelagic habitat under a changing climate.

The Dietary Dynamics of Red Foxes *Vulpes vulpes* Amidst Changing Rabbit Availability

Jemila Mellin (University of Gibraltar), Bethany Maxwell (Gibraltar Botanic Gardens / University of Gibraltar) & Dr Awantha Dissanayake (University of Gibraltar)

Mellin, J., Maxwell, B. & Dissanayake, A. 2025. The Dietary Dynamics of Red Foxes *Vulpes vulpes* Amidst Changing Rabbit Availability. pp 196-197 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

European rabbits *Oryctolagus cuniculus* are a keystone species in Mediterranean ecosystems, crucial as a primary food source for predators like the Red Fox *Vulpes vulpes*. Recently, Gibraltar experienced a significant decline in local rabbit populations, which could threaten the Red Fox's survival due to its reliance on rabbits as a primary food source. Such a decline in prey could potentially disrupt food webs as foxes may switch to alternative available prey such as the Barbary Partridge or nesting gulls, affecting the overall biodiversity in the region. This study provides baseline data on red fox feeding habits and estimates the abundance of both species within the Gibraltar Nature Reserve. Over five weeks, camera traps at three sites within the Gibraltar Nature Reserve and its fringes recorded the abundance (observations as a proxy) and activity patterns of rabbits and foxes, with significant site-specific differences identified, stemming from minimal human exposure (fox: $p=0.004$; rabbit: $p=0.001$, ANOVA).

Scat analysis further explored fox dietary habits, revealing site-specific variations (PERMANOVA $p=0.03$). At Site 1: Mediterranean Steps, fox scat yielded mostly bone and fur (43.3 %), while fruit and vegetables dominated at Site 2: Green's Lodge Road, (21.4 %). Site 3: Sandy Bay, diets were more diverse, consisting of bones, quills, feathers, and invertebrates (54.1 %). The varied composition of prey items (indicative from fox scat) demonstrates the behavioural flexibility of red fox diet and composition.

This research is the first in Gibraltar to focus on these species, highlighting the Red Fox's dietary adaptability and its reliance on declining rabbit populations. Findings emphasise the need for conservation efforts to mitigate ecosystem impacts.

Jemila Mellin (University of Gibraltar), Bethany Maxwell (Gibraltar Botanic Gardens / University of Gibraltar) & Dr Awantha Dissanayake (University of Gibraltar)

Hello everyone, my name is Jamila, and I am a Master's student from the University of Gibraltar. This poster presents research conducted on the predator-prey relationship between red foxes and European rabbits in Gibraltar. It was prompted by a significant rabbit-decline in April of 2024 and aimed to assess the potential impacts on the red fox population. Although the study was limited to a five-week period, which restricted the potential for long-term conclusions, some interesting patterns did emerge.

Studying species-behaviour reveals important details about habitat-use, foraging, abundance, and activity, both

individually and between interacting species. Considering the rabbit-decline in Gibraltar, it was essential to understand the role of the red fox and assess how this shift might affect other species found on the Rock. The study was conducted from May to June 2024 at three sites within the Gibraltar Nature Reserve.

This research employed the analysis of camera-trap footage and scat-analysis. Camera-traps were used to determine the relative abundance of rabbits and foxes within the nature reserve, with two cameras placed at strategic locations within each study-site. Footage was collected and analysed daily. Scat-analysis was

conducted to investigate potential dietary changes in the local fox population. Scat-samples were collected opportunistically on a weekly basis across all sites, with macro-components extracted, examined, and categorised for further analysis.

The study revealed three key results. The dietary analysis suggests that red foxes on the Rock are adaptable to changes in food-availability. While bones and fur were present in the majority of scat-samples, they were not always the most frequent components. Scat from Greens Lodge Road contained a higher proportion of fruit and vegetable-matter, probably due to the site's proximity to a macaque-feeding station. In contrast, scats from Sandy Bay showed a greater frequency of feathers, possibly due to a higher abundance of bird-species in the area.

Activity-patterns indicated that rabbit peak-activity in Gibraltar differs from patterns in the existing literature. Typically, rabbits are most active just before sunrise and shortly after sunset. This shift in activity could represent a behavioural adaptation to avoid fox-predation. Data from the camera-traps showed the highest rabbit and fox detections, as well as greater species-diversity, at Greens Lodge Road. The increased number of species in this area could probably be due to limited human disturbance.

Currently, there is no research on fox-populations within the Gibraltar Nature Reserve. The findings from this study provide valuable baseline-data on both rabbit and fox populations in Gibraltar, offering insights into their abundance, behaviour and dietary patterns. Such functional knowledge is essential for monitoring population-trends, detecting ecological changes, and guiding future conservation-efforts.

In summary, understanding fox-feeding habits and behavioural ecology can inform targeted management-strategies that protect both predator and prey species. Given the foxes' opportunistic nature and adaptability, the loss or reduction of a primary food-source such as rabbits could drive behavioural changes, potentially affecting other vulnerable species or leading to human-wildlife conflict. Thus, effective management will require the integration of ecological data, ongoing field-research, and adaptive conservation-planning.

Thank you for your attention.

Ecological insights and conservation challenges for the Orange Cup Coral *Astroides calycularis* in the Western Mediterranean

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Awantha Dissanayake

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Astroides calycularis, commonly known as the orange cup coral, is a scleractinian coral species endemic to the Mediterranean Sea, primarily distributed along the southern and western coasts. It thrives in dimly lit environments such as underwater caves, overhangs, and vertical walls, typically at depths ranging from 5 to 40 metres. As a non-zooxanthellate species, *A. calycularis* relies exclusively on heterotrophic feeding, making it well-adapted to low-light conditions. Its life history includes slow growth rates, limited larval dispersal, and episodic recruitment, all which contribute to its vulnerability.

In recent decades, *A. calycularis* has faced several anthropogenic and climate-related threats. Habitat degradation due to coastal development, marine pollution, and physical damage from diving and fishing activities pose significant risks. Additionally, rising sea temperatures and ocean acidification have raised concerns about its physiological resilience and future survival.

Despite these challenges, recent studies highlight the species' potential for restoration. Successful transplantation experiments using Corals of Opportunity in Gibraltar's waters demonstrate some capacity for recovery with high success transplantation rates (93 %) observed > 1 month post-transplantation. Some coral colonies were lost/died due to various factors including glue failure, diver impact (dislodged colonies) and longer term due to the impact of Marine HeatWaves (MHWs) over summer months with impacts to polyps and overall colony health.

Active restoration efforts are a necessary step to abate the biodiversity crisis, as the Orange Cup Coral is an important ecosystem engineer, that not only increases habitat complexity but supports a diverse benthic community and associated fish species in the Western Mediterranean. To conserve the vulnerable coral, effective conservation strategies in combination with monitoring efforts and effective policy measures are paramount for survival of the species.

Awantha Dissanayake (School of Marine and Environmental Science, University of Gibraltar, Europa Point Campus, GX11 1AA, Gibraltar)

Establishing a Baseline Characterisation of Marine Benthic Taxa and Trophic Structure in Guernsey: Evaluating the Ecological Impact of Local Fisheries

Eve Torode, Jamie Selina Davies & Awantha Dissanayke (University of Gibraltar)



Eve Torode

Torode, E., Davies, J.S. & Dissanayke, A. 2025. Establishing a Baseline Characterisation of Marine Benthic Taxa and Trophic Structure in Guernsey: Evaluating the Ecological Impact of Local Fisheries. pp 199-200 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

The present study provides the first baseline assessment of marine biodiversity and trophic structure in Guernsey's waters, investigating the ecological impacts of varying fishing pressures using mono-Baited Remote Underwater Video systems (mono-BRUVs). Deployments were conducted across three spatially distinct sites representing varying relative fishing pressure: Herm (low), Boue Blondel (moderate), and Great Bank (high), to evaluate community composition, population dynamics, and trophic structure. A total of fifteen species, including twelve commercially and three ecologically important taxa, were detected during the study. Results reveal a gradient of community complexity and community simplification plausibly linked to higher fishing pressure and the dominance of lower trophic level taxa, likely resulting from the reduced predator abundance at heavily fished sites, as exhibited by the Great Bank. Seasonal closures and management measures at Boue Blondel appear to foster more balanced trophic structures, while low pressure at Herm appears to support stable and even communities despite lower species richness. Herm's minimal detection rate is reasonably assumed to be a result of confounding limitations in the experimental design, technical difficulties and habitat complexity that, while not unsuitable, is less preferable compared to the other clear biotypic habitats. Consistent with this, the study would have been better positioned by locating the Herm site to within the Humps Ramsar site more effectively to capture species presence, while maintaining low-fishing effort requirements. Methodologically, mono-BRUVs proved effective for non-destructive benthic trophic level assessments, though limitations such as bait bias and video quality were noted. Effective use of mono-BRUVs requires comparable experimental designs and deployment strategies that align with specific research goals and environmental conditions to ensure accurate and robust data-sets. The study recommends implementing enhanced matrices for video analysis and integrated monitoring programmes that combine complementary survey methods. Given Guernsey's unique ecological and socio-economic context, adaptive, locally informed management-approaches are essential to address island-specific vulnerabilities and to support the long-term resilience of both biodiversity and the fishing sector. For this reason, the study encourages adaptive ecosystem-based fisheries-management as an essential strategy to sustain biodiversity and sector resilience, especially considering increasingly variable marine conditions.

Eve Torode, Jamie Selina Davies & Awantha Dissanayke (University of Gibraltar)

I am Eve Torode, and I am doing this as part of the partial fulfillment of my MSc at the University of Gibraltar in Marine Science, along with Marre, who spoke earlier. My study was based in Guernsey.

I wanted to establish a baseline characterisation of

marine taxa in Guernsey, especially in relation to trophic structure. A short-term study was never going to address the full question, but the goal was to see if the fishing industry, both commercial and recreational, is having an effect on our local waters and the community-

composition of benthic taxa.

I conducted this study by deploying mono-BRUVs in three areas of varying fishing pressure. The lowest-pressure site was Herm, identified by Sea Fisheries as having lower fishing pressure, predominantly potting, which made it an ideal control-area. The middle-pressure site was Boue Blondel, a reef to the west of the island, quite far out and deep. The highest-pressure site was the Great Bank.

Each deployment-day consisted of six deployments of 50 minutes each, yielding a large amount of video for analysis. Regarding mono-BRUVs, there is a lot of discussion around single-camera versus stereo setups and the best way to analyze the footage. I tested different analysis-techniques. I used a method called N-Max, which involves five minutes on, five minutes off, and I used also OPUE, which aggregates all observations and divides them at the end. However, I found these methods tended to under-represent species-richness; so I enhanced the dataset by including species not captured in those standard parameters.

The results largely aligned with my projections: fishing impacts biodiversity, particularly the benthic communities in Guernsey. One site showed slightly different parameters, which I attribute to a less ideal deployment-location. Unlike the other sites, this was a transition habitat just in front of a bay, relatively shallow, rather than a full reef system. Despite this, we still observed notable catches and were able to conduct size-analyses across all sites.

One challenge is communicating findings such as trophic-simplification or predator-loss to policymakers and fishery-managers in a way that leads to constructive management-change. I have been using confidence-matrices for this purpose. Each box contains a single statement highlighting the study's outcome and the level of confidence in that conclusion. While scientists can interpret nuances in the data, this approach expresses confidence in terms like "highly likely" or "definitely," which helps decision-makers understand the implications clearly.

Q&A

Myles Darrell: How do you go about communicating these findings, like trophic-simplification or predator-loss, to policymakers and fishers in a way that leads to some kind of constructive management-change, because that's something we are struggling with here in Bermuda?

A: That's definitely a big issue. I have been using something called confidence-matrices, putting one statement in each box, and indicating how confident I am in all the data, so they know that. Whereas in science, we can all understand if the data seem to show this, but it could also mean, putting it in terms of maybe, highly likely, and definitely, I think, really helps.

Invasive Species dominate tree canopies in Bermuda's protected areas

Alison Copeland¹, Adrian Brennan¹ & Wayne Dawson² (1 Department of Biosciences, Durham University; 2 Department of Evolution, Ecology and Behaviour, University of Liverpool)



Alison Copeland

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Bermuda is a subtropical, oceanic archipelago of 54 km² in the western North Atlantic. Its 400 years of human habitation resulted in over 1400 plant-species introductions for ornamental purposes, agriculture, or wind-breaks. Our recent inventory shows Bermuda has a vascular plant flora of 1587 species from 162 families, with 89.8% non-native species. Of the 52 invasive species, 48% are trees and shrubs. To investigate the prevalence of woody invasives, we surveyed canopy-forming species in 16 Bermudian protected areas.

In upland woodlands, we identified 54 species of trees, palms and shrubs; 20 species were invasive, 13 naturalised and 13 native. The uplands were invasive-dominated, with the 11 most abundant trees being invasive species. The most numerous upland tree was Allspice *Pimenta dioica*, followed by Surinam Cherry *Eugenia uniflora* and Spiny Fiddlewood *Citharexylum spinosum*.

We found 47 species in coastal habitats, including 19 invasive, 10 naturalised and 13 native species. The most numerous coastal tree was the native Bay Grape *Coccoloba uvifera*, followed by the invasive Casuarina *Casuarina equisetifolia*, invasive Brazil Pepper *Schinus terebinthifolia* and the invasive Madagascar Olive *Noronhia emarginata*. Coastal canopies were formed of 51% invasive or naturalised trees, 48% native trees and 1% others, compared to upland habitats where 98% of trees were invasive or naturalised and only 2% native. These results demonstrate the necessity of protecting the vegetation of coastal protected areas from damaging developments, recreational activities and erosion, so that native-species populations and resistance of native communities to further invasion are maintained.

Alison Copeland¹, Adrian Brennan¹ and Wayne Dawson² (1 Department of Biosciences, Durham University; 2 Department of Evolution, Ecology and Behaviour, University of Liverpool)

The subject of my PhD is Bermuda's flora in general. As Myles Darrell alluded to last night in his Ground Lecture, Bermuda's flora is largely invasive and naturalised; so, by default, this is also an invasive-plant project.

I'll run through my poster. The first box is an introduction to Bermuda's flora. We published a paper in March (Copeland & Dawson), and there is a QR code (right) linking to it. The main finding: from a literature search, we compiled a database of 1,587 vascular plant species. Of these, 89% were not native to Bermuda. Using a classification scheme described in the paper, 52 species were classified as invasive. This forms chapter one of my thesis.

Chapter three of my thesis looks at how this translates to the landscape. Over two winters, I surveyed 16 of Bermuda's national parks and nature reserves. We

established 246 canopy-plots, each 20 metres by 20 metres, and counted all trees, palms and shrubs. We recorded 30,873 trees across 65 species. Only 14% of these were from 18 native species, while the remaining 86% were from 47 non-native species.

In an analysis of proportions of native versus non-native trees, the main takeaway was that parks along the south shore, the windward shore, had more native-tree canopies, while most others were dominated by non-natives. Of the 16 parks, 10 had more than 95% non-native trees; four had 99%; and one had 100%. At Warwick Pond, for example, only four plots were surveyed, and not a single native tree was found. At



Seymour's Pond, managed by the Audubon Society, we found just one Bermuda cedar out of 436 trees counted.

Within the non-native trees, we also identified invasive species – defined here as non-native trees forming self-sustaining populations that are actively spreading across the island. We recorded 20 invasive species out of 65 (31%), which made up about 85% of all trees recorded island-wide.

We also compared coastal versus upland plots. Coastal plots were less invaded: 48% native and 51% invasive or naturalised. Upland plots were much more dominated by invasives (98% of the canopy) with only about 2% native species. The main contributors in upland areas were species like Surinam cherry and Allspice. Along the coast, *Casuarina* and Brazil pepper *Schinus terebinthifolia* were dominant.

The good news is that Bermuda's three endemic trees – the Bermuda cedar, Bermuda palmetto, and Bermuda olivewood – still have a visible presence in the canopy, reflecting historic tree-planting efforts in national parks. Protecting native vegetation in coastal areas is important, especially against development or damaging recreational activities.

Looking forward, I am comparing the standing canopy with the seedling layer underneath. In some native-dominated canopies, the seedling layer is invasive-dominated, indicating future changes.

I would like to thank Durham University and the Bermuda Botanical Society for funding the work.

Ants of the Akrotiri UK Sovereign Base Areas (Cyprus)

Jakovos Demetriou, Christos Georgiadis, Evangelos Koutsoukos, Lech Borowiec, Helen E Roy, Angeliki F Martinou & Sebastian Salata



Jakovos Demetriou

Demetriou, J., Georgiadis, C., Koutsoukos, E., Borowiec, L., Roy, H.E., Martinou, A.F. & Salata, S. 2025. Ants of the Akrotiri UK Sovereign Base Areas (Cyprus). p 203 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

Located at the southernmost point of the island of Cyprus, the Akrotiri UK Sovereign Base Area is a biodiversity hotspot for migrating birds, including a designated Ramsar Site, Special Protection Area and Special Area of Conservation. Throughout DPLUS200, a Darwin Plus project funded by the UK government, we surveyed the ant-biodiversity of the Akrotiri SBA. We identified 52 taxa, including twelve endemic and nine non-native species, which collectively amount to 59% of the 88 ant species known from Cyprus. Amongst these, four taxa were first recorded for Cyprus, the non-native *Monomorium exiguum* was first reported from natural habitats in the Mediterranean and the little fire ant *Wasmannia auropunctata* was detected in the Cyprus UK SBAs. Structured seasonal samplings in 10 habitat-types showed higher percentages of non-native taxa in man-made habitats and higher percentages of endemic taxa in natural habitats. Despite its small size (123 km²), the Akrotiri SBA is an important biodiversity hotspot for Cypriot ants. However, urbanisation and land-use regimes seem to affect endemism-maintenance and biological invasions. Nevertheless, further research is necessary, especially regarding the management of invasive non-native species, *i.e.* *W. auropunctata*, as well as the conservation of endemic species *i.e.* *Oxyopomyrmex pygmalioni* and *Temnothorax akrotiriensis*.

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Persistence, Accuracy and Timeliness: Finding, Mapping and Managing Non-Native Plant Species on the island of South Georgia

Bradley Myer (Indigena Biosecurity International)



Bradley Myer

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South Georgia Island, a remote sub-Antarctic ecosystem, is recovering from the long-term impacts of introduced mammals such as reindeer and rodents. With these pressures removed, the focus has shifted to restoring native biodiversity by managing invasive non-native plant-species. Indigena Biosecurity International is supporting this effort through a strategic and spatially driven programme, targeting 35 of the 42 known non-native species on the island for control to zero-density. Using rapid, multi-season surveys and detailed spatial-data analysis, the team has developed and implemented a robust, adaptive control strategy. Since 2016, seven species have been eradicated successfully and ten new introductions have been prevented from establishing. This poster outlines the programme's methodology, key results, and lessons learned from one of the world's most challenging conservation environments.

Bradley Myer (Indigena Biosecurity International)

Bailiwick Eelgrass Project

Mel Broadhurst-Allen (Alderney Wildlife Trust)



Mel Broadhurst-Allen

Broadhurst-Allen, M. 2025. Bailiwick Eelgrass Project. pp 205-206 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

The Bailiwick Eelgrass Exploration Project (BEEP) aims to record and raise awareness of eelgrass (also known as seagrass) across the Bailiwick of Guernsey, through citizen-science. This includes common eelgrass *Zostera marina* and dwarf eelgrass *Z. noltii* species. BEEP is a volunteer-led initiative, set-up in 2019 by the Alderney Wildlife Trust, La Société Guernesiaise, Biodiversity Partnership and Guernsey Biological Records Centre, supported by Seasearch. From 2024-2027, BEEP volunteers are undertaking field-based surveys with local communities. Some of the initial results are presented; they will be used to provide appropriate evidence-led conservation recommendations.

Mel Broadhurst-Allen (Alderney Wildlife Trust)

My name is Mel Broadhurst-Allen, and I am with the Alderney Wildlife Trust as their Living Seas Coordinator. I am presenting this poster on behalf of several organisations across the Bailiwick of Guernsey. These include the Alderney Wildlife Trust, La Société Guernesiaise, the Biodiversity Partnership, and the Guernsey Biological Records Centre, and we are supported by Guernsey SeaSearch.

All of those organisations, back in 2019, set up an initiative called the *Bailiwick Eelgrass Exploration Project* – or BEEP, which is a bit easier to say. We created this project because there was a significant lack of data regarding seagrass, or eelgrass as it is known locally. The aim was to work with our community to record and raise awareness of eelgrass across the islands.

For context, there are two different species of eelgrass within our waters: common eelgrass *Zostera marina* and dwarf eelgrass *Zostera noltii*. Over the last four or five years, we have been taking out different members of the public and stakeholder-groups – marine users and volunteers – to record eelgrass across our shores. We now have a good sense of where those beds are located, but we still do not know how healthy they are. As you can imagine, without that information, it is difficult to recommend the most appropriate conservation techniques or measures for those eelgrass-beds.

Last year, alongside our volunteers and partner organisations, we set up a small assessment that will run until 2027. We are taking our community out during low tides to study eelgrass and, using a range of survey-techniques, we are examining how healthy those beds are. This includes plant-morphometrics, using quadrats,

showing the community how to use them, recording the number of shoots, measuring blade-length, and checking for blackened tips that may indicate health-issues.

We are also initiating carbon-stock analyses. As part of our link to SeaSearch, we record everything within and around the eelgrass-beds, including the surrounding habitat. Recently, we have been gifted some seawater-testing equipment, allowing our volunteers to collect data on parameters such as temperature and dissolved oxygen. They are getting nicely wet while doing so!

By the end of 2027-2028, we aim to provide and publicise a range of conservation-measures based on these findings.

Our early results suggest that the beds are quite similar between 2024 and 2025, though they differ slightly between specific sites. We hope to develop a variety of conservation-measures. These could include promoting awareness for different eelgrass-beds, initiating restoration-efforts such as planting new seeds or translocating adult leaves, or focusing on recovery where simple actions like regular beach-cleans might be sufficient.

We have also identified that freshwater and land-use runoff are major pressures on these habitats. So, part of our next step is to work with local government agencies to find ways to divert runoff away from eelgrass-beds.

So that's it – that's our little BEEP project.

Q&A

Myles Darrell: Are you seeing differences in how each

species responds to the local pressures?

A: Yes, certainly. Dwarf eelgrass is found in a very sheltered location further up the shore. Some of the pressures there are associated with moorings that have been left over time. We are quite pleased that our local government agencies have actually spoken to some of those mooring-owners, and they have moved them out of the way; this has been brilliant, and we can now monitor those differences. We can we actually see a difference in the blade-growth, and how dense that bed will get. And tractors as well: there is certainly some signs of tractor-use on the lower-shore eelgrass, which is common eelgrass that is more impacted by freshwater runoff. Unfortunately, some of the boat-operators might not see where the eelgrass is, when putting their anchors down, or dropping moorings. So, different impacts, which are important because, in 2028, we have to give different conservation recommendations based on where they are.

Bugs in our drawers

Laura McCoy (Manx National Heritage)



Laura McCoy
Photo: Dave Kneale

McCoy, L. 2025. Bugs in our drawers. p 207 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

The Manx Museum holds over 78,000 entomological specimens, forming the largest component of its natural-science collection. These pinned insects, some dating back to the late 19th century, represent an invaluable resource for understanding biodiversity, ecological change, and climate-impacts over time. This poster presents the early stages of a long-term conservation and collections-care project designed to rehouse, re-catalogue, and improve access to this extensive archive. Through volunteer-led efforts, outdated cabinets are being replaced with conservation-grade storage, specimens are being reorganised taxonomically, and obsolete or non-local material is being responsibly deaccessioned. With support from generous donors and a growing network of collaborators, this initiative is not only safeguarding the collection but also preparing it for future digitisation and use in research, education and environmental policy.

Laura McCoy (Manx National Heritage)

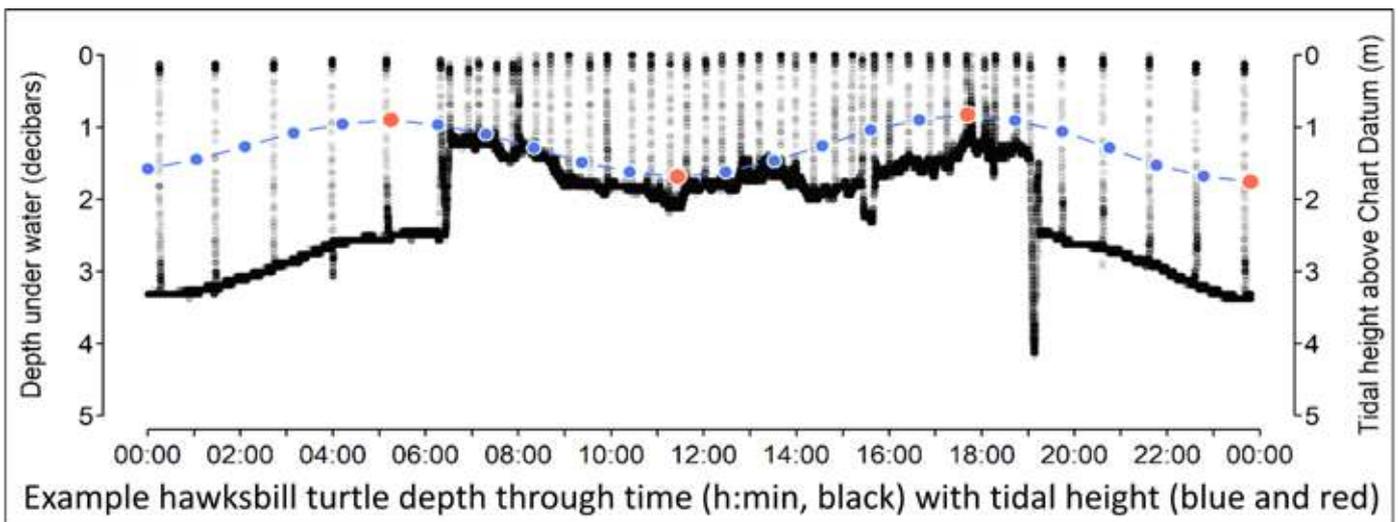
Sea turtles at shallow depths: from foraging in a shallow lagoon to crossing an ocean basin

Kimberley L Stokes, Nicole Esteban, Holly J Stokes, Paolo Casale, Andre Chiaradia, Yakup Kaska, Akiko Kato, Paolo Luschi, Yan Ropert-Coudert & Graeme C Hays (Swansea University)

Stokes, K.L., Esteban, N., Stokes, H.J., Casale, P., Chiaradia, A., Kaska, Y., Kato, A., Luschi, P., Ropert-Coudert, Y. & Hays, G.C. 2025. Sea turtles at shallow depths: from foraging in a shallow lagoon to crossing an ocean basin. pp 208-209 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

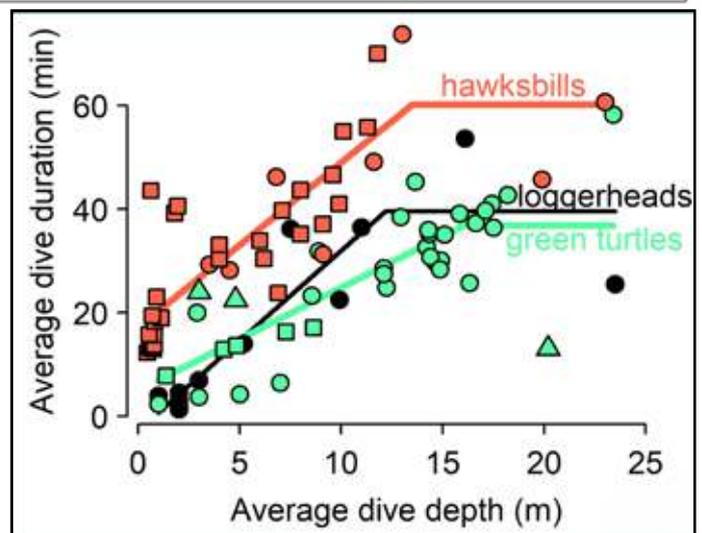
Large marine animals are difficult to observe and are therefore often assumed to spend most of their time at great depths. Two tracking studies in the Chagos Archipelago show examples of sea turtles remaining within 2 m of the sea surface for the great majority of time. Knowledge of the three-dimensional space use of marine megafauna is important for conservation planning.

Kimberley L Stokes, Nicole Esteban, Holly J Stokes, Paolo Casale, Andre Chiaradia, Yakup Kaska, Akiko Kato, Paolo Luschi, Yan Ropert-Coudert & Graeme C Hays (Swansea University)



Study one: hawksbill turtles may be shallow water specialists

Hawksbill turtles foraging in Turtle Cove, Diego Garcia were recorded remaining submerged for up to an hour at



shallow depths (often < 2 m).

Lung-diving animals limit the size of breath taken before shallow dives to avoid excess buoyancy from air in the

lungs, meaning that shallow dives are much shorter than deeper dives where a full breath can be taken.

Green and loggerhead turtles dive for < 5 min at shallow depths (2–5 m).

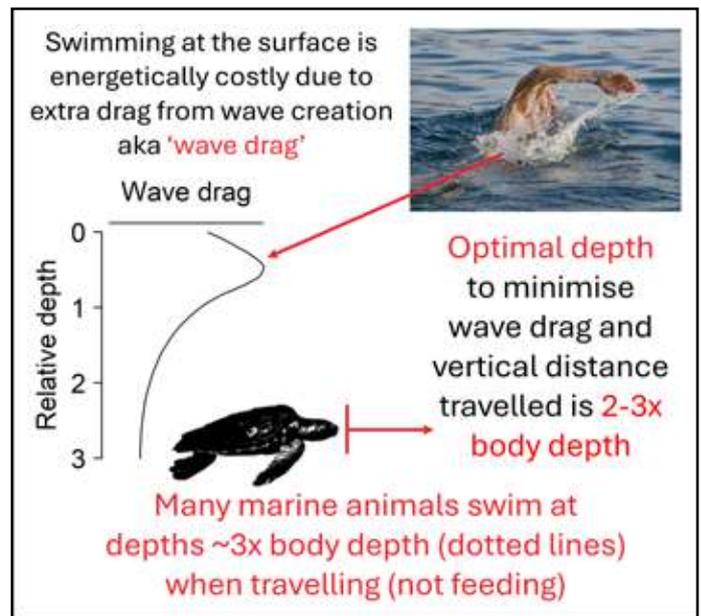
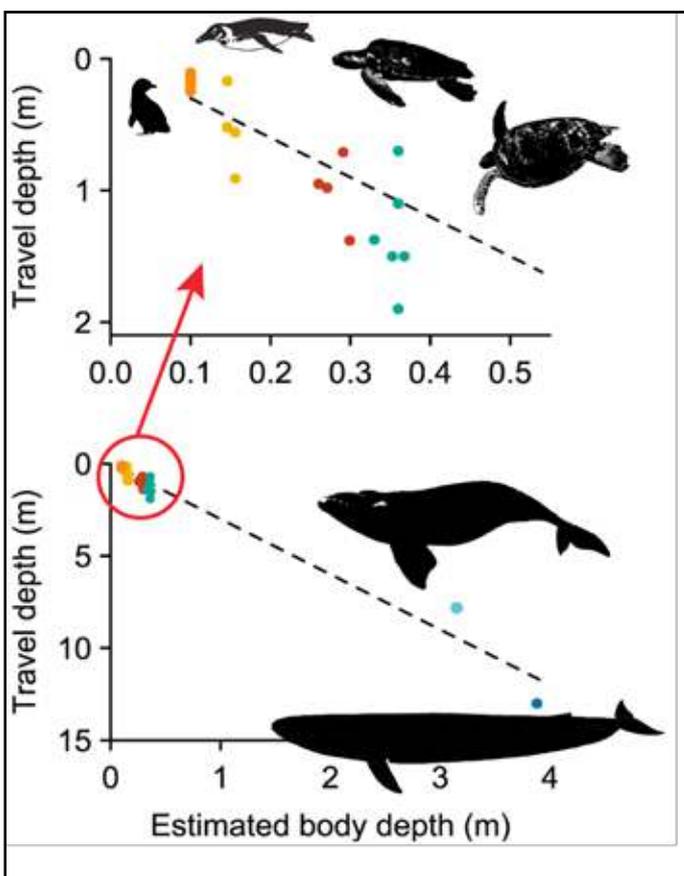
When comparing dive-data from other sea turtle populations, we discovered that hawksbill turtles consistently dive for longer per depth in shallow water (< 25 m) than other species of sea turtle.

Our study highlights variation in foraging depth strategies between these turtle species for the first time. Depth of foraging habitat is assisting with conservation planning in the Indian Ocean. We found that hawksbill turtles on Diego Garcia in the Chagos Archipelago were choosing to forage in very shallow, spatially confined parts of the lagoon to avoid predators in the deeper areas – where large sharks, such as bull sharks, are found. This kind of extremely localised behaviour leaves them very vulnerable to human interference, although it also presents opportunities for targeted protection, such as on Diego Garcia, where they are well protected.

Stokes *et al.* (2023) High dive efficiency in shallow water. *Marine Biology* 170: 45

Study two: green turtles optimise travel efficiency by remaining within 2 m of the surface during oceanic crossings

Green turtles were tracked with depth-loggers during their post-breeding migration from Diego Garcia. We tracked female green turtles on their return migration away from the Chagos Archipelago, which lies in the middle of the Indian Ocean. These turtles were crossing



open ocean on massive journeys of thousands of kilometres, returning to places such as the Seychelles and East Africa.

Depth-tracking studies during migration are rare because of logistical difficulties and a focus on foraging depths. We found that during the daytime, they swam at shallow depths. We also compared this with published data from other species – such as penguins and whales – and discovered a consistent relationship between the depth at which the animals travelled (when they were migrating and not feeding) and their body-size. Across these various species, they were all travelling at depths of around three times their body depth. By “body-depth,” I mean the diameter of the body from the dorsal to the ventral surface – the back to the belly. Travelling at these relatively shallow depths probably allows them to conserve energy by reducing the distance they must travel to the surface each time they need to breathe.

This finding was exciting because it suggests that many migrating animals are present at predictable depths when crossing the ocean. We hope that this knowledge of their three-dimensional space-use can inform conservation-policy around boat-strikes and fisheries-management in known hotspots and migratory corridors, particularly during the seasons when many animals are migrating.

Stokes *et al.* (2024) Optimisation of swim depth across diverse taxa during horizontal travel. *PNAS* 121: e2413768121

Q&A

Paul Edgar, ARC: Did the lower temperatures of deeper water have an effect?

A: For ocean temperatures, I think the temperature-drop would be quite a lot deeper than that,. There are animals that actually go to the depths to cool down sometimes when they need to. But, in this case, when we are talking about within the upper 50 metres, you would expect the temperature to be not that different.

General Discussion on Topic 5

After confirming the recommendations referring to this topic:

Jodey Peyton: Does anyone have any outstanding questions for any of the speakers? We have had a really fantastic range of presentations this afternoon. I think there was a lot of interest in the work that Tom and Laure were talking about in terms of remote sensing and training opportunities. Borrowing drones sounds interesting. And do any of the speakers want to add anything to the talks they gave earlier?

Andy Pearce: I have a general question, as very much a non-expert I found it fascinating listening to all the intricate measuring work that has been going on. And I just wondered whether people have a feel for how that level of knowledge and measurement across the Overseas Territories compares with what we have in the UK itself. Whether it might actually, in some respects, be more advanced in the UK. I am genuinely unaware of it, but I am just really intrigued whether people have a feel about that. For example, seabird population measurement.

Mike Pienkowski: I was just going to say that it might be the case that what we have in mainland Britain or the British Isles or whatever, in particular is the historical record. We have got a long series of information. My background is birds, although I did spend a lot of time lying on mud watching worms. For the birds, we have got a long history of amateur co-ordinated work giving bird-counts. Thinking of the seabirds particularly, there have been seabird censuses every 20 years since somewhere in the 1960s and there are other monitoring techniques too. It used to be my job, but that was 40 years ago, so I have forgotten it all. My feeling is that some of the novel techniques we have been hearing about are being pioneered in the Territories and elsewhere and may be transferable back. But I am almost a layman too, like John Randall, so others may have better ideas.

Jodey Peyton: Tom Heller has put something in the chat around recommendations.

Andy Pearce: Concerning conservation genetics.

Mike Pienkowski: I think that is something we should pick up, but not now, given that, if people want to add new recommendations at this stage, that would need wide consultation. Some of these issues are covered by generic aspects of the existing draft recommendations. There is no limit on when we put recommendations together; we tend to do it at a conference, but there are other possibilities too, especially if we are having workshops. The big challenge with recommendations is getting nobody to disagree with them too much. We don't really want to start another round, it would tire me out I think. It's a good point to note for the future, and possibly to include in less formal outputs of the conference.

Jodey Peyton: a question from **Catherine Wensink** for

Jasper Montana about shifting baselines but I think he might have gone now because he is in Australia.

Catherine Wensink: Something that came up during Jasper's talk reminded me about shifting base-lines across age-generations and how that is factored in to social-science projects?

Jodey Peyton: This is really important and links back to Antje's talk about Tristan and the penguin surveys that were undertaken. Potentially a lot of reasons why those numbers were different.

Andy, has anything stood out for you?

Andy Pearce: The main one, as I said, was that I was struck by the skill and ingenuity and the range of it. It is more than I expected from the relatively thin slice I saw in a place like Montserrat. The other thing that strikes me, a bit of a hobby horse of mine, is the extent of British Government engagement in it. We have a lot of people here, a big resource actually, committed to measuring and conserving, across the Overseas Territories. But, with due respect to Minister Mary Creagh who addressed us earlier, I am not sure I am seeing an equivalent interface on the part of the British Government, in digesting this and supporting it cohesively overall. I don't know whether others have a similar view; I might be being unduly negative there.

Mike Pienkowski: I don't know whether we have anybody from JNCC in the session at present – or, indeed, whether they would be prepared to say anything. But, as a former Director there, I will say something because I am no longer bound by some of the problems. One of the difficulties there is that the Government tends to delegate its technical knowledge to agencies, which actually I think is quite a good thing. It kept me in a job for a long time! But it no longer delegates the ability to develop policy. And the people developing policy do not have the technical knowledge to develop it. I think actually that has got worse with time. Thinking back to when I was representing Britain at various things – we are going back now to the early 1990s at least – then there was a much greater readiness for departmental officials and agency staff to work together. I remember, on one occasion, I found myself as the lead delegate to an EU meeting, simply because I was the technical person but I happened to outrank the official. He seemed to deem me therefore the leader. The point I am making is it wasn't a problem then. There was a degree of trust, and I think there has been a bit of a breakdown, not so much in trust but in confidence, self-confidence and mutual confidence. If any official wants to say I have got this wrong then I am quite prepared to be corrected. But they are probably not allowed to!

Andy Pearce: I recognise a lot of that from my own relatively recent experience, a lack of confidence on the

part of the public service particularly. When I first joined the public service, a lot of people felt these things were in their interests, collective interests, a sense of collective responsibility. That seems to have dissipated, there is now a lot of defensive reaction and protective reaction. I do not know whether it is due to financial pressures or resource pressures, but it is a cultural shift, which is always the hardest thing to make. I think if we could, one of the outcomes of the conference should be to encourage a greater sense of engagement with these things, and not to be afraid of them – to work together with them and this extends particularly into this monitoring and technical side of things. I think that would be a great outcome, if we can give it a push. Very challenging.

Eleonora Manca (JNCC): Thanks Mike and Andrew for the question. I cannot comment myself, as Mike said!

Mike Pienkowski: Thanks, Eleonora. I would not expect you to comment! Also, you are too young to have the long-term view I was commenting on!

Jodey Peyton: If you have any questions for our speakers, please put them in the chat or let me know.

Laure Cugnière (Seabird Watch): Talking about our work with monitoring and using technology, following a Darwin Plus grant on capacity-building in some of the UKOTs, we felt there was the need for a channel to share lessons that we have learnt in monitoring and the existing tools that we have developed. So we have been discussing with Jodey and others in the Forum, and we are looking to create a short-term working group to try to share all these tools and raise capacity for standardisation for monitoring of seabirds and other species. So we have created a site which is in the chat. Please sign up and we will be in touch with some more information, and hopefully that will take off in the next few months. Thank you. I am sorry we could not stay any longer, we double-booked on meetings today.

This is Laure's Chat message: We are interested in assessing interest for a short-term working group nested within UKOTCF on remote monitoring strategy in UKOTs. The knowledge is there to boost monitoring capacity and having a working group as a channel to share lessons learned and existing tools would facilitate rapid take up. Please accept our apologies as Tom Hart and I cannot stay to discuss this further here but you can express your interest as this would be the leading idea for a workshop: https://docs.google.com/document/d/1R6fwAFw19bQDjH8miRTIELLjWGXI_IJE7M4r3osc-zo/edit?usp=sharing

Jodey Peyton: There is quite a lot of interest in your work. We do encourage people to sign up with the link Laure put in the chat.

We have had lots of conversations yesterday around the collection of field-data and recording and taxonomy and taxonomics, from those presenting their work, and a lot about the technology side. I wonder, with limits

on budgets, do any of the speakers have any thoughts around how you keep promoting the importance of skilled recording and the value of taxonomy alongside these amazing technologies. Do any of our speakers have any thoughts on that, Jakovos Demetriou, Tom Heller or Nancy Pascoe?

Tom Heller: I have a quick comment on that. I think one of the things, particularly with the recent projects we have been doing with the National Parks Trust of the Virgin Islands, it has been interesting and really helpful certainly within the Kew team having experts on genomic approaches come in and combining that with our field-experience. Between the National Parks Trust and myself and Sara [Barrios], we know the flora and habitats fairly well. Having that genomic expertise in adds that power to it. We can spot things in the data that the genomic specialists don't necessarily pick up on, but they understand the limitations. Combining those different disciplines has been powerful.

Jodey Peyton: Yes, I think it is always making clear in the funding application and to the funders that it is essential for everything to have this kind of the field side, and the taxonomy side. It takes a long time to develop and it's expensive to get it to the level where we can do these incredible species-identifications. I was also wondering about the work in BVI. Could those genomics be used for conservation for the surrounding islands? Could you be distributing, growing seeds and giving to the next door island if they have a species that is rarer, or if there is enough known about genetics to know that they are individual species compared to subspecies, in BVI or other islands?

Tom Heller: So I guess, on the distribution of genetic resources, that's obviously a decision by the owner of those genetic resources, the country they come from. And I think it does need to be informed by a decent understanding of genetic diversities. So you don't want to be inadvertently promoting outbreeding depression and things like that. But there is work that's been done on being able to make more robust assumptions based on the life-history traits. You might not directly know the genetic patterns in that particular population but, if you know things about its life-history traits, you can begin to make somewhat more robust assumptions.

Jakovos Demetriou: Regarding taxonomy, taxonomy is a dying field of study, classical taxonomy at least, because things are moving forward into more integrated studies and molecular tools. We have also tried experimenting with these molecular tools to find out more about them, but what I would like to stress is there needs to be a combination of the classical taxonomy and more modern tools because what we have been seeing, at least with the insects, is that there are not many sequences available for different genetic markers of species. So, even if you find them, you won't be able to track them down with reference mitochondrial DNA and nuclear

DNA. And the other thing: there have been lots of mistakes from assigning a sequence to a species which was identified morphologically, and then the specimen is lost or totally destroyed. So, what I would like to stress is, since the UK has institutions such as Museums, like the Natural History Museum, it would also be nice to have specimens deposited in various collections so that specialists can look at them and then we would be able to have the specimen and the sequences. For example, we need non-destructive DNA protocols, so at least as we move on we know that we have the species identified correctly. This has been the source of many mistakes, even for very common agricultural species. I would ask colleagues to have this in mind in different projects and conservation in general.

Jodey Peyton: Did you mean having specimens deposited locally in the territories; is that what you mean by having the resources?

Jakovos Demetriou: I would say make them as available as possible. It would be lovely to have, at the local level in each Overseas Territory, a place where specimens are deposited – and, if that is not available, because I know that needs resources and a dedicated staff and there is not always the capacity to do so, at least to have specimens deposited somewhere where most people in the UKOTs will have them available for examination or loan.

Jodey Peyton: I do know that some natural history museums do have the facility to loan specimens but we can certainly ask if not.

There is a massive project going on in the UK to digitise specimens. It is a multi-million pound project, a really good step in that direction. In the sessions yesterday we were talking about the repatriation of some specimens from St Helena being put back on island after leaving the island. It is also very important for people to have that connection to specimens even if it is not for scientific purposes, but for cultural or other reasons. It is a really good point to make. Thank you Jakovos, that was great.

There is a question for Kirsten. **Catherine Wensink** asks: “On eDNA, where do you see this in 10 years’ time? Identifying how many insects pollinate a flower?”

Kirsten Harper: There’s actually pollinator eDNA work going on right now. I am not particularly familiar with it; so I can’t answer too much on it. I think for sure we will be able to dig in more abundance aspects of eDNA. Like I said, it’s come a long way but you know you still do have to interpret results with caution. And we are expanding into air eDNA, that seems to be the next big thing: extracting eDNA from air samples. So yes, I think it is just going to keep on evolving, especially as the reference data-bases get better, so with people putting in more reference-data, especially endemic species. One thing I think I might be missing for particular island endemic species are any publicly available reference data-bases. So I am not seeing them in my data even though they may be there. So the more reference data-

bases there are, and the more comprehensive they are, the better our results will be.

Jodey Peyton: As you say, linking the database specimens to the eDNA is needed. The Bold database developed for the project that we have for invertebrates in Diego Garcia is an example. Those specimens are put in alongside the identification of the species. It is important to get those rarer species in there too.

Jodey Peyton: <https://boldsystems.org> is a repository that has been used

Thank you again for the great questions and the comments in the chat.

Mike Pienkowski: Thank you everybody. There were some very interesting discussions in that session, both after the talks and at the end, as there have been in previous sessions too. Thank you to the team of Andrew, Jodey and John, and Keith who has been rapporteuring again.

Main topic 6: Identifying and preparing for future challenges and opportunities

Chairing: Dr Mike Pienkowski (standing in for Sarita Francis (Montserrat)); Question-master: Jodey Peyton; Rapporteur: John Pinel (Jersey)

Introduction (The numbers before each title below are links to that item.)
6-01 Roots of Resilience: How Nature Fights Climate Change in the BVI <i>Katie Medcalf, Nancy Pascoe & Samuel Pike (Environment Systems & National Parks Trust of the Virgin Islands)</i>
6-02 What the future could be – Changes in breeding success of Gough Island’s seabird populations in response to the house mouse eradication attempt in 2021 <i>Antje Steinfurth¹, Roelf Daling¹, Lucy Dorman¹, Rebekah Goodwill¹, Hannah Greetham¹, Christopher Jones¹, Vonica Perold¹, Michelle Risi¹, Kim Stevens¹, Trevor Glass², Steffen Opper¹</i> (1. RSPB Centre for Conservation Science, Cambridge, UK; 2. Tristan Conservation Department, Edinburgh of the Seven Seas, Tristan da Cunha)
6-03 Ecosystem Integrity Assessments, GBIF <i>Alan Gray (UKCEH) and Rebecca Cairns-Wickes (St Helena)</i>
6-04 Education and Youth Participation in the National Trust for the Cayman Islands <i>Catherine Childs (Environmental Programmes Manager, National Trust for the Cayman Islands)</i>
6-05 General Discussion

Introduction

Dr Mike Pienkowski, UKOTCF Chairman (standing in for Mrs Sarita Francis, Executive Director, Montserrat National Trust)

Good day, everyone, and welcome to Session 6, titled “Identifying and Preparing for Future Challenges and Opportunities.”

I must start by noting that I am not Sarita Francis, who was due to chair this session. Sarita sends her sincere apologies and best wishes. There is, unfortunately, a major meeting taking place today in Montserrat related to the Organisation of Eastern Caribbean States, of which Montserrat has recently taken over the presidency. Due to logistical issues – including Montserrat’s main meeting room being out of action – the Montserrat National Trust offices have been taken over, rather than just their main meeting room which had been booked – and Sarita’s office is now serving as an emergency facility. We extend our sympathies and support to the team in Montserrat as they navigate these challenges.

As a small gesture, I am wearing a Montserrat tartan tie today and recall my many collaborations on the island, including work as lead editor of the booklet on Montserrat’s natural heritage.

There are further changes to our session line-up. Lord John Randall, originally scheduled to moderate the Q&A, has been called back to Parliamentary duties in the House of Lords. He and Jodey Peyton kindly coordinated a partial swap during the earlier session, and Jodey is now back once more to facilitate today’s questions – thank you, Jodey, for your adaptability.

The one fixed point in our session team today is John Pinel from Jersey, who continues in his role as rapporteur – thank you, John, for your steady support.

We have a strong panel lined up for this shorter session; so without further delay, let’s move into the first presentation.



Dr Mike Pienkowski



Dr Jodey Peyton



John Pinel

Roots of Resilience: How Nature Fights Climate Change in the BVI

Katie Medcalf, Nancy Pascoe, Samuel Pike (Environment Systems & National Parks Trust of the Virgin Islands)



Medcalf, K., Pascoe, N. & Pike, S. 2025. Roots of Resilience: How Nature Fights Climate Change in the BVI. pp 214-218 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



This project assessed the impacts of climate change on the British Virgin Islands' flora and fauna, using the latest high-resolution climate predictions modelled at a locally relevant scale. Rising temperatures, prolonged droughts, and more frequent storms are increasing risks such as flooding and erosion. The study highlighted the vital role of protected areas in mitigating these effects and demonstrated how these natural ecosystems benefit the islands as a whole. It also explored opportunities to strengthen climate resilience by expanding and strategically managing these areas. By safeguarding ecosystems, protected areas buffer environmental shocks and support long-term sustainability—positioning the BVI to adapt to future climate uncertainties.



Katie Medcalf¹, Nancy Pascoe², Samuel Pike¹ (1. Environment Systems & 2. National Parks Trust of the Virgin Islands)

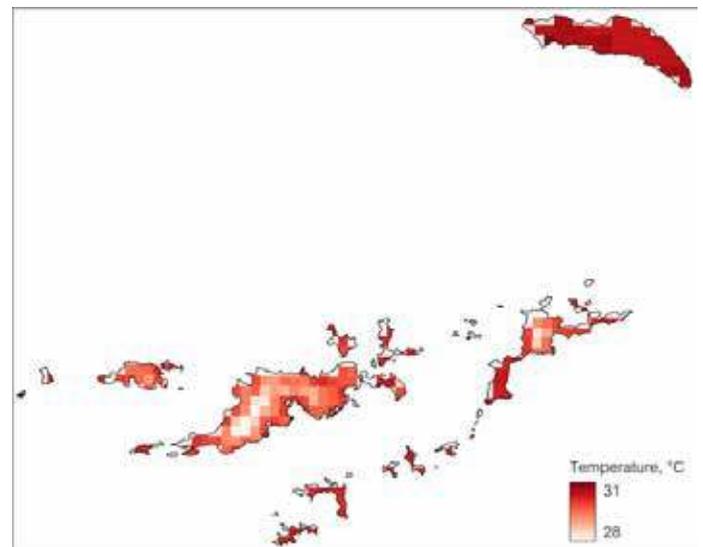
From top: Katie Medcalf, Nancy Pascoe, Samuel Pike

Introduction

The British Virgin Islands (BVI) are experiencing the present-day realities of a warming climate, evident in the increased intensity of storms, as seen during the 2017 hurricane-season, and more frequent localised flooding and prolonged droughts. While these challenges are significant for small island states, the BVI possess a powerful ally in their natural ecosystems. These biodiverse habitats act as a critical life-support system, providing essential services such as clean air and water, and mitigating the effects of climate-change through storm-surge protection and soil-stabilisation.

This work was part of a Darwin Plus Project DPLUS180, *Integrating climate change resilience into protected area design and management*. It was a collaborative initiative between the National Parks Trust of the Virgin Islands (NPTVI) and Environment Systems. The project's stated aims were to create BVI-specific climate-change modelling data and deliver it via a web-dashboard to

facilitate targeted NPTVI fieldwork, inform national-level decision-making, and raise public awareness.



WorldClim predicted temperatures for 2041-2060 (Celsius) for the BVI



August 2022 workshop: 22 people from 8 Departments and agencies

Furthermore, the project sought to build resilience into the BVI protected-area network by identifying sites that provide essential ecosystem-services and contain significant biodiversity-value in the face of a changing climate. By integrating scientific evidence, advanced technology, and a co-creation methodology, the project quantified successfully the role of natural ecosystems in building climate-resilience and translated complex data into actionable knowledge for local stakeholders. This paper outlines some of the project's methodology, key findings, and final outputs, providing a model for evidence-based conservation that is both scientifically robust and practically useful.

Methodology: A Data-Driven and Collaborative Approach

The project was founded on the principle that conservation must be informed by strong, credible evidence. The methodology combined a broad range of data with a co-creation process to ensure that the project's outputs were both scientifically sound and relevant to local needs. The overall approach was to identify biodiversity-rich and resilient areas by modeling the likely impacts of climate-change and creating scenarios of potential outcomes for protected areas and the services they provide.

The baseline for this analysis was an extensive body of existing marine and terrestrial biodiversity-data collected over two decades of previous Darwin Plus projects, including information on plants, coastal habitats, iguanas, turtles and birds. This project utilised this legacy-data to identify the most biodiversity-rich areas and combined them with historical, current and future climate-data to identify sites with greater resilience to climate-change. Altogether, over 500 datasets were used in this project.

A critical first step involved the acquisition and processing of climate-data. Environment Systems Ltd. (ESL) obtained and processed high-resolution WorldClim climate-data for several time-periods (1970-2000, 2021-2040, 2041-2060, 2061-2080, and 2081-2100). The future climate-predictions were based on two shared socio-economic pathways: SSP245, which assumes climate-protection measures are implemented, and SSP370,

which represents policies focused on national security over environmental concerns. The use of these climate-data, along with local weather-data from the Department of Disaster Management for ground-truthing, marked the first time this type of analysis had been undertaken in the BVI.

The biodiversity-data supplied by NPTVI and other local and international partners were utilised for a new type of analysis, as ecosystem-services had never before been mapped on a Territory-wide scale. Through a workshop held in August 2022, which included 22 participants from various BVI government agencies and departments, a common direction and goal were established.

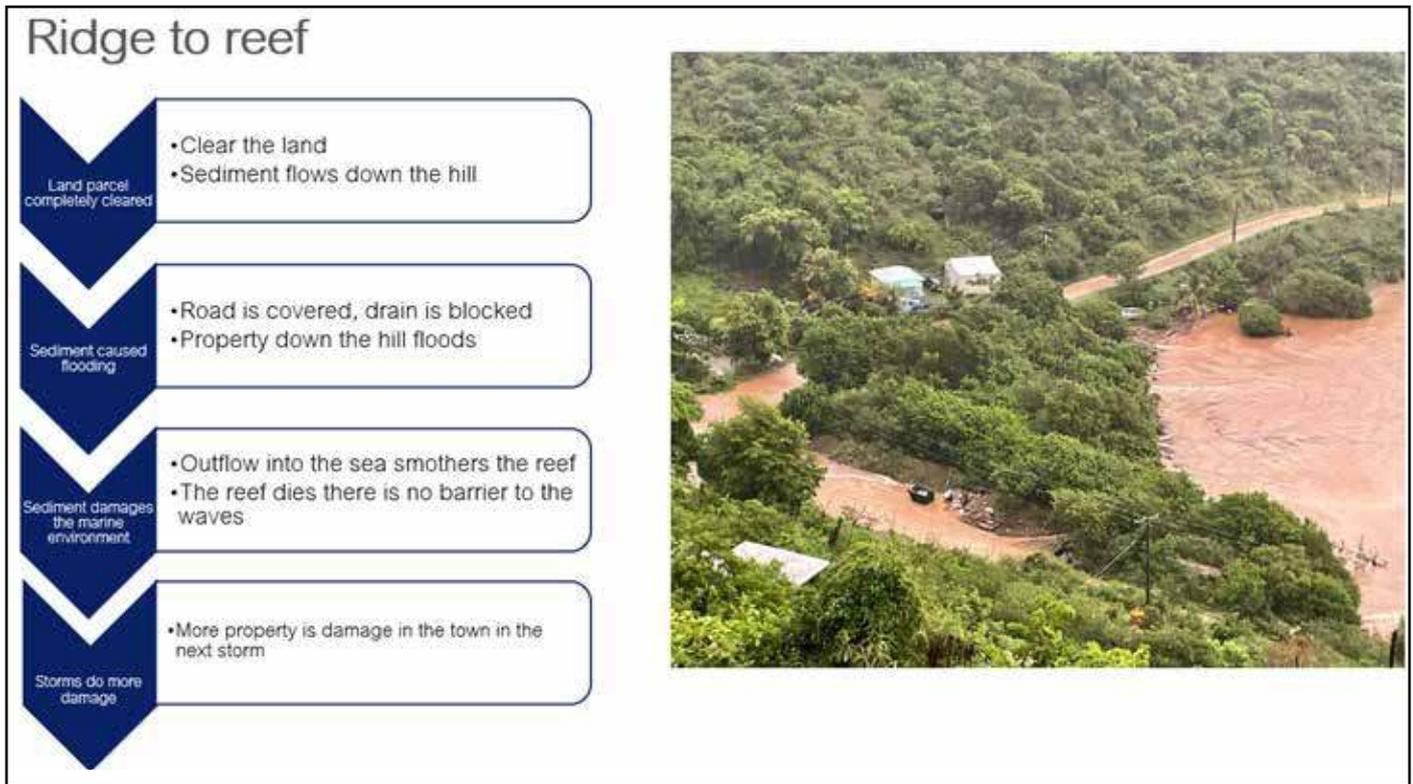
The SENCE tool, Environment Systems' internal natural-capital evaluation-tool, was used to create maps and future-scenario models following climate-change, to be used in the evaluation of the BVI's protected areas. This process of creating scenario models showing the impact of climate-change on ecosystem-service provision was a critical component of the project. This was made possible by peer-reviewed input gathered during an online technical symposium on 23 August 2023. The symposium comprised nine key international experts from organizations such as the Royal Society for the Protection of Birds (DPLUS 196), Royal Botanic Gardens Kew (DPLUS 183), the UK National Oceanography Centre (DPLUS 152 & 150), Portsmouth University (DPLUS 160) and the Marine Conservation Society (DPLUS 111). A second expert meeting was held with four scientists from The Nature Conservancy, who provided additional data and expertise on Caribbean regional ecosystem-mapping. In total, over 70 models were created, representing the first time this type of integrated climate and habitat analysis was conducted for the BVI.

Key Findings: Ecosystems as Climate Mitigation Tools

The project's analysis confirmed that the BVI's natural habitats provide critical climate mitigation and resilience benefits. The findings were distilled into a series of key maps that illustrated the role of nature in four critical areas: biodiversity, climate-regulation, storm-surge vulnerability, and slope-stability/erosion-risk.

The data collected and modeled for this project underscored the immense value of intact natural systems in providing essential ecosystem-services, which are fundamental to the islands' resilience.

- **Climate Regulation:** The research confirmed that a healthy and diverse ecosystem is essential for climate-mitigation. Natural ecosystems, especially native forests, provide clean air and water, help attract rainfall, and thus mitigate drought, while also playing an important role in cooling the air.
- **Mitigation of Storm Impacts:** The analysis showed how nature helps by slowing rainfall, allowing it to be absorbed into the soil and aquifers. The roots of



The ridge to reef implications of soil erosion

native trees hold soil together, preventing erosion and runoff, which in turn protects fragile coral reefs from sediment-smothering.

- Erosion Control and the “Ridge to Reef” Connection: The data clearly demonstrated that clearing land, particularly near ghuts (natural drainage channels), leads to sediment running into the sea. In the absence of healthy ponds and mangroves, this sediment can smother and degrade coral-reef ecosystems. Without reefs to absorb wave energy, coastal areas become highly vulnerable to storm-surge.
- Biodiversity: The project mapped how essential native habitats on the land and seas around the BVI are in supporting and providing biodiversity. Analysis was undertaken to understand which areas on the island would be enhanced by increasing the area of protected sites.

- Public Communication Tools: To communicate the findings widely, a web-based story-map was developed to provide a straightforward, visual explanation of the project. The project-data are accessible publicly on the VI Government Mapping Portal and are usable by the government and the wider community. Additionally, creative communication materials, such as cartoons featuring “Crabby” and “Turtle,” were used to explain effectively complex topics to schoolchildren.

Conclusion

The project demonstrated that robust scientific evidence can be a powerful tool for driving conservation-action. By integrating advanced technology with a collaborative approach, the project not only provided a clearer understanding of how climate-change is affecting the BVI but also quantified the immense value of its

Outputs and Legacy

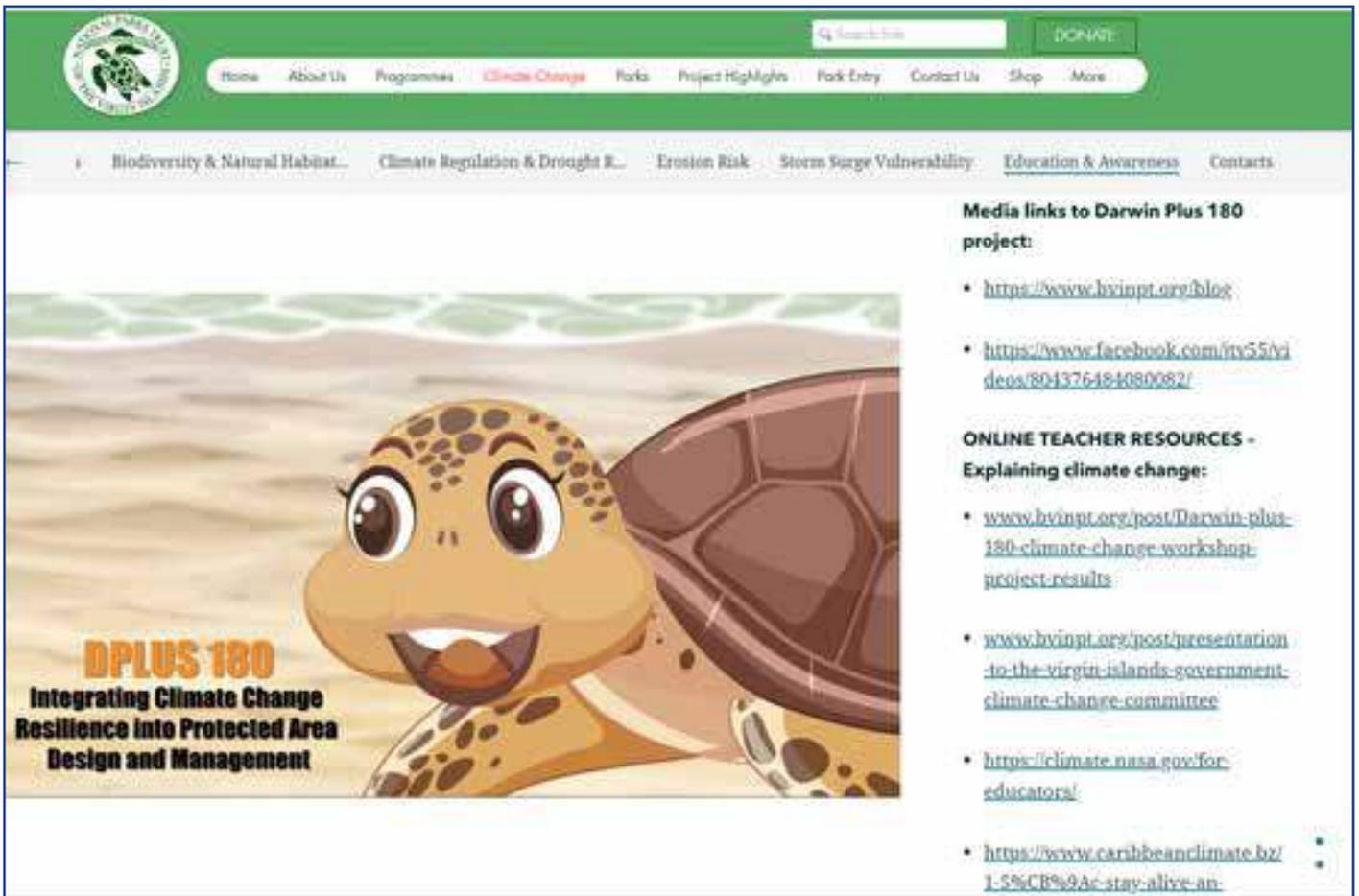
The Darwin Plus Project DPLUS180, *Integrating climate change resilience into protected area design and management*, has produced several key outputs to ensure its lasting legacy and continued use by the BVI community.

- Monitoring System: A monitoring system was established using satellite remote sensing to identify areas of cleared land or bare ground in near real-time. In addition the productivity of the national parks are monitored continually. These data provide the NPTVI with vital information for targeted investigation and management-actions.



Communication material: The storymap web portal: <https://storymaps.arcgis.com/stories/0e69167ff8a64d53b373a9162ebc3a4b>

On next page: cartoon



natural ecosystems in mitigating these impacts. The project has shown that nature is not merely a victim of climate-change but one of the strongest and most cost-effective solutions. The outputs of this project, including the comprehensive data, monitoring tools, and public resources, will continue to empower the National Parks Trust and the BVI community to build a more resilient future.

Q&A

Mike Pienkowski: Thank you very much for that presentation. I see that you, and I think colleagues, may be here to answer questions. So, I'm going to hand over to Jodey as question-master of this session to take us through those.

Jodey Peyton: We don't have any questions in the chat, but thank you: it's a really fascinating talk. I was wondering, there are the story maps, were they hard to make? I think they're a really beautiful resource. Was it quite easy to do them, or was it more complicated than it looked?

Katie Metcalf: I am going to leave Sam to answer that one, because he was the genius behind it.

Samuel Pike: Not quite. It was Nancy's, and the BVI government built it, really. It was a co-design between myself and Nancy – lots of the words from Nancy, and then me just putting the data in. It needs to be very collaborative and make sure that the target audience was there in terms of the language, and that everything

was set up for that. But there are issues with licensing; it is very specific in terms of needing a whole ArcGIS system to be able to do these sorts of things. In terms of the back-end, actually creating it, it's very much like a sophisticated PowerPoint – you drag and drop bits where you want. But it all links into GIS software, so you can bring your maps in and allow people to play interactively with the data. In theory, it sounds simple – but not necessarily simple actually to implement, and it needs someone with a particular skill set. We were able to utilise Nancy's contacts in the government to be able to build that for us.

Jodey Peyton: And I guess you also need a good storyteller to create the content in the first place. Nancy, did you have anything you wanted to share about those or any other part of the project?

Nancy Pascoe: Just to thank Sam and Katie; it was a real joy working with them, and we have worked on previous projects. I encourage any of the other territories. We have used GIS for a long time here in the BVI, in the government as well as within the National Parks Trust. It is such a powerful tool; it really is. This project was something we took on because, as Katie showed in the pictures, Hurricane Irma in 2017 was so devastating. It was a way of not feeling so vulnerable and trying to be more proactive, not just acting like we are always going to be victims of something, and asking how we can plan ahead. There is also the question of how to make youth not be afraid of the future, and say what is their hope. On our website, you can see all the things we can do. We

cannot control what is happening globally, but we can act locally – tree-planting for shade, for example. We have had days of extreme heat in the past few years; it is not just the hurricanes. Extreme heat affects people's lives too, including when you can actually go outside and work. All of us talk about fieldwork – trust me, doing fieldwork in August is a nightmare in the Caribbean these past few years. So, just the act of tree-planting helps. I listened to Stuart Mailer's talk, and I did chuckle when he mentioned the highest point on Cayman being 72 feet – that cracks me up, because our highest point is 1,780 feet at Sage Mountain, which is still not as high as some places. But when it rains, erosion is serious, and flooding that can happen instantly. It does not have to be a hurricane; our town can flood quickly. So it was a great project. I loved working with them and totally encourage anybody else to as well.

Jodey Peyton: That's fantastic, thank you. I think that's the thing, isn't it? That's what these conferences are great for – sharing ideas, context and thoughts, and adapting. It's a really nice example of success again from BVI, so thank you very much. Thank you all. And Mike, I'll hand over to you. There are no more questions in the chat.

Mike Pienkowski: Thank you very much. I've always been impressed by the work of this team and what they can achieve by integrating remote sensing with work on the ground; so thank you very much indeed.

What the future could be – Changes in breeding success of Gough Island’s seabird populations in response to the house mouse eradication attempt in 2021

Antje Steinfurth¹, Roelf Daling¹, Lucy Dorman¹, Rebekah Goodwill¹, Hannah Greetham¹, Christopher Jones¹, Vonica Perold¹, Michelle Risi¹, Kim Stevens¹, Trevor Glass², Steffen Oppel¹ (1. RSPB Centre for Conservation Science, David Attenborough Building, Pembroke Street, Cambridge, CB2 3QZ, UK; 2. Tristan Conservation Department, Edinburgh of the Seven Seas, Tristan da Cunha, TDCU 1ZZ, South Atlantic)



Antje Steinfurth

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Gough Island (40°03’S, 9°09’W) in the South Atlantic is part of the British Overseas Territory of Tristan da Cunha. The island is a UNESCO Natural World Heritage Site, Ramsar Wetland of International Importance, Tristan da Cunha Nature Reserve, Important Bird and Biodiversity Area, and an Endemic Bird Area—making it one of the world’s most significant seabird breeding sites.

Despite its small size (~65 km²), Gough Island hosts an estimated 8 million birds across 22 breeding seabird species. These include nearly the entire global populations (>99%) of the Critically Endangered Tristan Albatross *Diomedea dabbenena*, MacGillivray’s Prion *Pachyptila macgillivrayi*, and the Endangered Atlantic Petrel *Pterodroma incerta*. Other notable species include the Endangered Sooty Albatross *Phoebastria fusca* (~35% of the global population), Atlantic Yellow-nosed Albatross *Thalassarche chlororhynchos* (~20%) and Northern Rockhopper Penguin *Eudyptes moseleyi* (~30%), alongside significant populations of other burrowing petrels and the Tristan Skua *Stercorarius antarcticus hamiltoni*.

The primary threat to the island’s seabird populations is invasive House Mice *Mus musculus*, which prey on their eggs, chicks, and even adults. In 2021, the Gough Island Restoration Programme undertook a logistically complex eradication attempt. Although not successful, the baiting operation temporarily reduced the mouse population and improved seabird breeding success significantly. For example, the breeding success for the Tristan Albatross increased from a 17-year average of 29.9% (2004–2020) to 73% (2022–2024), while MacGillivray’s Prion success jumped from 6% (2014–2020) to 76% (2021–2023). By 2024, however, breeding success for the prions dropped to 26% due to resumed predation.

These results highlight both the potential benefits of removing mice from Gough Island and the need for their eradication to remain a key conservation priority.

Antje Steinfurth¹, Roelf Daling¹, Lucy Dorman¹, Rebekah Goodwill¹, Hannah Greetham¹, Christopher Jones¹, Vonica Perold¹, Michelle Risi¹, Kim Stevens¹, Trevor Glass², Steffen Oppel¹ (1. RSPB Centre for Conservation Science, David Attenborough Building, Pembroke Street, Cambridge, CB2 3QZ, UK; 2. Tristan Conservation Department, Edinburgh of the Seven Seas, Tristan da Cunha, TDCU 1ZZ, South Atlantic)

Gough Island in the central South Atlantic Ocean is situated approximately 380 km southeast of the Tristan da Cunha archipelago. The island is a Ramsar Wetland

of International Importance, a designated nature reserve and in 1995, was declared, together with Inaccessible, a UNESCO Natural World Heritage Site.

Gough Island is home to 22 species of seabirds and 2 species of land birds



Despite its small size (~65 km²), it is a globally significant seabird breeding site, supporting an estimated eight million birds of at least 24 species. These include almost the entire global populations of the critically endangered Tristan albatross *Diomedea dabbenena* (Oppel *et al.* 2022), MacGillivray's prion *Pachyptila macgillivrayi* (Jones *et al.* 2021), and the endangered Atlantic petrel *Pterodroma incerta* (Cuthbert 2004). The island holds also significant populations of the endangered sooty albatross *Phoebastria fusca* (~36% of the global population, BirdLife International 2018), Atlantic yellow-nosed albatross *T. chlororhynchos* (~7-15%, BirdLife International 2018), and northern rockhopper penguin *Eudyptes moseleyi* (~30%, BirdLife International 2020). It supports the largest population of Tristan skuas (~1,000 breeding pairs; Ryan 2007) and is home to two endemic landbirds – the critically endangered Gough finch *Rowettia goughensis* and the vulnerable Gough moorhen *Gallinula comeri* (BirdLife International 2021, 2024) – as well as ~80% of the global population of sub-Antarctic fur-seals *Arctocephalus tropicalis* (Bester *et al.* 2019).

The main threat to Gough's wildlife is invasive non-native house mice *Mus musculus* that cause the loss of well over 2 million seabird chicks and eggs on Gough Island each and every year (Caravaggi *et al.* 2019). First evidence of mortality in adult seabirds due to mouse attacks was reported for a Tristan Albatross on Gough in 2021 (Connan *et al.* 2024). Critically, in long-lived seabird species with delayed breeding and low reproductive output, even modest increases in adult mortality may have severe population-level consequences, directly affecting their conservation-status (Oppel *et al.* 2022).

To remove this threat, in 2021, the Gough Island Restoration Programme attempted to eradicate mice from the island in one of the most challenging and logistically complex island-eradications ever ventured, by distributing cereal-bait pellets containing the rodenticide brodifacoum between 13th June and 2nd August using helicopters. Signs of mice rapidly diminished after baiting commenced, and none were detected after 27 days after the first bait application (Samaniego *et al.* 2022).

Therefore, the camera-footage we received in December 2021, with the evidence of mice remaining on the island, could not have hit harder. By April 2022, mice populations had increased exponentially around Base and, by August 2022, there was evidence of mice across the island.

However, while we did not succeed in removing every single mouse on the island, the mouse population did get substantially reduced for a limited time-window, and therefore provided the species breeding on Gough with a scenario of what the island could be like in the absence of mice.

Of the 7 species we monitored for breeding success in the breeding season following the bait-drop, 6 of these species (Tristan Albatross, Atlantic Yellow-nosed Albatross, Sooty Albatross, Atlantic Petrel, Grey Petrel, MacGillivray's Prion) had increased breeding success, providing the evidence that the eradication of mice will deliver the outcome that we always hoped for!

Probably the most pronounced difference in breeding success was observed for the critically endangered MacGillivray Prion. While the breeding success in our monitoring colony had been on average 6% across 7 years (2014 – 2020), breeding success in the three



breeding seasons following the eradication-attempt (2021 – 2023) increased to an average of 76%.

Not surprisingly, however, with the mouse population on the rise, mouse-predation for the MacGillivray's Prion was first observed again, although in low numbers, in the species' 2023 breeding season. In 2024, however, mouse predation intensified, and the breeding success decreased to 26%.

On the bright side, the breeding success for the Tristan Albatross continues to be high even in their fourth breeding season following the operation. This demonstrates also nicely that, while the surface-breeders such as albatrosses are often getting the attention and limelight in eradication operations, it is the small burrowing petrels that are particularly threatened.

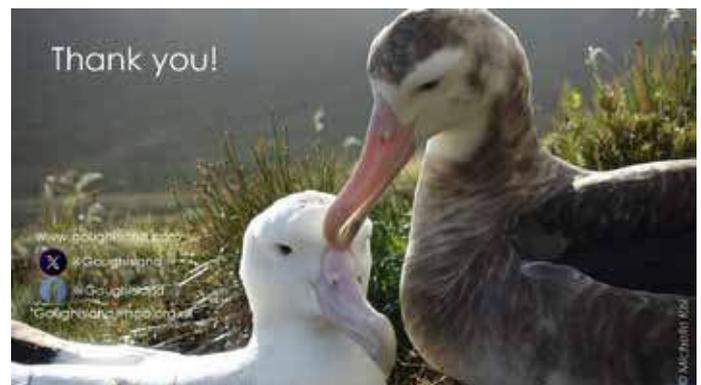
Thus, doing nothing is still not an option, and the RSPB stays dedicated and committed to removing the mice from the island in a future second attempt.

Ultimately, the removal of mice from Gough Island should result in 2 million more chicks to fledge each year from the island. That is 2 million more birds each year to help reverse the trends of population-declines across several threatened species.

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Q&A

Mike Pienkowski: Thank you very much for that. I'm really impressed by the commitment and dedication of these teams attempting this. It's one of the few cases where you have to be 100% successful to be successful. And they're sticking with it, and I'm very pleased to say that.

When Antje recorded that, she thought her colleague Harry would be available to answer questions. He is not, actually, for a very good reason: childcare. And I'm delighted by that, because, you know, as an old fogie like me, I'm so pleased that there are continuing generations, young people taking over and continuing the work. But do continue to put any questions in the chat, and we'll send them to Antje so they're waiting for her when she gets back to somewhere within email range. Jodey, have you anything to say?

Jodey Peyton: I know, but Louise has very kindly said if there are any questions, she can pass them on to her colleagues, Antje, so that's fantastic. Thank you, Louise.

Jodey Peyton: I don't know if Louise could answer. With regard to the invasive-species management of predators, it is such a nice example of where, very quickly, positive hope can come from a decline to a really positive increase. I was wondering if we know what can happen next. I wonder if we know the next steps for conservation in Gough, but I'll put it in the chat, Louise, and you can maybe pass it on. Thank you.

Louise Soames (in chat box): We are still fund-raising!

Mike Pienkowski: I hadn't realized that Louise wasn't actually on the panel. So I'm belatedly promoting her, but she probably hasn't got anything more to say to that. We did undertake to Antje to get the messages to her.

Now, moving on then, I'm very pleased about the next talk, because I know that Alan Gray's been struggling to connect with us and has succeeded. Because we don't have a recording of his talk, he's going to give it live from the UKCEH. And it's actually a joint talk with Rebecca Cairns-Wicks, formerly of the St. Helena Research Institute – effectively the head of that. But she's been somewhat distracted, as I mentioned earlier, by being elected Chief Minister of St. Helena a couple of weeks ago. So we can understand that she's not here with us today, but she did send good wishes. So, I am now going to hand it over to Alan to give us this presentation.

Ecosystem Integrity Assessments, GBIF

Alan Gray (UKCEH) and Rebecca Cairns-Wickes (St Helena)



Alan Gray

Alan Gray, A. & Cairns-Wickes, R. 2025. Ecosystem Integrity Assessments, GBIF. pp 223-227 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

This paper introduces the concept of ecosystem-integrity as a framework for monitoring and assessing ecosystem condition, structure, and function. The presentation outlines its relationship to international ecosystem-restoration principles, its alignment with the IUCN Red List of Ecosystems, and its potential role in long-term biodiversity monitoring and reporting. The application of ecosystem-integrity assessments is discussed in the context of UK Overseas Territories, with a case-study from the St Helena Cloud Forest Restoration Project. The role of the Global Biodiversity Information Facility (GBIF) as a data-platform for hosting and sharing relevant biodiversity and ecosystem data is also highlighted.

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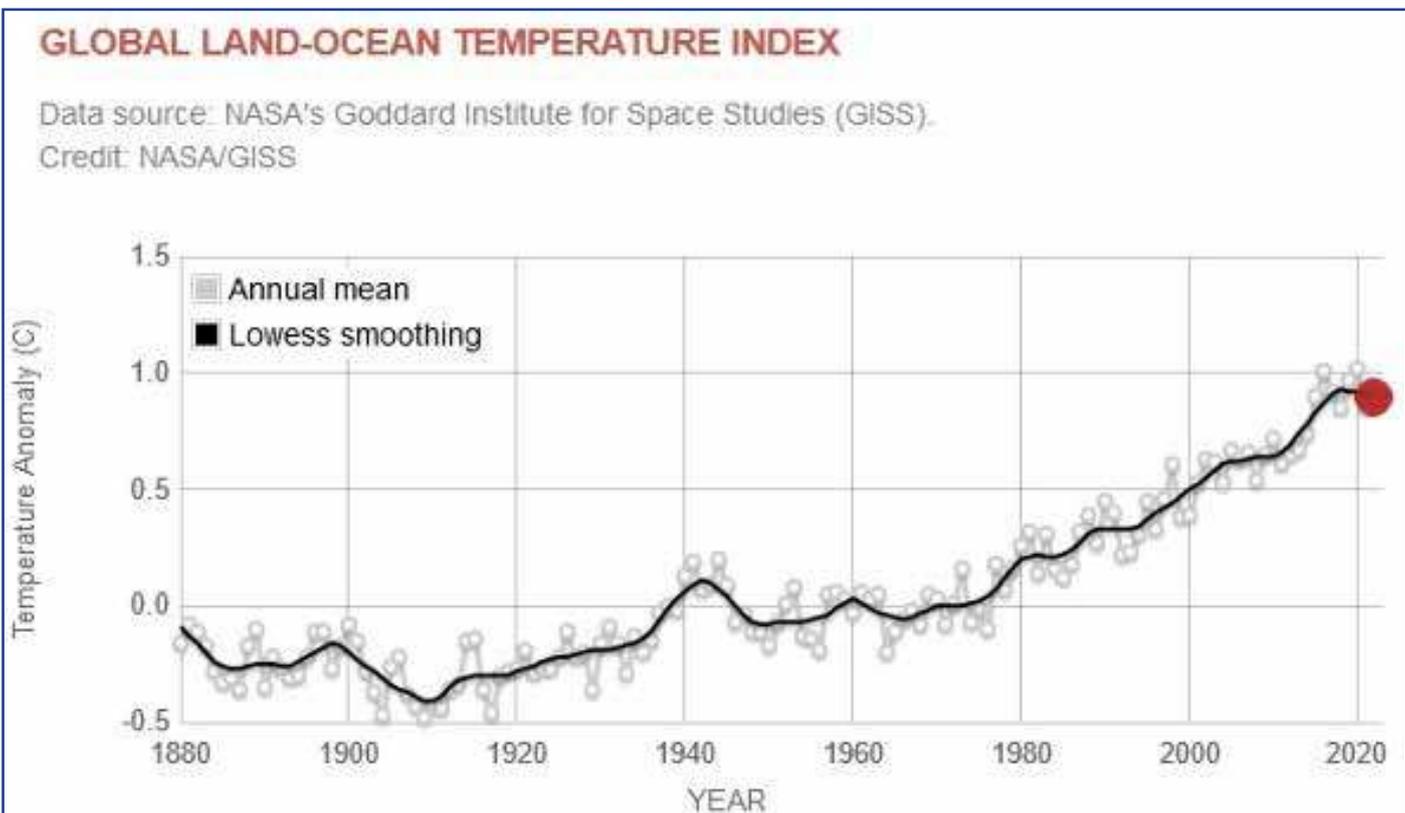
Rebecca Cairns-Wicks

Introduction

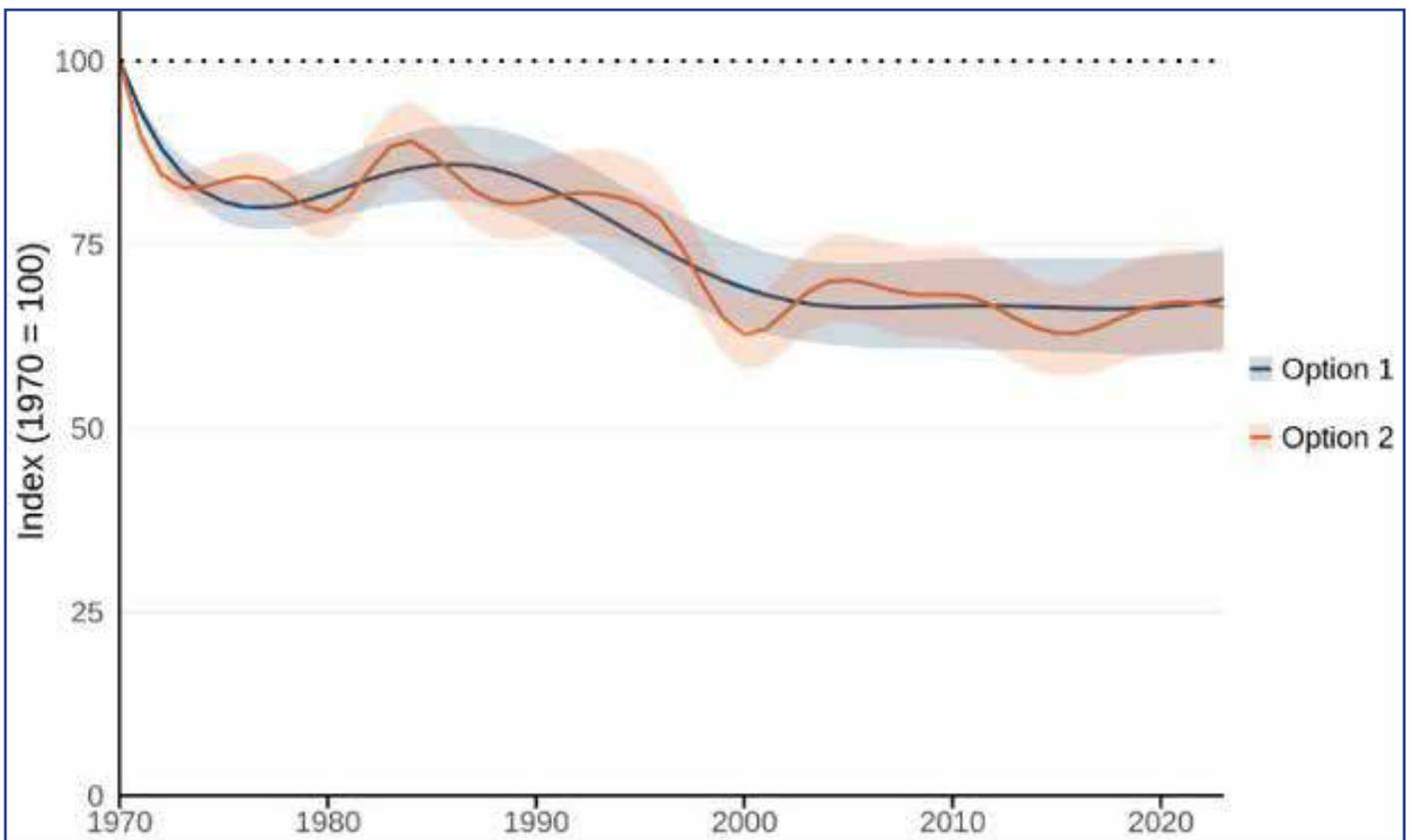
Ecosystem-integrity refers to the intactness of ecosystems and their ecological properties, measured through a suite of indicators that capture the extent, quality and function

of both biotic and abiotic components. These indicators can also incorporate anthropogenic pressures as proxies for ecosystem-degradation.

The concept aligns closely with global biodiversity and



For climate-change, temperature-anomalies show the difference from a long-term average, or baseline, temperature. The baseline temperature is typically computed by averaging 30 or more years of temperature data. A positive anomaly indicates the observed temperature was warmer than the baseline, a negative cooler.



The graph shows change in relative abundance of species in England 1970 to 2023, (1970 = 100) (DEFRA); Positive scores would indicate that the indicator is above its baseline, negative scores mean it is below, cf climate change.

ecosystem-restoration frameworks, offering a means to evaluate change over time against defined reference conditions. Such assessments are essential for meeting targets set within the Kunming-Montreal Global Biodiversity Framework for 2030.

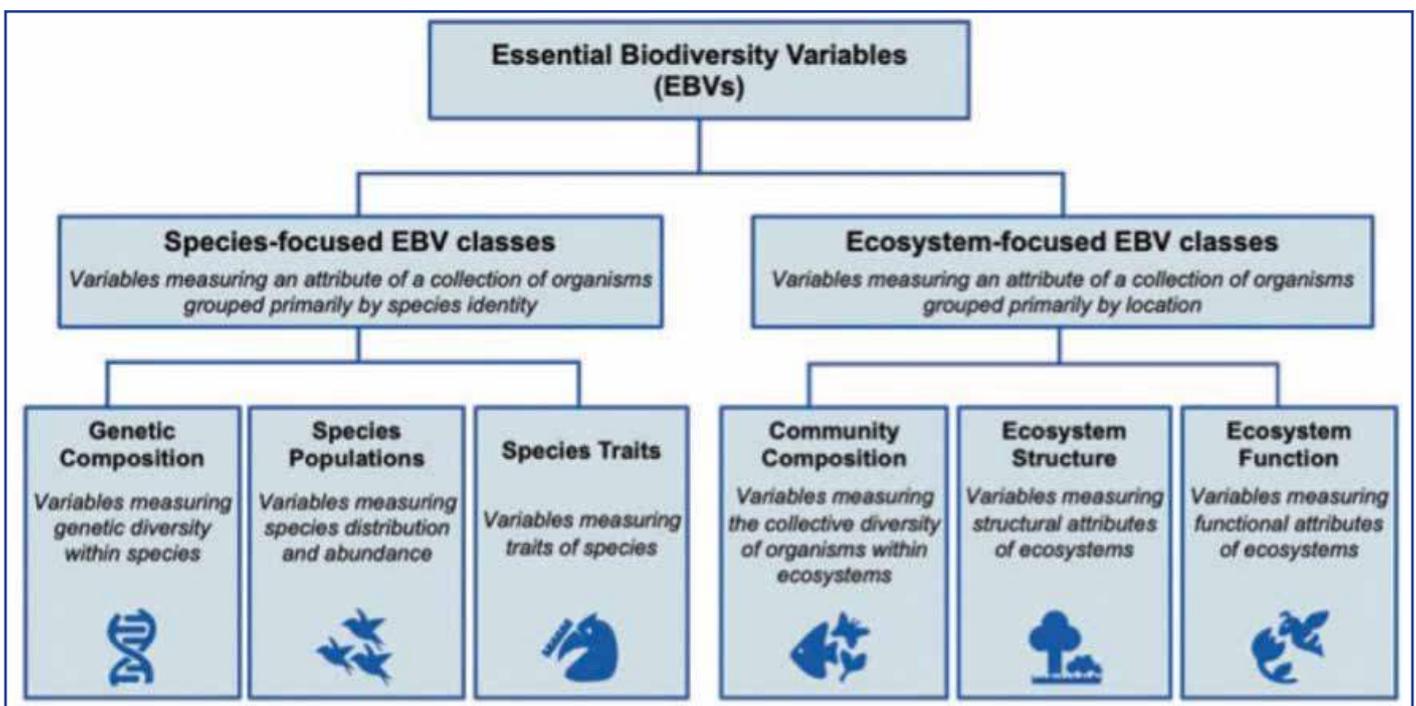
Understanding Ecosystem Integrity

Ecosystem-integrity can be compared conceptually to climate-anomaly assessments – just as temperature anomalies measure deviations from a long-term baseline,

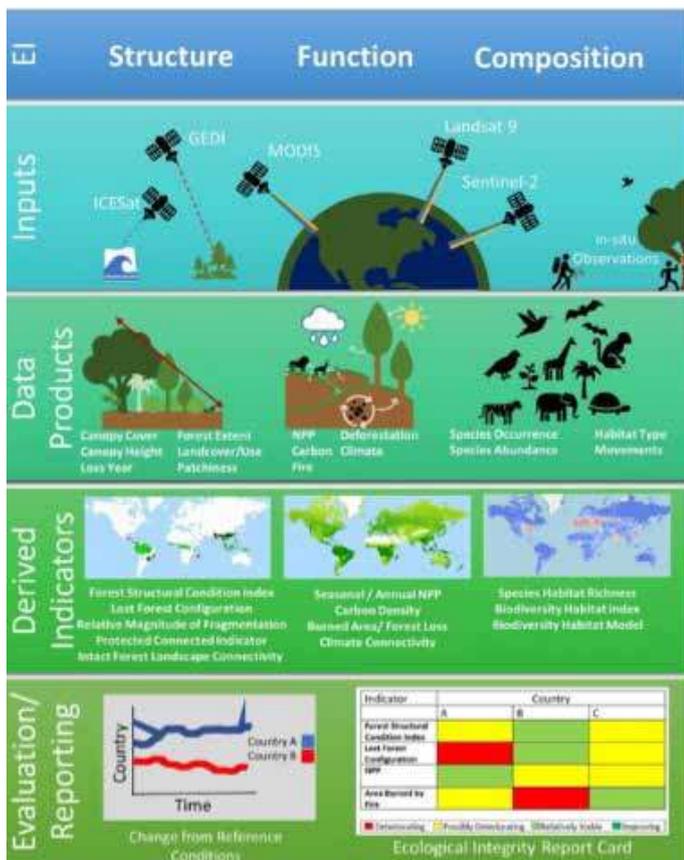
ecosystem-integrity indicators measure changes in ecosystem-properties relative to a reference state.

Indicators are derived from essential biodiversity variables (EBVs), which can be:

- Species-focused (e.g. genetic diversity, population-trends, functional traits); or
- Ecosystem-focused (e.g. community-composition, structural complexity or ecosystem-functions such as carbon and hydrological cycles).



Ecosystem-Integrity Essential Biodiversity Variables



Ecosystem Integrity Assessments process

Data may be collected through *in situ* observations or remote sensing, and transformed into indicators (e.g. carbon-density or species-abundance) to assess change through time. These indicators can then inform international reporting mechanisms, including the Convention on Biological Diversity and the IUCN Red List of Ecosystems.

Application to the UK Overseas Territories

Ecosystem integrity assessments are particularly relevant to the UK Overseas Territories (UKOTs), where biodiversity-monitoring is often project-based and short-term. By adopting this framework, territories can begin developing coordinated, long-term monitoring approaches.

Such assessments encourage system-level thinking – moving beyond species-level metrics to include whole-ecosystem processes – and help identify whether current data-collection efforts are being undertaken at appropriate temporal and spatial scales.

They can also promote data-continuity between projects, reduce information-silos, and support adaptive management. As global biodiversity-targets approach, ecosystem-integrity provides a means of demonstrating progress and identifying areas needing further intervention.

*Next column: Top Central Peaks cloud-forest area
Middle: Black Cabbage tree Melanodendron integrifolium threatened by plant pathogens, including Phytophthora
Bottom: Restored tree fern forest Dicksonia arborescens*

Links with International Frameworks

Ecosystem-integrity aligns with IUCN’s Red List of Ecosystems, particularly criteria C and D, which assess abiotic and biotic changes over a 50-year timeframe. It also supports the principles of ecological restoration, which emphasise measurable indicators, clear objectives, and an ambition to achieve the highest possible recovery.

Data-Management and GBIF

The Global Biodiversity Information Facility (GBIF) offers a secure, open-access platform for biodiversity-data, suitable not only for global and regional datasets but also for localised portals (e.g. for Montserrat which is currently under development). GBIF can serve as a repository for data underpinning ecosystem-integrity assessments, particularly for EBVs such as species-distributions, population-data, and trait-information.

By linking integrity-assessments with GBIF-hosted data, researchers and practitioners can ensure transparency, accessibility, and interoperability across regions and projects.

Case Study: The St Helena Cloud Forest Project

The St Helena Cloud Forest Restoration Project, funded by the UK Foreign, Commonwealth & Development



Office (FCDO) and the UK's Biodiversity Challenge Funds (or Darwin Plus as it is known) exemplifies how ecosystem-integrity concepts can be embedded within restoration-programmes.

The project adopts a whole-systems approach, integrating three pillars:

- Biodiversity,
- Hydrology, and
- Society and Economy.

The hydrological component is particularly significant for St Helena's water-security. Through comprehensive measurement of the hydrological cycle, including rainfall interception, storage and evapotranspiration, the project is able to quantify how native vegetation contributes to maintaining water-balance and ecosystem-function.

Indicators developed through this work can demonstrate how restoration-activities enhance ecosystem integrity and resilience in the face of climate-change.

Conclusions

Ecosystem-integrity provides a robust, holistic framework for assessing ecosystem-condition and guiding biodiversity-conservation. It encourages systems thinking, supports long-term monitoring and enables reporting of both progress and shortcomings.

When coupled with platforms like GBIF, ecosystem-integrity assessments can help establish consistent, transparent mechanisms for biodiversity-data management and reporting across the UK Overseas Territories and beyond.

While formal training opportunities are currently limited, informal collaboration and shared learning can play an important role in advancing the practical application of ecosystem-integrity assessments in restoration and conservation programmes.

Acknowledgements

The authors thank colleagues at UKCEH and the St Helena Research Institute for their collaboration and discussions on ecosystem integrity and monitoring approaches.

Contact

For further discussion or collaboration, contact Alan Gray at UK Centre for Ecology & Hydrology (UKCEH).

Q&A

Mike Pienkowski: Thank you very much, Alan. Thank you for overcoming the technology to join us as well. I am going to hand over to Jodey as question-master, with a warning to her that I see she may have to put questions

to herself on some aspects, as I see that she is a co-author of the paper.

Jodey Peyton: Oh, I wouldn't get a sensible response! Thank you. We don't have any questions in the chat yet. Thank you, Alan. It's really interesting and really lovely to see it mapped out for St Helena. I was just wondering about what is the kind of minimum data that you can have for these assessments? Is it possible for every territory, or do you have to have a lot of data to make these things possible?

A: Well, that's whether you take it as ideal or practical. If you want to go for the ideal, then you would try to measure as much as possible. But, obviously, that is not always possible because resources are limiting, not just in terms of money but in terms of staff too. But there are simple things: looking at the species side of things, even just plotting distributions over time, and seeing how they change, is one way to look at an ecosystem-integrity assessment. So it can be quite simple; it does not have to be a huge, complex thing. But obviously, if you're doing something like a hydrological cycle, you really need to get all the aspects of it. And if something like the carbon-cycle is important, you would probably have to do quite a few different aspects of it. That does not have to be technologically challenging; that can be as simple as doing forest mensuration techniques and just measuring the trees – things like that. So there are practical and simple ways of doing this sort of thing, and a lot of it can be done by remote sensing as well, so that can be incorporated into it. We can pull a lot of drone-data into this type of thing, too.

Jodey Peyton: Thank you. There are now a couple of questions in the chat as well.

Katie Metcalf: Great talk, Alan. You mentioned that native vegetation was better for water-cycling in St Helena, that's such an important finding. Can you tell us a bit more?

A: So, actually, this goes back in time a little bit with UKCEH's history with St Helena. Back in the 1990s, CEH did a little study, and it suggested that this was the case. So they had done some comparisons between the native vegetation and the flats that we get in that cloud-forest habitat as well. And it suggested that the native vegetation was much better at capturing water in the form of mist on to leaves, but also because you get a much better formation of soil under the native vegetation, and there is a storage-capacity there. So there is storage in the natural canopy that is better than in the introduced species, and there is storage in the soil because it has much more organic matter in it underneath the native vegetation. Fast forward to, probably about five years ago now, we had a Darwin project, and we repeated that, and we got the same results. So it was good evidence that this is the case, that if we restore our endemic and native forests, we are going to have a much better way of capturing water, a way of storing water, and a way of

releasing it slowly so that we do not have a sort of flash kind of approach to water when it arrives and disappears quickly through the soils, so that we are much better guarded against drought in the future. Thank you very much.

Richard Selman: What geographic scale is this likely to be workable?

A: It can be scaled to whatever scale you really want it. The Convention on Biological Diversity were thinking that one approach would be species-richness at a one-kilometre scale. So that can be applied, but it can be applied at a site-scale, at a national scale, and at a geographic scale – it can go from one small place to the globe.

Caroline Moss-Gibbons: Do you have any thoughts about how long-term funding might be achieved, given how short-term most funders operate under, especially public-sector funding?

A: I think that might be a question for tomorrow. I don't know, and I think we need a bigger commitment from government. I think we need to think about the place that the Overseas Territories are in, and how important they are for global biodiversity, and then tell people about it. We need the funding to do this – and it has got to be long-term. I think the other thing that is probably more important at this point in time, until long-term funding becomes available, is to think strategically about the short-term project-funding and how that can be linked together and provide data over the longer term. I mean, it often means we have to turn things around and be a bit clever about how we do our proposals, but if you can build-up data using short-term projects, then you get a longer time series of data.

Mike Pienkowski: Could I chip in? I think that's a very good point, and what we have been trying to push is the idea that projects should not have to be totally novel; they could build on other ones, but there's great resistance to that in the funding bodies. I think the other point I should mention is the reports over many years from the House of Commons Environmental Audit Select Committee, and indeed sometimes from the Foreign Affairs Select Committee too, saying that the UK government should not be leaving all this to the relatively small economies of the Overseas Territories to fund; they should share responsibility for it. But it does seem to fall on somewhat deaf ears, whichever government is in power. So, I don't know, perhaps we need to get more conservationists into politics, like Rebecca, and before that, John Cortés.

A: I think the other thing is that they do not really recognise that, actually, if they funded long-term projects in the Overseas Territories, what the UK would then be is a leader in global conservation, because that would put it on the map, and we would be achieving global outcomes, not just things in mainland UK or in each territory.

Mike Pienkowski: Especially because their physical size

is small, a relatively small investment in UK terms can have a major effect and be a model to copy elsewhere. I have been saying that to politicians for 30 years; others need to take over and say it too.

Jodey Peyton: Here is a lovely video: *The Journey of a Raindrop on St Helena in the South Atlantic* <https://www.youtube.com/watch?v=eWXZwBv8H9Q>

Mike Pienkowski: I think that was a very stimulating discussion. Thank you, Alan. We're going to move on to the last talk in this session.

Although, in the past, we have had whole sessions on environmental education, how could we possibly have a session on identifying and preparing for future challenges without thinking about education? So we are very pleased that Catherine Childs from the National Trust for the Cayman Islands is going to address some of this. Here we go.

Education and Youth Participation in the National Trust for the Cayman Islands

Catherine Childs (Environmental Programmes Manager, National Trust for the Cayman Islands)



Catherine Childs, with educational assistants

Childs, C. 2025. Education and Youth Participation in the National Trust for the Cayman Islands. pp 228-231 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

The National Trust for the Cayman Islands is committed to engaging young people in the protection of our natural and historic heritage, ensuring that conservation is embedded across all generations. Through a wide range of programmes, we introduce youth of all ages to the importance of preserving Cayman's unique biodiversity and heritage, while also equipping them with the tools and opportunities to become advocates and future leaders.

In both primary and secondary schools, our Heritage Heroes membership programme connects students directly with conservation initiatives, encouraging even our youngest participants to get involved in preserving what makes Cayman special. Building on this foundation, we recently established a Youth Advisory Committee to the National Trust Council, giving younger demographics a voice in decision-making while nurturing the next generation of environmental and heritage leaders.

At the national level, we have developed a Climate Education Toolkit for teachers, supported by grant funding, to ensure every Caymanian student has access to current scientific knowledge and insights into how climate-change will impact our islands specifically. Additionally, in partnership with the International National Trusts Organisation (INTO), we facilitate opportunities for college-aged Caymanians to attend the climate COPs (conferences of the parties), international climate conferences, exposing them to critical global dialogues that have direct implications for our island nation. By combining education, participation, and leadership opportunities, the National Trust empowers Cayman's youth to be champions for conservation.

Catherine Childs (Environmental Programmes Manager, National Trust for the Cayman Islands)

The National Trust for the Cayman Islands (NTCI) is dedicated to preserving the historic and natural heritage of the islands. A core part of this mission is education and outreach, ensuring that the next generation understands the value of their cultural and environmental heritage and feels empowered to protect it.

Classroom Engagement: Heritage Heroes

One of the Trust's most successful programmes is the Heritage Heroes Classroom Club. For just \$30 per class per year, every student receives a membership-card, giving them a sense of belonging to a movement that cares for Cayman's home. Classrooms also receive an Explore Passport, a map highlighting unique natural, cultural and historic sites across the islands. Students

collect stickers when they visit these places, encouraging exploration and learning outside school-walls.

In addition to Heritage Heroes, teachers can draw on a wide range of resources developed by the Trust, including:

- "True Blue" - an educator's guide to Blue Iguana conservation.
- Classroom posters, including one highlighting Cayman's only native mammals — bats.
- Videos created during COVID to support remote learning, such as lessons on the difference between blue and green iguanas.



Above: Blue Iguana release

Below: Mangrove walk

Bottom: Nature walk



Learning Beyond the Classroom

The Trust provides field trips to immerse students in Cayman’s ecosystems and historic sites. Children participate in Blue Iguana releases, mangrove-tours, and guided nature-walks, experiencing first-hand why these places are worth protecting. They engage also with local

heritage experts to learn traditional skills like thatching, catboat-sailing, herbal medicine and rope-making.

Another project paired students with elders in the community to record oral histories, which were then donated to the National Archives. This not only preserved valuable stories but also affirmed for older generations that their experiences and wisdom are valued.

Building Youth Leadership

The Trust works also to amplify youth voices. Students have been supported to participate in protests and demonstrations, and older youth have received sponsorships to attend international conferences like Climate-change COP26, COP27, COP28, and the Global Sustainable Islands Summit. These experiences are often transformative, showing young Caymanians that their voices matter on the global stage. Funders are directly connected to youth-delegates, creating meaningful partnerships that make sponsorships highly rewarding.

To strengthen youth-involvement in decision-making, the Trust recently established a Youth Advisory Committee. This group ensures that young people influence the direction of the Trust, keeping it relevant to new generations while building the next leaders in heritage and conservation.



Climate Conference of the Parties 26

Innovative Tools

The Trust has created a climate-education toolkit tailored for Cayman teachers, with local impacts clearly explained and illustrated through videos featuring “Bella the Climate Ranger.” This toolkit is designed to be adapted by other island-nations, making it a model for international use.

The Trust developed also a mobile app, offering information about sites across all three islands, plus an in-app George Town walking-tour. The tour integrates historic photos and audio stories from local voices. Families have even used the app at home, with grandparents sharing stories sparked by the images, helping preserve generational knowledge.

NATIONAL TRUST
Free App!

EXPLORE HISTORIC GEORGE TOWN
Your ultimate Cayman companion!

Discover Cayman's rich culture, traditional architecture, historic sites, landmarks, and maritime heritage on our 1.5-hour guided audio tour that brings the heart of George Town to life as you stroll through its charming streets and waterfront at your own pace. Featuring maps, engaging narration, and fascinating stories, as well as rare historic photos of each stop along the way.

INCLUDES MAPS & AUDIO TOUR

NTCI app

Inspiring the Next Generation

At the heart of all these efforts is empowerment. Whether through classroom-clubs, field-trips, heritage-workshops, or international conferences, the goal is to help young people feel that their voices and actions matter. By connecting them to their natural and cultural heritage, the National Trust is nurturing a generation of Caymanians who understand that protecting the environment is inseparable from protecting their identity and future.



Q&A

Mike Pienkowski: Thank you very much, Cathy. I think you're still here with us. Great. I thought that was

really practical stuff, but also inspirational. It is a very nice combination to get together. And it is also, by the way, quite a good link for many aspects into tomorrow's session as well. But, before tomorrow we've got today.

Jodey Peyton: Yes, thank you, Cathy, it is so nice to see you. The session, I feel, is about hope; there are so many stories of hope, and your talk was full of them, so thank you very much. I'll just go through the comments and questions:

St Helena National Trust: Where did you find the funding for young people to attend the international conferences? I know you said they have some specific donors, but would you share any more about that, if you can?

A: Sure, absolutely. First of all, thank you for sharing all the details in the chats. I was watching you share everything as it was coming up; so I appreciate that support.

As far as the supporters and donors are concerned, we usually get big businesses in the islands to do that. We all share some of those, like banks or the energy provider. They are usually wanting to support community-organisations and projects in some way.

We are luckier than many in the Cayman Islands because we also have some offshore banking opportunities here, but every island has some big businesses that could do this. The reason why it has become such a popular programme is because we have gone out of our way to really make a connection between the business and the student; each student is assigned to one of the funders, who keeps them involved the entire time. They meet with them before we go, send messages every day with photographs, and feel involved. When they come home, they connect with a lunch-and-learn opportunity for the whole staff and, even without fundraising, funders come back asking, "When's it happening this year?" We've been really lucky with that.

Jodey Peyton: Luck and skill and storytelling on your part as well. It's really hopeful and very cool for sharing, thank you. Our Catherine [Wensink] mentioned the video before our break, with Bella and Stuart going to the Mastic Trail. Thank you very much; we really enjoyed that. There were a few comments during that about how nice the storyteller Stuart was, so thank you.

Caroline Moss-Gibbons: She just downloaded the app via the QR code on the slide; great app, thank you.

Montserrat National Trust: very impressive

Nancy Pascoe: Excellent education work; so that's all really doubly good.

Hayley Rawson: how did the idea for the app come up?

Cathy Childs: Hi, Haley! Haley's one of our old COP kids, so it's great to see you here today. The idea came up because cruise-ship passengers get off right in Georgetown, in the centre of town, and when they wander

around, they are not picking up anything about the history and culture or unique aspects of the place; they don't have anything to help them do that.

Previously, the National Trust had a written Georgetown Walking Tour, but it was difficult to share with cruise-passengers, stay-over visitors, or even local people who wanted to learn more about our history. So we thought an app would move it to the next generation. It's technical and accessible, and everyone carries their phone. You can walk around and listen to it while getting your steps in. It's also preserving the stories of the islands beyond what had been written in our guidebook. For example, you learn about the history of mahogany trees and other historical events, so we can preserve informal stories that might otherwise be lost. We got this app going with the Darwin Plus grant.

Jodey Peyton: Thank you, and I think your point about oral histories is another really lovely way of keeping history alive. There's something powerful about hearing someone tell a story; it feels really ancient in us to want to be told a story. Montserrat National Trust are interested in this.

A: Absolutely. And for anyone listening, you can contact us via the National Trust of the Cayman Islands website. We are happy to share resources. For example, the climate-resource we developed was made so that it is easy to adapt Cayman content to Montserrat, Anguilla, or other islands. We used a local app creator who can tweak it for other islands at a reduced cost. I am looking forward to working with everybody here.

Jodey Peyton: That's so lovely, thank you very much, Cathy.

A: Thank you.

Mike Pienkowski: Okay, thank you very much, Catherine, and thank you, Jodey.

General Discussion on Topic 6

Mike Pienkowski: I want you all to think if there are things you want to discuss in the general discussion. After the boring bit, which I'm going to do in a minute, Jodey can pick this up and help.

Those who joined earlier know what's going to happen now, but I need to repeat something for those who aren't. Sorry about that. We need to check the draft recommendations relating to this section of the conference. You'll find those on page 13 of the conference booklet.

Previous experience shows you cannot start with a blank sheet and come out with clear recommendations. Over 26 years of conferences, we have evolved a way of doing this. This year we started with a cross-territory group of people who looked at previous conferences, working-group discussions, abstracts from speakers and posters to come up with a draft. We circulated that draft several months ago, revised it based on comments, and by the third consultation, we were only changing a couple of words. We circulated the revised version over a week ago and have not received any new comments; so we are near consensus.

Of course, only a small proportion of people consulted are here. If anybody has serious problems with the recommendations, please put a note in the chat and we'll try and do something about it. I haven't seen any comments yet, so I'll take a few minutes to check. Very soon, I'll hand over to Jodey to see if she's picked up any points for discussion. There's nothing in the chat so we'll move on Jodey.

Jodey Peyton: We haven't had any more questions in the chat. I have to say this has been a really hopeful session. The next generation, as Nancy mentioned, needs engagement and training to understand what's happening in the world. Alan, do you have a question?

Alan Gray: I don't know if this is included elsewhere, but long-term monitoring should be considered, and how we fund that.

Mike Pienkowski: There is some reference to funding and long-term monitoring. We tried to limit recommendations to around 20, slightly over, but later we'll also divide them into shorter extracts for specific target audiences. There will be a session on funding tomorrow. There is a reference in there.

Jodey Peyton: Thanks, Alan. Does anyone have any other questions or reflections? Mike, what stood out for you this afternoon?

Mike Pienkowski: It's been fun chairing more than just the recommendations sections! I regret Sarita wasn't here, but overall it's been interesting. I missed some talks because I was busy behind the scenes, trying to keep things moving, but look forward to viewing the

recordings.

Jodey Peyton: Does anyone else have anything? I think Katie and Nancy's work on storytelling, linking to Cathy and Cayman's work, is crucial. It helps people understand climate-change and empowers action. Cathy's work with kids is adorable; they're the next generation of blue iguana conservationists.

Mike Pienkowski: Perhaps people want a break maybe a drink. Tomorrow we'll start at noon with strong sessions from environment and corporate sectors, chaired by Leigh Morris from the Manx Wildlife Trust and now The Wildlife Trusts overall – very go-ahead and he led most of the work with Aviva, as mentioned by Joan Walley earlier. Alison Neil, from South Georgia Heritage Trust, will present on rodent removal success and how it was funded.

Jodey Peyton: Should we give John Pinel a chance to comment as rapporteur?

John Pinel: I just want to thank everyone for contributing. It's been excellent. I have lots of notes here to write up. This includes the important bit on education, not just for young people but for all of us. A lot of these things we've discussed have been quite complex and you have to be a practitioner to follow on and I love the idea for perhaps looking for ways to summarise outcomes of conferences for non-practitioners and young people. This is a great idea, to give hope and show solutions are possible. We don't all have to be working in conservation to achieve these things, but if you learn about conservation, you can and take it into any profession. Thanks for interesting and engaging talks.

Mike Pienkowski: We will publish first outputs in the next *Forum News*, divide recommendations for target audiences, and work on a proceedings volume. Contributors should submit written content and illustrations. People can also use other media for popular writing, but not reproduce presentations without permission of authors of presentations.

Jodey Peyton: No more questions, but I think it's lovely that everyone contributes their small parts.

Mike Pienkowski: Your comment about general training was very apt. Back when I took my degree in 1969–72, there were very few ecology or conservation jobs. Local authorities had none. We chose biology generally, then specialised after two terms. More than half of our year-class of 100 opted for ecology – rather disturbing the university, as they had no ecologists on staff. Many of us took it as a good general training for whatever we eventually did. By graduation, jobs started to appear, so it's always worth living in hope.

One of our plant-ecology lecturers later won a Nobel Prize. We had teased him because he was teaching a

subject (plant ecology) which wasn't his, as he was really a plant-physiologist..

One day I found something in the British Ecological Society newsletter saying people should stick with their specialisms. So I made the mistake of photocopying it and pinning it on the board in our general room. So, when a year or so later we came to finals, our plant-lecturer reproduced it as a question, adding "discuss". So I felt morally committed to doing so, and I did a very bad job – which was the end of my possibility for a First! These things can come back to haunt you. I think, in this case, the reflection of this consist of the benefits of a well-based training, whether it be degree or experience, in nature and conservation have all sorts of wide applications.

And I do feel I'm beginning to ramble. Jodey is supposed to have stopped me by now!

There is a reminder from Catherine. Thank you, Catherine. If you don't receive *Forum News*, our twice-yearly newsletter already, all you have to do is go to our website (www.ukotcf.org.uk). At the bottom of any page, there is one of the simplest form you've ever met to sign up to it. And that puts you on the circulation, and also covers us under the GDPR regulations, so that we are not sending out unsolicited mail.

Jodey Peyton: You can submit articles as well. I'm always looking for articles to put into it; there's plenty of choice from these last few days, which are fantastic. But feel free to get in touch with me if you do want to add something for *Forum News* as well. .

Mike Pienkowski: I also add thanks to Jodey, because she has just taken over the editor responsibility for the Forum from me.

OK, everybody, I think we are going to close down now for the day. You can have a little bit of time off! Good night, everyone, or good afternoon – or good early morning for our Australian colleague. And I wish you well, and look forward to seeing you tomorrow.

Main topic 7: Funding/resourcing

Chairing: Leigh Morris (Isle of Man); Question-master: Keith Bensusan (Gibraltar);

Rapporteur: Jodey Peyton

Introduction (The numbers before each title below are links to that item.)
7-01 Fundraising for South Georgia – obstacles and opportunities <i>Alison Neil (South Georgia Heritage Trust)</i>
7-02 The Power of Partnerships <i>Nigel Cheesley (Head of Sustainability for Lloyds Bank International in the Crown Dependencies)</i>
7-03 Eco-Match: Enabling Corporate Partnerships for Conservation <i>Leigh Morris & Jodey Peyton (UKOTCF)</i>
7-04 Financing Nature: Bridging Conservation and Investment through Sustainable Finance <i>Greg Easton (MD, Resilience Asset Management)</i>
7-05 Biodiversity Funding and a Call to Action <i>Robin Clough</i>
7-0x Extra item: Manx Wildlife Trust high-quality internship programme
7-06 Lloyds Bank: Partner of Choice for the UKOTs <i>Matt Pendrey (Head of UK Government & British Overseas Territories, Lloyds Banking Group)</i>
7-07 Collaborate for Conservation. <i>Jonathan Andrews (Remarkable Partnerships)</i>
Poster related to this topic
7-08P Evidence of Barriers to Marine Conservation in UK Overseas Territories: A Practitioner-Informed Study <i>Natalie Muirhead-Davies (University of Gibraltar)</i>
7-09 Interactive session (including also agreeing conclusions on session, and involvement of panel of session speakers). <i>Run by Leigh Morris & Jonathan Andrews</i>
Closing session - see first part of these proceedings

Introduction

Chair: Leigh Morris, Director of International, Wildlife Trusts; Council Member, UKOTCF

Good afternoon, everyone. I see our participant numbers are steadily rising, perhaps not unlike a slow-moving petrol pump, so I'll begin with a short introduction to set the scene, allowing late arrivals to ease in without missing too much.

My name is Leigh Morris, and I am currently serving as Director of International at The Wildlife Trusts, a role I took on recently after several years as Chief Executive of the Manx Wildlife Trust in the Isle of Man. I have also the pleasure of serving on the Council of the UK Overseas Territories Conservation Forum, a role I've held for the past four years — or perhaps longer!

My own experience spans several territories: my wife and I lived in St Helena for two years, and I have also worked in Ascension, Gibraltar (with Keith Bensusan) and Cyprus. Each of these experiences, especially my time in the Isle of Man, has been an incredible learning opportunity as well as a privilege.

I have spent the week attending the IUCN World Conservation Congress in Abu Dhabi, where I am currently sitting in a rather over-cooled room. It has been my first World Congress, and a fantastic one at that. There have been many conversations highly relevant to our work in island contexts, including those centred around the Global Islands Initiative and EU island networks.

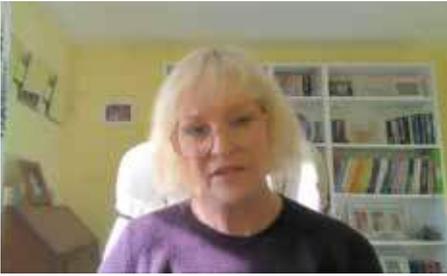
A strong thread running through the Congress, and one that leads into this afternoon's session, has been the need to engage meaningfully indigenous peoples, youth, and the private sector. The dedicated Business Summit at the Congress highlighted the growing recognition of corporate responsibility in conservation-efforts.

From my own experience leading a small conservation charity, I know well that funding is critical. It is encouraging to see momentum building and new partnerships emerging to support environmental work across small islands and overseas territories.

So, with that, let's get started.

Fundraising for South Georgia – obstacles and opportunities

Alison Neil (South Georgia Heritage Trust)



Alison Neil

Neil, A. 2025. Fundraising for South Georgia – obstacles and opportunities. pp 235-239 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

The UK Overseas Territories, including South Georgia, often seem to fall through the cracks when it comes to eligibility for grant funding. Charities, who are trying to raise funds for conservation work to benefit a UKOT, need to diversify their fundraising if they are to succeed. This talk will explore the obstacles and opportunities involved in fundraising for a UK Overseas Territory, looking specifically at the South Georgia Heritage Trust's successes (and failures) in raising funds for the island of South Georgia.

Alison Neil, South Georgia Heritage Trust

Hello everyone. I am Alison Neil, the CEO of the South Georgia Heritage Trust, a charity based in Dundee, Scotland, which carries out and supports environmental and heritage conservation work on the British Overseas Territory of South Georgia. The Trust runs the island's only museum on behalf of the Government of South Georgia & the South Sandwich Islands, and we also publish literature and deliver educational material about the island. Over the last twenty years, we have raised funds for all sorts of projects, from the world's largest rodent-eradication, to archaeological surveys, museum-projects and even art-installations! Today, I will share some of the learnings from our fund-raising in the hope that it might increase the funding available to conservation-organisations working in other British Overseas Territories.

The UK Overseas Territories, including South Georgia, often seem to fall through the cracks when it comes to eligibility for grant funding. We're British, but not within the British Isles, meaning that many of the traditional funding avenues aren't available to us.

Museums are a good example of this. Many grants from UK bodies for museums are contingent on that museum coming under the UK Arts Council accreditation scheme. However, the UK Arts Council will not accept UKOT museums on to the scheme, probably because it is so difficult to inspect and evaluate the museums. So alternative sources of funding need to be considered. When it comes to UKOT non-profit fundraising, what we have found is that nothing is straightforward and lateral thinking is needed.



The South Georgia Heritage Trust manages the South Georgia Museum on behalf of the Government of South Georgia & the South Sandwich Islands (GSGSSI). The museum serves multiple functions, one of which is to emphasise and provide examples of the excellent British stewardship of this Overseas Territory. As well as maintaining the fabric of the museum and insuring its collection, the GSGSSI makes a generous annual payment towards the upkeep of the museum.

So, for museums and other important heritage and environmental sites in British Overseas Territories,



consider who has a vested interest in the upkeep of these places you are trying to conserve. Those organisations are the most obvious supporters of your key sites and, in the absence of e.g. UK Government funding, should be stepping up to help with things like running costs, especially if, as happens on South Georgia, they levy payments from each visitor to the Territory. Using the example of what happens in other UKOTs can help to reinforce your case for support.



Running the museum on South Georgia also allows us to meet visitors face-to-face, all of whom are potential supporters. Our museum-team goes on visiting cruise-ships to give a presentation about the conservation work we are planning, and to ask people to support us. We have found that the best time to engage with visitors about support for your work is during their visit – obvious of course, because they have just seen that cute penguin or seal, rare bird or stunning landscape, and emotionally they are feeling that they want to do something for this special place. In the UKOTs we are lucky to have some of the most biodiverse British regions and a rich heritage; there is something for everyone to be passionate about.

It is very important to capture the information of visitors as thoroughly as you possibly can, as well as those potential donations. Even if someone does not donate at the time, getting their agreement to be added to your newsletters, for example, means that they might support you in some other way, such as purchasing from your online shop, or making a bid at an auction you are holding. It's important to follow-up that initial meeting soon after they get home or even when they are back on their cruise-ship, while they still remember who you are!

Someone who has given just a small gift initially could have the potential to give much more, once they know



and trust you and your organisation.

As time has gone on, we have expanded the donation methods we offer. Here are some of the most successful:

- Auctions, either on cruise-ships or online. These can be a great way of engaging new supporters, because people do not need to be committed to your cause to take part, but relationships can be built with those who have taken part, especially the successful bidders. Over 50% of our fundraising income at South Georgia comes from auctions.
- Donation forms. The old-fashioned paper form is something that people can take away and is a form of giving that older people in particular are most comfortable with. Next season our donation form will have a useful map on one side, so that people want to keep hold of it!
- Top-up donation at the till. If you have a gift-shop, then why not encourage customers to add a bit on to their purchases to make a donation to you. A very easy way to get more supporters on your books if you can capture their email addresses at the time to send them a receipt or acknowledgement.
- Website. It is still very important to give people simple and secure methods of donating via a trusted website, which is also a great opportunity to capture contact-information and have them tick a box for gift-aid, newsletters etc.

You can make giving most rewarding by:

- Following up with some news about how their donation made a difference
- Giving supporters a sense of ownership – for example, during the Habitat Restoration project, visitors were able to ‘sponsor a hectare’ of South Georgia, with their £90 donation covering all the costs (including the unsexy ones such as logistics) of clearing that piece of land. Each supporter received a certificate with their name on and how many hectares they had sponsored. This was a HUGE success with visitors. Think about how you might give your supporters that sense of ownership, by ‘adopting’ a threatened bird or mammal for example, or by getting them involved in citizen science. So powerful!



Any opportunity to meet the people who have a stake in ‘your’ Overseas Territory could be a fundraising opportunity. Even if you do not have a team on the ground regularly, any project-team working in the UKOT can act as ambassadors for you and your organisation. People who are actually carrying out conservation-work or research, or who live in the UKOT, even temporarily, are fascinating to visitors and they can be your most effective fundraisers. They are also doing important work which you, as a conservation organisation, may want to support.

If the main people who visit your UKOT are scientists or academics, then try to create partnerships with them where you support their work and they can act as spokespeople, add credibility and help get word out about your organisation by acknowledging your support.

Think about who else has ‘skin in the game’ when it comes to your UKOT. For example, do you have rare birds that need to be protected? If so, you could offer to give a talk on that bird to another organisation such as Birdlife or the RSPB, getting in front of new audiences and potentially attracting new supporters. Sharing knowledge and collaborating with credible partners will add to the level of trust that people have in you – which is so essential for fundraising.



One of the defining moments in the quest to raise funds for South Georgia’s rodent eradication was the establishment in 2010 of an affiliate not-for-profit in the USA, Friends of South Georgia Island, which is a 501(c)3. Philanthropic giving is more of a status symbol in the USA and there is huge fundraising potential, but USA residents will want to make a tax-deductible donation, which donating to a 501(c)3 lets them do.

So if you have a trusted person in the USA who is prepared to put in the time and effort, setting up an affiliate but independent organisation in the USA can be a game-changer. If you do not, then look into 501(c)3 organisations who will accept donations on your behalf, but be prepared for them to take a healthy percentage of the donation before passing it to you!

Think about how you can involve people of High Net Worth (HNW) more deeply in your organisation, who will help out your organisation in tough times and not just support project work. Perhaps someone who has useful



business skills could become a Trustee – you can pick the brains of your existing network to see who might be a possibility, and look at previous donors who have been very engaged with your organisation’s values and work. Think about creating a group of high-net-worth (HNW) supporters who give a regular amount in return for some privileges that you can offer (for example: meeting a Royal Patron; giving them a glimpse behind the scenes of your team in the UKOT) and who perhaps can be given their own fundraising challenges to achieve.

The Trust has regular donors who join a Guardian of South Georgia scheme, they receive their own newsletter, get invited to online events, and receive money off when they spend in our online shop. They provide a regular and vital income-stream and tend to be the first to support broader campaigns.



It takes time to build up a regular legacy income-stream, but you can receive one-off game-changing legacy amounts from people. This is often something that supporters from the USA will consider. Think about providing the information that will make it easy for someone to leave a gift in their will to your organisation. On your website and in your newsletters, give tangible examples of the work that legacy gifts have or could enable. (Just saying that it will keep your organisation going is not enough!). Be clear about your future plans and give evidence (e.g. through annual reports and financial information) that you will be around for the long-term.

If you are able to acknowledge major donors/legacy donors permanently, for example by naming a room, or putting their name on a plaque at a heritage-site that you run, that is a powerful tool to attract legacy-donations.

Once you have a regular income from legacy gifts, you

will no longer be living hand-to-mouth on project-funds, and can start to plan confidently for the future. This is still a work in progress for SGHT!

Thank you for listening, I hope that you have heard a couple of ideas that you would like to implement – and please do not hesitate to contact if you would like to discuss any of these points. We all need to keep learning from each other, which is why the UKOTCF is such a great forum.



Q&A

Leigh Morris: Brilliant. I think I'm going to pass over to Keith. I've got one of my own, please, if we've got time.

Keith Bensusan: Thanks for that. That was really interesting. I think we have time for three questions. I've got one of my own as well

St Helena National Trust: What are you auctioning for it to be a popular fundraiser?

A: Good question. What tends to be really popular at an auction are items that are really specific to your Overseas Territory that are not purchasable from gift-shops and all that kind of stuff. And you need to think about a variety of different items, because there are a variety of different people who will be taking part in the auctions; so it could be something that no one else can get. So it could be, for example, a signed print by an artist or photographer who has been inspired by your Overseas Territory, so a one-off. For example, on South Georgia, we have lots of people who are interested in Ernest Shackleton. So we have a kind of a whisky and tumbler set, so people can raise a toast to the Boss on their cruise-ship. But, you know, think about your own Overseas Territory: what makes it unique? And then, think about auction items that you could actually provide that would be really special for people. And don't be scared to include some more valuable items. For example, in the past, we have auctioned fabulous bronze albatross statues and raised something like £5,000-10,000 per item there. We have also had amazing artists like Bruce Pearson create charts for us, illustrations of the island. All of these things are so special – great souvenirs for people. Try not to make it anything too heavy, especially if people are traveling. Remember that they do need to put it in their luggage. So that is just one thing I would say. But it can be a really

valuable source. What our team does is it puts together a pack; so it's not just one auction item: it's a collection of different things, and then the expedition leader will take that to the auction. They will auction each item individually within that pack. And different things appeal to different people.

Keith Bensusan: Excellent, thank you, Alison. A lot of information there. Leigh, do you want to ask your question?

Leigh Morris: Alison, partnering with others: I just wonder if there's ever been. maybe a South Atlantic link with the Falkland Islands. Or Tristan, or has there ever been a joint shout-out for the conservation of the Southern Ocean UKOTs?

A: Our more obvious partners, if you like, are the UK Antarctic Heritage Trust, so we tend to do a lot of auctions with them. For example, we would do an online one. And together, our supporters and suppliers would give us the auction items, and then we would do that online auction as a partnership, and share the rewards, and share the audience as well. What that means is you are picking up the kind of people who are interested in your work, and who are likely to be interested in that partner's work if you've chosen your partner. So, don't see it as a competition; see it as collaboration. Donors absolutely love it when charities work together. They're getting more bang for their buck. Don't be scared of that happening. I would definitely encourage you to reach out. You know, we have lots of different collaborations with some of the UKOTCF partners. For example, when it comes to the Falklands Museum, the historic dockyard Museum in Stanley will collaborate with them on some museum activities as well. So, there are lots of different ways that you can collaborate, but partnerships make you stronger. Don't be scared of the competition, don't be scared of sharing audiences.

Keith Bensusan: Thank you, Alison.

Paul Edgar: Is there online advice available that explains the US system for tax-deductible philanthropic giving and legacy gifts?

A: I don't know exactly where you would find this, but I think it might be in the USA tax legislation information. But, if you put 501 c3 into your search engine, that would be able to provide tax-deductible information. If you're struggling to find information. I'm happy to take emails from people, and I'll try and pass on whatever information I've got as well.

Keith Bensusan: Thank you, Alison. I'll just read out a point that Catherine posted, and then I think that'll be it as far as time goes. **Catherine Wensink** says UKOTCF is a registered charity with Charities Aid Foundation (CAF). They have a US arm that allows donations to come to their 501, and then on to the CAF UK but, as Alison says, a cut is taken. And the last point I was going to make, which is just something for us to consider, is in terms

of attracting US Philanthropic funding. Whether there is mileage in trying to attract cross-territory funding. Or would this be too diffuse a concept, and do donors prefer very specific themes or projects?

A: That's a good question. So, I would say it's definitely worth a shot at doing that kind of cross-territory partnership. But, you know, it depends who you're appealing to. Leigh had talked about the kind of appeal to corporates, and I think that cross-territory partnership might be something that was quite appealing to a corporate organisation. Whereas an individual may want a more personal connection with your organisation, so they might prefer to do it on a one-to-one basis, but it's definitely worth exploring.

Keith Bensuan: Okay, great. Thank you very much again.

Leigh Morris: We're on time, so I'm going to aim to keep to that, but I must first of all, praise and take note of what Alison said about people working together on this. My absolute perception is that there's more to be had by partnering. Don't lose that. And I'm going to give you one quote from the conference this week in Abu Dhabi. A guy stood up and said he had a problem getting funding for his projects in islands. It was tropical islands, but it was islands. And basically, he said that he'd gone to a corporate business with a project that was \$1.5 million. The business in question has said "Can you get something a bit bigger? Can you link with other ones, because we don't want to fund small projects?" That's one example. But I think the projects and the linking together could be something great for us.

The Power of Partnerships

Nigel Cheesley (Head of Sustainability for Lloyds Bank International in the Crown Dependencies)



Nigel Cheesley

Cheesley, N. 2025. The Power of Partnerships. pp 240-242 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

Carbon Dioxide removal is going to be an essential part of our journey to net zero. With environmental markets forecast to grow significantly in the coming years, nature-based solutions are important because they not only remove carbon from the atmosphere but can provide valuable co-benefits such as helping to restore biodiversity, improving wellbeing and people's connectedness to nature.

In this presentation we explore how a partnership between business and the Manx Wildlife Trust has supported a pilot environmental market project in the Isle of Man which could provide a blueprint for scaling nature-based solutions in both the Isle of Man and beyond.

Nigel Cheesley, Head of Sustainability for Lloyds Bank International in the Crown Dependencies

Hello, everyone. I'm going to talk about the power of partnerships today. And in particular, in relation to the environmental markets. But first, I want to explain why this is important.

Let's start by going back to 2015, when the majority of the world came together for the Paris Agreement. This led ultimately to an acknowledgement that we need to limit global warming to 1.5 degrees Celsius when compared to pre-industrial levels. The Paris Agreement was a landmark because, for the first time, a binding agreement had been reached to combat climate-change and adapt to its effects.

But here we are, almost 10 years on. And where are we? Well, according to the Climate Action Tracker, which many of you will be familiar with, based on current policies and action, it is likely we are going to be heading towards somewhere around 3 degrees of global warming by the turn of the century.

But why does this matter? Well, aside from the environmental damage, biodiversity-loss, and social impacts, it will also have a significant effect on the global economy. Even in a 2-degree scenario, global GDP will be 14% less, according to the UN Climate Report. And recently, a report by the Green Finance Institute and the World Wildlife Federation forecast an almost 5% reduction in UK GDP by the end of the decade, due to the degradation of nature in the country.

The good news is that, despite the current political climate, more and more companies over the last few years have committed to carbon-reduction targets that are

linked to net zero. And last year, this had risen to 65% of global 2000 companies, compared to 39% in 2021. Now, here's the bad news. Only 16% of those companies are on track to meet those commitments.

And this probably means that, as well as doing everything we can to have incredible carbon-reduction strategies, we are also going to need to remove carbon from the atmosphere.

Different types of carbon-dioxide removal will be needed to reach net zero. Whilst technological solutions such as carbon-capture and -storage will play a big role in the future, the technology will take time to mature, and it isn't expected to have much of an impact before 2040 at the earliest.

In the meantime, nature-based solutions such as afforestation-projects will need to do a lot of the heavy lifting to remove carbon. If we look at where the environmental markets are now, only a relatively small proportion of carbon-credits are carbon-dioxide removal – just 5%. The rest are avoidance or reduction-based credits; so there's a major imbalance in the market.

Of course, when demand exceeds supply, it affects the price, which means that the price of carbon-dioxide removal-credits is almost four times that of avoidance-based credits. And this will only become more acute the closer we get to 2030, when more and more companies with 2030 commitments will seek to implement offsetting strategies.

I should touch also on some of the co-benefits that

nature-based solutions provide. Firstly, they enhance biodiversity, have a positive impact on our well-being, and they create a sense of belonging, and the motivation for environmental stewardship. And finally, there is the value of verifiable co-benefits in terms of price premium.

All markets function effectively on the basis of confidence and trust. The recognition of the need for high-integrity frameworks has been a really positive step forward for environmental markets, starting with the announcement regarding Article 6 of the Paris Agreement at COP29, when countries finally agreed on the rules governing the Paris Agreement crediting mechanism, which will approve methodologies, register projects and maintain the registry, ultimately allowing countries to trade credits.

Closer to home, the UK published its policy-paper for voluntary carbon and nature market integrity. So you've got, for project-developers, the Integrity Council's 10 core carbon-principles, which set the global standard for high integrity in international carbon-markets. And for purchasers of credits, the VCMI claims code of practice sets how companies can credibly use offsetting strategies.

But, with the spectre of greenwashing at the forefront of many companies' risks, there's a sense of caution for many that means only the highest integrity projects will be supported.

One of the biggest challenges for nature-based solutions is that they take time to mature. So, for example, with an afforestation-project, the trees will take many years to grow to maturity. The effect of this is that, whilst many of the costs involved, such as purchasing land and planting trees, are upfront, projects won't start producing credits at scale until much later. And that effectively creates a cash-flow funding gap. Even when securing financing, that debt will need to be serviced.

So how can a business model that works be achieved? The answer comes from a similar mechanism that is used in project-finance – the use of off-take agreements. The offtake in this instance essentially provides cash-flow in return for future credits produced by the project. The benefit of this type of arrangement is that some of the risk is transferred from the project-developer to the off-taker, improving the viability of the project and making the proposition much more compelling for financing.

Innovation in the space, such as carbon-credit insurance, also helps to mitigate risk, improving a project's attractiveness for off-takers, and further enhancing its integrity.

Last year, we worked collaboratively with Manx Wildlife Trust and several local businesses to establish a scheme following this model in the Isle of Man. Here's our story: <https://www.youtube.com/watch?v=rYWOuV9v80Q>

Q&A

Keith Bensusan: If no other questions. I will have a crack. I thought the talk was really good, by the way. Excellent communication. But the first part had a bit of what I would call business and economics jargon. That, although basic for people working in what they might consider the real world, I fear is off-putting to quite a lot of biologists and conservationists. I think this can be a really unfortunate barrier, and I wonder what the solution is: whether it's, for example, running workshops, or embedding business and economics more firmly in conservation-related degrees – so what are your thoughts on that?

A: I think it's a really good point, actually, and becoming familiar with finance mechanisms is something that I think is really essential if we want to have impact in the future. I think there's a big role for banks to become more accessible, both in terms of the way that we present finance, or talk about finance as well as helping potential stakeholders to be able to understand how it works, and what is required to gain support for financing. I think it goes much deeper than just conservationists. I think one of the reasons that we have so many problems today when talking about sustainability and climate-change is that we've seen a lot of political polarisation. That political polarisation is being driven by inequality; that inequality is being driven by a lack of financial literacy. I think there's so many aspects of that point that have to be addressed that we've got a lot of work to do. Coming along to a forum like this, and talking about it is a great opportunity to engage, and the door is open to talk about this more, if anyone would like to have that opportunity.

Keith Bensusan: Thank you very much, and that actually links in really well with a point that Myles Darrell made at the end of the first day about social issues and conservation not being two separate issues, but actually being linked very intrinsically.

St Helena National Trust: I see that Lloyd's Foundation is targeting local charities in England; are they considering the UKOTs?

A: I think we have four foundations – it might even be five foundations – for England, Ireland, Scotland, and Wales, and then the Channel Islands. We don't have foundations at the moment linked to the UKOTs, but maybe that's something that we should consider, and I'll certainly take that question to the Foundation. You know, it fundamentally links to our purpose and we're keen to make sure that we're as accessible as possible.

Keith Bensusan: Okay, thank you for that, and the next question is from **Melanie Carmichael** from Sustainable Cayman: how do you manage the ongoing maintenance-costs and area-management of such a large project, *i.e.*, does the plan cover staff costs?

A: It does, and I think that, right at the beginning of the project, we had to build a financial model

that incorporated not just those setup costs, but the maintenance-costs and the assurance-costs that go alongside it, and that was planned out all the way from from inception, right the way through to year 50. You know, when we were working with Mike Swan, the investors, the off-takers in this case, we incorporated all of that into the financial model to make it as robust as possible, because it's in everyone's interest to make sure that the project is successful.

Actually, we consider all of those things. I think, as you scale projects, it's really important to think about things like, disease, all climate-change, and the impact that that's going to have on the project. Things like insurance, and things like buffer credits used in the woodland carbon-code also really play a part in making projects as robust as possible, and that financial model being as robust as possible, if that makes sense.

Keith Bensusan: Thanks very much, Nigel, and that's all we have time for, I think, in terms of questions.

EcoMatch: Enabling Corporate Partnerships for Conservation

Leigh Morris & Jodey Peyton (UKOTCF)



Leigh Morris



Jodey Peyton

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Obtaining funding for conservation and environmental projects remains a crucial challenge for those aiming to deliver them. The rise in Environmental Social Governance (ESG) and the increase in businesses wanting to support the delivery of global biodiversity and carbon goals through sustainable financing offer a tremendous opportunity to the conservation sector. There remains, however, a disconnect between conservationists wanting to secure funding and the businesses looking to support. The EcoMatch on-line platform, developed by UKOTCF, aims to bridge this gap, and act as a 'dating site' for businesses and projects. This paper outlines the motivation behind EcoMatch, its design and functionality, and the opportunities it creates for organisations to collaborate for nature.

Leigh Morris (UKOTCF Council-member) & DrJodey Peyton (UKOTCF Senior Projects & Conservation Officer)

Introduction

Corporate partnerships are increasingly recognised as essential to meeting global conservation-goals. Businesses are under mounting pressure to demonstrate environmental responsibility, while conservation-organisations face persistent funding challenges. EcoMatch was developed in response to this need: to act as a digital bridge connecting these two communities and enabling mutually beneficial, long-term partnerships.

This paper highlights:

- The importance of corporate partnerships for conservation;
- The challenges that inspired the creation of EcoMatch;
- The ambition and evolution of the platform;
- How EcoMatch functions and how organisations can get involved.



Origins and Development of EcoMatch

The idea for EcoMatch emerged from a series of discussions within UKOTCF, recognising a clear need to connect corporate enthusiasm for sustainability with the critical on-the-ground work taking place across the UK's Overseas Territories and Crown Dependencies.

Over the past year, the team has worked closely with Forum stakeholders to co-design the system, gathering insights into what both businesses and NGOs need from a matchmaking service. The result is a user-friendly online platform that allows each party to share their goals, resources, and project-details in a way that fosters transparency and collaboration.

The Vision and Purpose of EcoMatch

EcoMatch aims to link the enthusiasm of business and industry with the passion and expertise of conservationists. Its vision is simple but ambitious:

- To protect and restore some of the world's rarest habitats and species by connecting funders and conservationists in long-term, impactful partnerships.

The platform's objectives are to:

- Facilitate direct connections between conservation-projects and potential funders;
- Deliver measurable environmental outcomes and community-resilience;

How It Works

- Matchmaking the amazing people that want to help nature
- Protect and restore some of the world's rarest habitats and species
- Deliver environmental outputs and build community resilience for a sustainable future.
- Two parts to the website:

I'm looking for project funding

I'd like to fund a project



- Provide a mechanism for sustainable financing of conservation-work;
- Encourage collaboration across territories and sectors.

The focus on UK Overseas Territories and Crown Dependencies reflects their exceptional global biodiversity-value and the pressing need for additional conservation-investment in these regions.

Platform Design and Functionality

EcoMatch is designed to be accessible, simple and transparent – removing unnecessary administrative barriers and technical complexity. The platform consists of two main pathways:

For Conservation Organisations: (“Looking for Funding”) Organisations can submit details about their project, including: project-name and organisational affiliation; key partners and collaborators; a short summary of the proposed work; images and visuals to help engage potential funders; and links to relevant frameworks such as the UN Sustainable Development Goals (SDGs) and the Convention on Biological Diversity (CBD) targets. Projects are then profiled on the EcoMatch website, where funders can search using keywords, themes, or location filters.

For Businesses: (“Looking to Fund Projects”) Companies can create a funding profile, outlining: organisational name and sustainability focus; available

budget or funding range preferred project types or ecosystems (e.g. marine, terrestrial, reforestation); geographic preferences or specific territories of interest. This allows businesses to identify projects that align with their corporate social responsibility goals or environmental commitments.

A Collaborative Approach to Partnership Building

EcoMatch is not merely a funding directory. It is designed to foster collaboration. Businesses are encouraged to share not only financial support but also ideas, expertise and technical skills. Organisations with multiple projects are invited to upload several initiatives, ensuring funders can discover opportunities that best match their sustainability-priorities. This flexibility encourages a portfolio-approach to conservation-investment. The project responds to a major communication-challenge, in that so much brilliant conservation-work is being done, but it often gets lost in translation between sectors. EcoMatch aims to plug that gap.

The Challenge and the Opportunity

One of the main barriers identified in early consultations is language: the “business and economics jargon” that often alienates conservation professionals, and vice versa. EcoMatch helps overcome this by standardising how projects and funding needs are described, using accessible terminology and shared frameworks, like the SDGs.

The ambition behind EcoMatch is scalable and inclusive:

OVERSEAS TERRITORIES CONSERVATION.UK

Example Live Projects

- Montserrat Ecoplay**
This project is actively seeking support
Visit page
[Read more](#)
- New Manx Nature Reserve**
This project is actively seeking support
Visit page
[Read more](#)
- Conference and Book**
This project is actively seeking support
Visit page
[Read more](#)
- BioMonitor Guernsey**
This project is actively seeking support
Visit page
- Reforestation Millennium Forest, St Helena**
This project is actively seeking support
Visit page
- Bailiwick Eelgrass Exploration Project**
This project is actively seeking support
Visit page

to make it as easy as possible for anyone, from small charities to global corporations, to take part in nature recovery. By simplifying the connection process, the platform helps to unlock the latent goodwill, innovation, and capital available for environmental restoration.

Conclusion

EcoMatch represents a pragmatic yet visionary, response to the growing need for collaboration between finance and conservation. By creating a simple, user-driven platform that unites project-leaders and funders, it supports not just individual conservation efforts, but a

broader movement toward sustainable, partnership-based environmental stewardship.

The success of EcoMatch depends on continued participation – from NGOs, businesses, and individuals alike, who share a belief that connecting passion with resources can help secure a sustainable future for the UK’s most precious ecosystems. Input is welcome on any aspects of the project as it is further developed.

Q&A

Keith Bensusan: No questions so far; well, a comment

OVERSEAS TERRITORIES CONSERVATION.UK

Example Live Projects

- Conservation Herd**
This project is actively seeking support
Visit page
[Read more](#)
- Habitat Video Stories**
This project is actively seeking support
Visit page
[Read more](#)
- Habitat Video Stories**
More information available soon
[More soon](#)
- Guernsey Biological Records Centre**
More information soon
[More soon](#)
- Nature Matters articles**
More information soon
[More soon](#)
- Environmental Education Programme**
More information soon
[More soon](#)

from **Rhian Guillem** in Gibraltar, which I will echo, which is that it is such a brilliant platform, well done, guys.

And since there are no questions, I'll make a couple of comments. The first is that I am fully aware that I should have uploaded some projects some time back, but we're on it, and we are brainstorming ideas, and we have one idea in particular which we will upload shortly. I should say, and perhaps this is more for discussion than for the questions section, but since we don't have questions, I think that, in terms of the gap between us in the business sectors, I don't think it's just about vocabulary. Actually, I think that, at least partly, it might be because many of us feel that we belong not just to different planets but, more alienating, still different political spheres. And I think that, if we're better at understanding each other and recognising, that both the economy and environment are oxygen for us, then this will definitely facilitate things. In that sense, I think this initiative to connect people, to connect conservationists to business, might go a long way towards achieving that, and I really like the analogy of the dating app – because we really do need to fall in love with each other.

Leigh Morris: Yes, and I think I can see we've got a couple of minutes without questions. So, I'll just come back with a comment on that. And it's great to have Jonathan. I'm going to introduce you later before you do your talk, but it's lovely to see you. This guy makes his specialism bridging that gap between potential corporates and charities, charities in its widest sense. I won't steal your thunder, Jonathan. What I would say in response, Keith, is that I almost said the greenwashing words. Yet, personally, I have seen a trajectory away from that. I would claim to be pragmatic, and I sit on boards, and I've sat on boards. In my senior roles, if a corporate partner comes along, there is a conversation about, should we be working with them? What I would say are two things now, and we'll come back to it later, I'm sure. One is, we all drive cars, and we all live in houses. We're all in buildings and on roads, and we all consume things. So, none of us are perfect. We all consume something. We've all got a footprint. And I've found hundreds of really passionate, lovely people that are working in businesses. They're not all bad. In fact, most are not bad. And I think, pragmatically, we need to try and get that gap together. You know, when you actually look at the global-diversity framework, the key strategy for sustaining biodiversity on our planet, one of the key targets in there relates to the need for financing for the biodiversity-work we need. If we just sit there waiting for money to come to us, it won't come.

There are businesses out there; the Aviva one is an example. The highest integration, biodiversity and carbon: £40 million is really transformational for biodiversity. There are others.

Keith Bensusan: Thank you very much for that. There's

a question that's just come in.

Sophia Cook: Thanks, interested to know why you decided to have projects as the focus, rather than organisations having a profile purely as an organisation, and encouraging businesses to give unrestricted funding.

Leigh Morris: Great question. Jonathan will have a view on this. My view on that is that businesses want something out of this. Because they're a business, then let's just recognise that. It doesn't have to be a carbon-credit, but businesses like the credit; they like a biodiversity-credit. They like a Community Ranger that's delivering outputs in the community. I think this is where I would say to charities, you can't just expect someone to just give you a blank cheque because you're a nice charity. Now, Jonathan might have wiser views on that later, but that's where I think there's a way that you can position your charity to be very fundable to get unrestricted funding.

And I know Jonathan's going to come back on that, but we chose projects because they're more measurable; they can be linked to specific outputs. And that's the way we've gone.

Financing Nature: Bridging Conservation and Investment through Sustainable Finance

Greg Easton (MD, Resilience Asset Management)



Greg Easton

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The financial sector and conservation movement have often existed in parallel worlds, one focused on returns, the other on restoration. However, the growing recognition of biodiversity-loss, climate-risk, and the need for sustainable finance has opened the door to meaningful collaboration. This paper explores how investment-managers can align capital with nature-positive outcomes, using examples from projects in the Isle of Man and beyond. It also presents an interactive framework designed to help investors articulate environmental priorities, linking them to the Sustainable Development Goals (SDGs) and the emerging nature-markets.

Greg Easton – MD, Resilience Asset Management

Introduction

As both an investment manager and a conservationist, I have long observed a mutual hesitation between these two communities. Conservation professionals are often wary of finance, perceiving it as complex or misaligned with environmental goals. Conversely, investors frequently struggle to quantify nature's value or integrate biodiversity into financial decision-making.

Yet the landscape has begun to shift. Biodiversity action-plans are emerging alongside climate-disclosures, and businesses are starting to recognise that protecting nature is essential for long-term economic resilience. However, the lack of visibility into existing conservation-projects remains a key barrier. Many businesses simply cannot see the depth and scale of work already being undertaken.

At Resilience, we believe the solution lies in ambition and alignment – creating projects and financial instruments that match the scale of the environmental challenge while satisfying corporate and investor-mandates.

The Case for Ambition in Conservation Finance

Corporate sustainability-strategies increasingly demand projects that can demonstrate measurable, large-scale impact. Incremental or fragmented initiatives often fail to capture the imagination of boards or shareholders.

Businesses are looking for projects that they can

justify as strategic commitment and enable board-level endorsement. Examples such as in the Isle of Man, developed in partnership with Lloyd's and the Manx Wildlife Trust, showcase what can be achieved through bold, collaborative experimentation. Though small in scale, this pilot has served as a template for scalable biodiversity investment-models, illustrating how conservation and finance can co-create value.

From Climate to Biodiversity: The Measurement Challenge

While climate-related financial disclosures are now mainstream, with companies measuring Scope 1, 2, and 3 emissions, the same cannot yet be said for biodiversity. Measuring nature is inherently more complex. Unlike carbon, "bees don't send an invoice." Nature provides ecosystem-services without a billing system, making valuation and accountability difficult.

Despite these challenges, the business-community is increasingly aware of the urgency to act. Companies recognise that the degradation of natural capital poses systemic risks to supply-chains, productivity, and long-term profitability. Biodiversity-accounting and nature-based markets are now emerging as critical tools to bridge this gap, and initiatives like the Isle of Man Sustainable Finance Roadmap are exploring how to build frameworks that connect investors with credible conservation projects.

An Interactive Framework for Aligning Investment and Nature

To address the gap between corporate intent and conservation-impact, Resilience has developed an interactive prioritisation-tool. This framework helps investors and trustees articulate their environmental and social priorities in alignment with the United Nations Sustainable Development Goals (SDGs).

Participants are asked to score key sustainability themes – such as climate-action, biodiversity, sustainable consumption and agriculture – based on importance (from “critical” to “unimportant”). This exercise (see Figs 1-3) serves several purposes:

- It initiates dialogue between investors and conservation-experts.
- It clarifies value alignment and preference-mapping.
- It encourages investors to consider long-term impacts rather than short-term financial returns.

Case Study: Peatland Protection in the Isle of Man

An illustrative example of sustainable investment in action is the collaboration with Manx Wildlife Trust. Though modest in size, the project represents a powerful biodiversity-commitment, transforming a vulnerable landscape into a long-term carbon-sink and habitat-refuge. This initiative demonstrates how targeted investment can produce lasting conservation-outcomes while reinforcing an institution’s environmental credentials.

Managing Conservation Funds Sustainably

Beyond direct project-investment, Resilience also manages portfolios for conservation-organisations, ensuring that their financial assets are aligned with their values. This means avoiding unsustainable industries, prioritising positive impact-themes, and applying robust ESG (Environmental, Social, and Governance) screening.

Our investment philosophy rests on a forward-looking question:

“Imagine it’s 2050: what will our clients think of the investment decisions we made today, with the knowledge we already had?”

This long-term lens encourages both investors and conservationists to think beyond quarterly cycles and consider intergenerational equity.

Integrating Social and Environmental Impact

In our experience, particularly through work in South Africa, the social dimension of investment is deeply intertwined with the environmental one. Clients care profoundly about social equity and the protection of vulnerable communities already affected by climate-change.

However, this focus sometimes overshadows the natural world itself. Therefore, a key challenge for conservation-finance is to bring social impact and biodiversity-protection together, showing how ecosystem-restoration directly supports livelihoods, resilience and economic opportunity.

The screenshot shows a web form titled "Sustainability Preference Questionnaire" with the Resilience Asset Management logo. The form has an orange background and contains the following text:

Traditionally investment managers assess client investment and risk profile to determine a suitable investment strategy, we believe there is an important 3rd factor to consider - your sustainability preferences.

Please provide a score of 1-5 for each of the sustainability preferences questions below:

Importance Factor
Score
1 - Unimportant
2 - Neutral
3 - Fairly Important
4 - Important
5 - Critical

When you submit this form, it will not automatically collect your details like name and email address unless you provide it yourself.

* Required

Figures 1 (and, on the next page, 2 & 3) Screenshots of prioritisation tool

How important is addressing the climate crisis to you through mitigation, adaptation and the alignment of investment to the Paris Agreement?

7 CLEAN ENERGY

10 ACTION

1

2

3

4

5

7.

Biodiversity Leaders *

How important is addressing the biodiversity crisis to you through the preservation and restoration of ecosystems and the alignment of investment to the Global Biodiversity Framework?

14 LIFE BELOW WATER

15 LIFE ON LAND

1

2

3

4

5

13

If you have scored 5 for more than one of the above questions, please confirm which three of these themes are your highest priorities. (Please select only 3 in order of priority) *

	Climate Solutions	Biodiversity Leaders	Sustainable Consumption	Sustainable Agriculture	Sustainable Innovation	Just Transition	Sustainable Impact
Highest Priority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2nd Highest Priority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3rd Highest Priority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

You can print a copy of your answer after you submit

Submit

Conclusion

The convergence of finance and conservation marks one of the most significant developments in sustainability. While challenges remain, especially in measuring biodiversity and channelling funds efficiently, momentum is building.

Investment-managers, trustees and conservation-organisations now share a common imperative: to mobilise capital that restores ecosystems, supports communities, and builds resilience for the long term. By

fostering transparency, ambition and alignment, we can bridge the worlds of finance and nature, ensuring that economic prosperity and ecological integrity advance hand in hand.

Q&A

Keith Bensusan: Let’s start with yours [Leigh], because I think it’s an extremely relevant one. Please give us examples of how you’re working with the UKOTCF and the Manx Wildlife Trust.

A: Yes, so last year we worked on CrossAx, which was the afforestation project, and then we wanted to look at another project. The Isle of Man has a lot of upland peatland. There was a site that, at the time, Manx Wildlife Trust were quite concerned about because there was a risk a farmer was going to buy it, and it could become degraded. That opportunity was presented to us, and we made that our biodiversity-commitment for last year. I think, Leigh, that was fairly small, 40 acres, but that's now long-term, being protected into perpetuity. That's one area that we've worked on, and certainly one to look at other projects of a similar nature.

The other direct way we're working with you is that we're looking after a portfolio for you that is being managed sustainably, in line with the preferences that I think Mike, in particular, summarised for the UKOT Conservation Forum. I think the most powerful thing as an investment manager is being able to manage something sustainably that can make a positive impact.

As a Conservation Forum, you want to make sure that any funds you do have are not being invested in an unsustainable manner. Bringing what we do as investment managers and what you're doing as a Conservation Forum together, and joining that, is something we want to do more and more of, really, Keith.

Keith Bensusan: Brilliant, thanks. Thanks for that, Greg.

Melanie Carmichael: Is biodiversity net-gain as part of net zero with mangroves, is that more attractive?

Greg Easton: I think it definitely is, but it depends on where you are and who you're talking to. We see from clients and from businesses that they want something that aligns with what's in their backyard really. If you're in the Cayman Islands, then maybe that's what will speak to the businesses you are working with. If you're in South Africa, it might be a different habitat they want to focus on. It's about the alignment of your business footprint and the conservation projects they want to partner with.

Keith Bensusan: Thanks. There aren't any more questions, so I'll put one to you of my own. When you ran Leigh through those questions, I didn't see one that explicitly tackled global inequality. I think that's a really important point. Possibly paradoxical in that it's extremely important for biodiversity-conservation but, as things currently stand, it would probably increase the carbon-footprint of most of the world's population, significantly. Is this a point that you've considered, and do you have any thoughts about it?

Greg Easton: Absolutely, Keith. That just-transition question is really meant to cover that point, but we also go a bit deeper if that's an area someone cares about. Then we go into more depth and detail on that thematic. We have seven themes that are all interlinked, interwoven. We see it very clearly, and we have a small presence in South Africa, where the social-impact elements clients care about most are very visible. The

awareness around the most vulnerable in society from a climate perspective is important. They are already in a bad position; so businesses want to try to address that. But it's also true that where social impact is such a big concern, nature often gets ignored. There's work to do to bring these two together and show the economic impact and benefit from conservation.

Keith Bensusan: Thank you.

Biodiversity Funding and a Call to Action

Robin Clough



Robin Clough

Clough, R.. 2025. Biodiversity Funding and a Call to Action. pp 252-254 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

Biodiversity NGOs are critically important to protect and save biodiversity globally but, sadly, they are very underfunded with no real pathway to a sustainable financial future. Without immediate intervention and restructuring of biodiversity NGO funding, the future of global biodiversity and the crucial NGOs trying to protect it are significantly at risk. My talk will overview how NGOs and NGO-funding need to incorporate both traditional and non-traditional marketing techniques in order to improve their sustainable funding outlooks

Robin Clough

Good morning – or afternoon – wherever you are. I am Robin Clough, and it is a pleasure to speak with you today. My remarks may feel a bit broad and even controversial, but my goal is clear: to call for real change, and to show that it starts with people like us.

Before diving in, a little background. I grew up in the UK and earned a zoology degree from the University of Leeds. From there, I moved into business, working in the tech industry and eventually founding a tequila company, which was acquired a couple of years ago and which I still run. Most recently, I completed a Master's in sustainability at Harvard. These experiences – in business, biology, and sustainability – shape the perspective I bring today.

I also advise several organizations, including this Forum, the RSPB, the Marine Conservation Society, REWILD, and the African Wildlife Conservation Fund. Since selling my company, I've spent more time on the ground with these groups, which has helped inform the discussion I want to have with you.

The Challenge

My Harvard thesis focused on biodiversity, with the blunt title: "Biodiversity Funding Structures Are Broken." The research showed that conservation-work depends far too heavily on government grants and a handful of large philanthropic organisations. This system creates enormous reporting requirements and forces NGOs to publish papers that often receive little visibility. The result: dedicated teams spend precious time meeting

funder-demands instead of amplifying the impact of their work.

Globally, the annual funding gap for biodiversity-protection is estimated at \$500–800 billion. Imagine twenty years from now: will species-extinction rates be lower? Sadly, I doubt it. If we keep relying on the same funding models, we will run out of species before we run out of problems.

Rethinking the Model

We cannot rely on traditional government or philanthropic funding alone. Like a business facing a failing strategy, we need to rethink how NGOs attract support. The tools already exist. Digital platforms give us unprecedented ways to reach new audiences and scale funding.

Consider a high-net-worth tourist destination I visited last year. Thousands of visitors arrive each week because of its stunning biodiversity, yet few ever connect with the local national trust. This is a missed opportunity we see worldwide: people who already love nature simply are not being reached.

A Marketing Mindset

My call to action is simple: treat outreach like a core business strategy.

- Evaluate your current trajectory. If it is not leading to sustainable funding, create a new plan.

- Leverage digital marketing. Social platforms, like Instagram and TikTok, can connect your work to visitors the moment they arrive in a region.
- Empower your team. Identify internal “heroes” ready to share daily updates – short videos, photos, quick stories. Ten minutes a day is a great start.

Scientific research is vital, but consider the return on investment. A paper that takes hundreds of hours might be cited 50 times in 20 years. That same energy put into consistent, engaging outreach could yield far more immediate support.

Moving Forward

Let’s insulate ourselves from unstable funding sources. Imagine if the Darwin initiative or similar grants disappeared tomorrow: many organisations would be in crisis. Preparing now means embracing marketing as a core conservation-tool. I would love to help. With REWILD and UKOTCF, we are exploring training programmes to teach these skills. In the meantime, start small: post weekly, share videos, connect with local real estate groups, golf-courses, tourist-operators – anyone who benefits from a healthy ecosystem.

The moment for action is now. Turn your passionate team members into the visible champions of biodiversity. Shift from meeting grant-requirements to building direct, sustainable support. It may feel daunting, but the opportunity to change the trajectory of species-protection is unparalleled.

Thank you for the incredible work you do – and for letting me share this rallying call. You are the heroes of biodiversity. Let’s make sure the world knows it.

Q&A

Leigh Morris: Thanks, Robin. It’s lovely to see you again. Keith, have we got any questions, please?

Keith Bensusan: No questions have come in so far, so I’ll ask one. First of all, Robin, thanks very much for that. We share two things in common. First, I’m also a Leeds Zoology graduate. Second, I’m also deeply pessimistic about the current state of affairs.

You mentioned that there are ways to put ourselves out there that have never previously existed, which is absolutely correct. Which are the best vehicles for this in terms of social-media apps, and is there any particular way to tap into particular algorithms? You mentioned setting up training. Presumably these are fundamental questions that would be tackled?

Robin Clough: 100%, and yes, there has never been an easier time to get publicity and get your message across than it is right now with the way the algorithms

are structured. Instagram Reels and TikTok are the two easiest platforms. There are a number of creators who are conservationists, biologists, or PhD students who are documenting their research, whether on coral reefs or in Africa on the plains. It’s just documenting your day-to-day.

Now that nearly everyone has a smartphone, it has never been easier to do so. Focus on Instagram Reels and TikTok. Look up biodiversity on Instagram or TikTok, and you’ll see twenty examples of content that feels authentic and easily engages audiences. Every time I land somewhere new, the platform shows me local content creators. For UKOTs where tourism is a priority, every one of us could be reaching those individuals, as well as those who have shown an interest in the UKOTs. Press-releases are also important, but they are often written from a scientific perspective, which is great for scientific publication but not for syndication in major publications.

Graham Peacemake-Warne: Does Robin have any views on Twitter as an abandoned platform, Blue Sky or others as a replacement, and LinkedIn for reaching businesses? Please be succinct so we can also tackle Janet’s question.

Robin Clough: Absolutely. I would avoid Twitter for this use case at this moment. It’s great for conversations within forums and threads, but it won’t give broad reach because its algorithm isn’t great for discoverability. LinkedIn is great. There is now a succinct template for posts with click-bait headlines and line-breaks. Post on LinkedIn 100%. Depending on what you’re posting, Instagram Reels and TikTok give the biggest discoverability.

Janet McKinnon: In my experience of 40 years of conservation and development, working for private and public sectors, NGO, etc., business interest in the environment comes and goes. How can present interest be sustained?

Robin Clough: Corporate interest can switch quickly. It also depends on boom and bust periods in the economy. One sector I see a long-term future for is sustainability, being a factor in tourism. Nearly all top hotels now get evaluated on sustainability as part of their ranking, which is an opportunity. Four-star and five-star hotels, in order to get ranked higher, need to show their sustainability credentials, including biodiversity. Look for industries that are more sustained. In finance, there will be more fluctuation, but in consumer-products and tourism, interest seems to be increasing, especially with more frequent natural disasters.

Keith Bensusan: Thanks, Robin, for that. That’s all we have time for. Thank you so much again, Robin.

Leigh Morris: Well, Robin, I’ll ask this for a very short answer. You were the one person who told me that TikTok was not just for kids, and that it was for businesses. Give me the short answer.

Robin Clough: I stand by those words. TikTok is growing and expanding every day. Not everyone uses it, but for those who do, they are incredibly loyal. There is a huge opportunity, especially for the 28 to 45 market or for leaders at corporations, Vice-President level and below. Instagram content can also be posted on TikTok, so do both.

Leigh Morris: Brilliant. Before I get into trouble, thank you.

Extra item: Manx Wildlife Trust high-quality internship programme



*Graham Makepeace-Warne
Photo: Amore Du Plessis*

Announcement from Graham Makepeace-Warne, CEO, Manx Wildlife Trust

Thanks very much, everyone. This has been a really interesting event. Thank you for putting it together. Really interesting. I come from a marketing background, so hearing from Robin really spoke to me.

I work closely with Nigel at Lloyd's and Greg at Resilience; in fact, they have a large part of my pension pot, which is why I asked about retirement-age. I've also worked with Jonathan Andrews, his training at Remarkable Partnerships, so these were all really, really good talks today.

I just wanted to give you quickly an update about something that's happened at Manx Wildlife Trust. Leigh, you should be saying this because it happened during your tenure, but I've got the floor.

For some time, Manx Wildlife Trust has had an ambition to host a really high-quality internship programme that truly delivers for both the intern and for Manx Nature. We want our programme to be accessible to talented people, wherever they live, not just those already based in the Isle of Man.

We were recently humbled by an extraordinary gift of a house in Peel, where we're based, called Thie Vunn, which is Manx Gaelic for Munn's house. It's right on the seashore, and it has a gable end that's over a metre thick. There was an old saying in Peel called "thick as Mun's Gable." Hopefully, that won't still be relevant once we have interns there!

It's just a stone's throw away from our offices. It's a beautiful four-bedroom property, currently being refurbished to a very high standard at the donor's expense. It's expected to be ready by spring next year.

Thie Vunn will become home to our new internship programme, hosting up to four interns each year in roles such as Ecologist, Engagement Officer, Marine Officer and Woodland Ranger. Even more excitingly, the donor has expressed a wish for the programme to welcome overseas applicants. Combined with our focus on the UK Overseas Territories, one internship each year will be reserved for a candidate from a UKOT.

We hope to welcome our first interns in September next year, and planning is now underway. We would really value your input. If you have suggestions or ideas for how to make this programme as impactful as possible, please get in touch with me at graham@mwt.im. Thank you very much for your time.

Leigh Morris: Thanks, Graham. It's fantastic to see this happening, and it's something that I will continue to champion and support you with in my new role.

What I'm really hoping is that in my new role as Director of International with the Wildlife Trust Federation, when Graham advertises this in the Isle of Man, which is a wonderful opportunity to be hosted in the Wildlife Trust, with accommodation and everything else provided, we'll get lots of applicants from the UKOTs. If we do, I can then go to the Wildlife Trust and show the demand for internships to come to the UK and be embedded in a conservation charity for basically 10 months up to a year, and really gain experience and contribute. As soon as that advertisement goes out, I'm hoping to see people from across the UKOTs applying to come to the Isle of Man. It's a wonderful place.

Makepeace-Warne, G. 2025. Extra item: Manx Wildlife Trust high-quality internship programme. pp 255 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

Lloyds Bank: Partner of Choice for the UKOTs

Matt Pendrey (Head of UK Government & British Overseas Territories, Lloyds Banking Group)



Matt Pendrey

Pendrey M. 2025. Lloyds Bank: Partner of Choice for the UKOTs. pp 256-258 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

Lloyd's Bank has established a dedicated strategic division to support the UK Overseas Territories (UKOTs) and UK government relationships. With the ambition of becoming the number-one banking partner for the UKOTs, the bank aims to combine financial inclusion, sustainable lending and biodiversity-investment to help communities prosper and ecosystems thrive. The presentation outlines Lloyd's Bank's current commitments to sustainability, its engagement-strategy across the territories, and opportunities for collaboration with conservation and development partners.

Matt Pendrey (Head of UK Government & British Overseas Territories, Lloyds Banking Group)

Introduction

Lloyd's Bank's vision is to help Britain prosper, a vision that extends beyond the UK mainland to include the Overseas Territories and Crown Dependencies, whose citizens and ecosystems form an integral part of the British family. Recognising that 94% of the UK's biodiversity exists in these territories, the bank sees a clear alignment between its Environmental, Social, and Governance (ESG) objectives and the urgent need for sustainable finance to support nature-recovery and community-resilience in these regions.

The UK Overseas Territories and UK Government Division, led by Matt Pendrey, represents a first for any UK bank: a dedicated unit focused exclusively on banking relationships, infrastructure-financing, and sustainability-projects across the territories.

Lloyd's Bank and the Overseas Territories

Lloyd's Bank operates with a four-person specialist team responsible for banking in both the UK government and the Overseas Territories. The team's remit includes:

- Government banking partnerships (including HMRC, DVLA and the Department for Transport);
- Support for retail, commercial and institutional banking across UKOTs;
- Facilitation of infrastructure and renewable energy financing;
- Development of partnerships with conservation and civil society organisations.

The bank's institutional objective is to become the leading banking partner for the Overseas Territories, with engagement spanning lending, payments, cash-management, and project-finance. This commitment is formally endorsed by the Group CEO and CFO, and recognised by the Foreign, Commonwealth & Development Office (FCDO) and associated representatives.

Sustainability Commitments

At the heart of Lloyd's Bank's corporate strategy lies a strong focus on sustainable finance. The bank has committed to delivering £30 billion in sustainable lending between 2024 and 2027. As of mid-2025, it has already achieved £16.1 billion, surpassing its mid-point target.

This funding supports projects that align with net-zero goals, biodiversity-enhancement and community-development, with a particular interest in projects originating from or impacting the Overseas Territories. These include opportunities in renewable energy, conservation-finance, carbon-sequestration, and nature-based solutions.

A Global Network: Engagement Across the Territories

Lloyd's Bank's engagement spans all UK Overseas Territories, excluding only the military bases in Cyprus. The bank maintains direct relationships with senior government officials, including premiers, finance-ministers and administrators, ensuring that financial and development priorities are aligned.

Recent activities include:

- Gibraltar: Collaboration with the Government of Gibraltar to strengthen local banking infrastructure and explore sustainable-finance opportunities. Biodiversity highlights include Gibraltar's unique position as the only home of a non-human indigenous primate species in mainland Europe.
- Falkland Islands and South Georgia: Scheduled engagements with local governments to discuss project-finance for conservation and renewable energy, alongside site visits to key biodiversity-areas such as the black-browed albatross colonies.
- St Helena: Interest in supporting the restoration of the St Helena Cloud Forest, home to 250 endemic species and recipient of prior Darwin Plus funding.
- Montserrat: Exploration of geothermal-energy projects as part of a broader strategy to rebuild and diversify the island's economy following volcanic impacts.
- Through these engagements, Lloyd's aims to promote financial inclusion, environmental stewardship, and economic resilience.

Financing Models and Collaboration Pathways

Lloyd's Bank is exploring two complementary pathways for financing biodiversity and development projects in the UKOTs:

- Through Government or Multilateral Channels – Providing funding to the FCDO or equivalent bodies, which can then distribute resources across multiple territories. This approach enables large-scale investment with consistent oversight.
- Direct Partnership with Territories and NGOs – Offering financing directly to specific governments or conservation organisations, enabling targeted support for high-priority projects such as renewable-energy installations or ecosystem restoration.

Both models support the bank's vision of expanding sustainable access to finance, ensuring that funding opportunities are as accessible in Stanley as in Sunderland.

Biodiversity and Economic Opportunity

From coral reefs to volcanic islands, the UK's Overseas Territories collectively represent the UK's ninth-largest trading partner and hold immense biodiversity-value. For example:

- The 12th largest coral-reef system in the world lies within UK Overseas Territory waters.
- St Helena alone contains nearly one-third of all UK biodiversity.

Lloyd's Bank recognises that protecting these ecosystems is not only an ecological necessity, but also an economic opportunity – enhancing sustainable tourism, blue-economy industries, and carbon-credit markets. By engaging in biodiversity-linked finance, Lloyd's aims to demonstrate how banks can play a constructive role in environmental regeneration while supporting local prosperity.

The Business Motivation

When asked about the business rationale for Lloyd's engagement, Matt Pendrey emphasized both moral and strategic drivers: "Morally, it's the right thing to do. We take great credence in our ESG strategy, but it's also about inclusivity. Our role as the UK government's central banking partner obliges us to ensure that all British citizens – including those in the Overseas Territories – have access to the same financial opportunities."

From a business standpoint, Lloyd's sees sustainable finance as essential for long-term stability and growth. Supporting biodiversity and resilience projects creates economic conditions that sustain communities, reduce risk, and align with emerging global ESG investment-standards.

Future Vision and Call to Collaboration

Lloyd's Bank is the first UK financial institution to establish a dedicated team for the Overseas Territories. Its ambition is to continue building partnerships with organisations such as: the UK Overseas Territories Conservation Forum (UKOTCF); The Wildlife Trusts; local NGOs and government departments. By aligning conservation and financial expertise, Lloyd's aims to accelerate investment in biodiversity-infrastructure and community-development – unlocking shared prosperity and ensuring that the 270,000 citizens of the UKOTs can thrive in tandem with their natural environments.

Conclusion

Lloyd's Bank's engagement with the UK Overseas Territories represents a pioneering model of sustainable finance, one that unites banking, biodiversity and community well-being. By committing to long-term partnerships, the bank seeks to demonstrate how the financial sector can play a proactive role in tackling environmental challenges while promoting inclusive economic growth.

Through collaboration with governments, conservation-organisations and development-agencies, Lloyd's Bank aims to transform the Overseas Territories into global exemplars of nature-positive prosperity.

Q&A

Leigh Morris: Thanks, Matt. Yes, we have time for questions. Do we have any, Question-Master?

Keith Bensuan: I can't see any questions in the chat. Leigh, do you have any questions?

Leigh Morris: I've seen a message in the chat from Helena [St Helena] and Mike [Jervois] on the Falkland Islands – there's lots of interest from the territories to engage with you, Matt, which is wonderful. Thank you for mentioning the conversations you've had with the Wildlife Trusts and UKOTCF. I think that getting a pipeline of funding to the territories is exactly where we both are focused. With the Wildlife Trusts, the aim is to support UKOTCF and its members as much as possible, not to be another NGO in the UKOT space. Hopefully, this brings things together to provide a resilient partner in the UK, and channel funds to the territories for projects that need to be done.

Matt, I'll give you one question. You mentioned that there might be funding out there, but of course you're not writing a cheque today. What do you see as the pathway and timeline for activating that funding pipeline, given the enthusiasm and the work that needs to be done in the UKOTs?

A: That's a great question, Leigh. I see it from two perspectives. In an ideal world, to speed things up, we could go through the Foreign Office, or through yourselves or a similar entity, and provide a level of funding with sub-limits per Overseas Territory and then the Foreign Office could work with you, Leigh and Mike, to decide which projects are most equitable, drawing up a whitelist of projects. That would be very clean and smooth.

Otherwise, we can look at direct funding per UKOT, working with the Montserrat government, St Helena, and so on. That's a bit slower, but it may hone in on the projects themselves. We're open to both approaches. Mass funding through one body is smoother, but direct funding may target the most needed projects at the right time.

Mike Pienkowski: Could I just add, Matt, practically, if you can get your text and some illustrations to us, we'll make sure they get into the proceedings even if people haven't seen them yet. I know it's difficult to get things through the bank security-system.

A: Of course: apologies, we're more Teams, and Zoom is a novel system for me, but thanks, Mike.

Keith Bensuan: Thanks, everyone. Jonathan has a question. If you can unmute, Jonathan, you can ask directly.

Jonathan Andrews: Hi, Matt, nice to meet you. I'm always interested in the business motivator behind initiatives, because discovering it helps ensure sustainability. What is Lloyd's business objective that is

driving you to partner with wildlife organizations?

A: There are a couple of things. So, I'd say morally, it's the right thing to do as a bank, and we do take great credence in our ESG strategy as well, and we are a leading, if not the leading, one of the leading banks there as well. And it's also the wider portfolio, so you may have seen in the press very recently.

Lloyd's became the UK government banker of choice, so we became the central bank of HMRC, DVLA, DFT; that's all through my team. So that allows my team to grow on the one hand, but then also focus on the wider business activity of providing not only access to banking for UK citizens, but then access the banking for British Overseas Territory citizens. Almost that contract gives the foundation of what we're trying to do in terms of helping Britain prosper, and I'd be loath to just help certain British citizens prosper, and not help citizens in the Overseas Territories, too. You add to the fact that the pure biodiversity there, that if we're focusing on the UK, that is only 6% of the overall biodiversity, which we do a lot in the UK.

But then, we don't do – and no bank does it enough, in my opinion, speaking openly – with the Overseas Territories too, so to help provide that funding, financing, support, rapport.

I think it is a very powerful message, and something that we found really appreciated by the Overseas Territories – and I think all of you have as well. It's just sort of perfect in terms of what we're looking to do, and we do.

Alright; we do really care as well. We generally have an affinity as a bank to the Overseas Territories, the people there and so forth. So, that's hopefully a long-winded way of saying the reasons why, Jonathan.

Jonathan Andrews: That's a great answer. It's helpful for the audience to understand the business goals driving this, so they can align opportunities when engaging with companies like yours; they can make sure the opportunities meet those goals.

A: Completely agree. Thank you for the question.

Leigh Morris: Brilliant, thank you. Thank you, Keith. Thank you, Matt. I'm actually going to pass to Jonathan now, who I believe is coming on at the end in an appropriate spot. We've heard from some corporate businesses and seen presentations. We've also heard from Graeme at the Wildlife Trust and from Robin, a conservationist with a business background. I met Jonathan Andrews through one of his courses. What Jonathan specialises in is bridging the gap between charities and businesses, helping charities have those important conversations. I'm really delighted he's joining us today. Jonathan, you have the floor.

Collaborate for Conservation

Jonathan Andrews (Remarkable Partnerships)



Jonathan Andrews

Andrews, J. 2025. Collaborate for Conservation. pp 259-262 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

In this session, Jonathan will explore why corporate partnerships are a major opportunity for conservation organisations. He will show how these collaborations can raise vital funds, increase awareness, and help organisations deliver their mission on a larger scale.

The talk will feature three powerful case-studies. First, the partnership between Lush and SOS Orangutans, which created the “Orangutan Bath Bomb.” Sold in seven countries, it raised £346,000 in just six weeks and brought rainforest conservation into everyday routines.

Next, he will highlight Marriott Hotels and IUCN Malaysia. In Phuket, where only about 20 of nearly 800 hotels are environmentally conscious, Marriott is setting an example. They have built a Reef Education Centre, encouraged guests to experience coral reefs, and supported conservation efforts from mangrove-planting to protecting butterflies, turtles and sharks.

Finally, he will discuss Sodexo’s 12-year partnership with WWF. With Sodexo serving a million meals every day in the UK, this collaboration demonstrates how sustainable food-choices can become mainstream while also making strong business sense.

Jonathan’s talk will close with practical recommendations for building successful partnerships: identify the right prospects, focus on solving the company’s challenges, and use emotionally engaging stories that inspire action.

The key takeaway: when conservation and business work together, they create change at a scale neither could achieve alone.

Jonathan Andrews, Remarkable Partnerships

My name’s Jonathan Andrews from Remarkable Partnerships, and I’m delighted to be here with you today to talk about Collaborate for Conservation: Why corporate partnerships are a major opportunity for conservation organizations.

What I’m going to do in this 15-minute talk is give you three examples of where companies are partnering with conservation NGOs to help create an incredible impact for both the company and the organisation. Then I’m going to share with you three recommendations on how you can go and build those partnerships for your organisation.

So I want to start with the story about the partnership that put the rainforest in your bathtub.

This is a partnership between Lush, the fresh handmade cosmetics company, and the Sumatran Orangutan Society. What they did is, together, they created the orangutan-

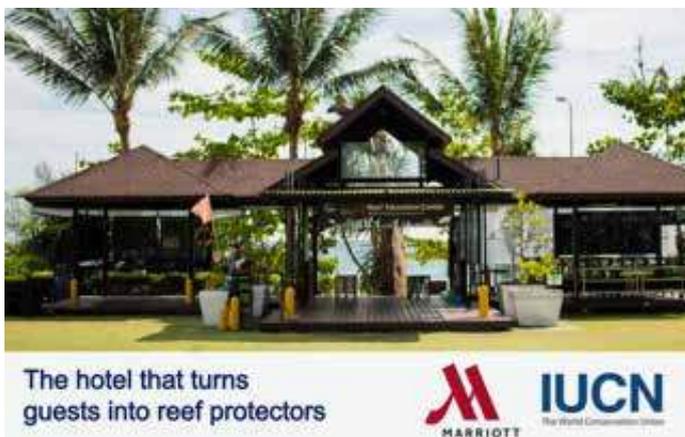
shaped bath-bomb and sold it in Lush stores across seven countries around the world. It was so popular with consumers – they wanted to put it in their bags, they wanted to put in their pockets – because they thought it was so cute. They loved it so much that it sold out in six weeks. And in that six weeks, it raised an incredible £346,000 for the Sumatran Orangutan Society.



But the impact doesn't just stop there. When you put the bath-bomb in your bathtub, what happens is that all the water turns orange. But more than that, inside the bath bomb was a QR code that floated to the top of the water. So later once you got out of the bath – making sure you didn't drop your mobile phone in – you could scan that QR code. It took you to a website where you could listen to a track that played the sounds of the rainforest your donation had just protected.

Also, you could choose to sign up to get more information from the Sumatran Orangutan Society and become one of their supporters. So this partnership didn't just raise £346,000 in six weeks; it brought on board thousands of new supporters who cared deeply about making a difference for our planet. I think you'll agree, that's a truly game-changing corporate partnership.

The second example I want to give you is from Malaysia. This is the story about the hotel that turns guests into reef-protectors. It's a partnership between Marriott Hotels and IUCN, the World Conservation Union.



In the Phuket region in Malaysia, out of the 790 hotels there, only 20 are currently operating in an environmentally conscious way. So Marriott Hotels made it their priority in that area. Across Malaysia, they would make conservation, sustainability and operating in an environmentally appropriate way to be a key goal for them as a hotel chain.

In this example, the hotel built an incredible and inspirational reef-education centre, where hotel guests have the opportunity to find out about turtles and the coral reef, and learn how to conserve and protect them – and why it's so important for nature, for people, and for species across the world.

Not only did they do that, but they also encouraged guests, if they wanted to, to go diving at high tide to see the beauty of the coral reef themselves. They went further: together with local charities and NGOs, they planted thousands of mangrove trees and worked together to help protect butterflies, turtles and sharks. A truly world-changing partnership between Marriott and IUCN.

My third example is about Sodexo and WWF. This is the story of where Sodexo saves the planet, one plate at a time.



Sodexo and WWF have been partnering together now for 12 years, with the ambition to make their partnership truly transformational and have a huge impact on the world. Sodexo serves over a million meals in schools, universities, businesses and other organisations—and that's just across the UK. Imagine how many meals they're serving across the

world.

They partnered with WWF, first of all, to make the business case for sustainable meals: why it's good for business and good for the planet. Secondly, they decided to provide more sustainable menu choices for their customers in schools, universities, businesses and government organisations.

Part of that involved working with Sodexo's chefs in their restaurants to design new menus and come up with new ways to source ingredients that minimise their carbon-footprint and provide more sustainable, exciting and tasty options for their customers.

This partnership has made an incredible impact on providing sustainable meals for customers. But they didn't stop there. Sodexo and WWF have sought to make change throughout the food-service and restaurant community in all the places where they operate.

So this is why I believe that corporate partnerships are a major opportunity for conservation organisations like your own.

As I described in the first example between SOS Orangutans and Lush, they raised incredible funds for the charity and brought on board lots of new supporters. In the second example, between Marriott Hotels and IUCN, you can see the power of a company to change the hearts and minds of its customers: to become champions of conservation and protectors of coral reefs. And thirdly, in the example between WWF and Sodexo, you can see how companies can work together with charities to help deliver their mission.

I want to finish my presentation by giving you three recommendations on how you can build partnerships like the ones I've just described.

The first recommendation is: identify your target prospects.

It's very easy as an NGO or charity to fall into the trap

Recommendations to create corporate partnerships

01

Identify your target prospects

02

Focus on solving the company's pain

03

Share emotionally engaging stories

you bring value, you'll get value in return.

The third recommendation is: share emotionally engaging stories.

In my experience building partnerships for over 27 years, I've learned that business decision-makers choose to partner with charities for emotional reasons – and justify it with commercial reasons afterward.

My mentor, Alan Clayton, author of Great Fundraising Organisations, says the reason we do things is emotional and the reason we don't do things is commercial.

of believing there are lots and lots of companies you can approach – and there are, thousands! But actually, having lots of companies on a big spreadsheet – I call this the “spreadsheet of doom” – isn't helpful. Too much choice can paralyse you and stop you making progress.

So what I recommend you do is that you aim to create about ten target prospects to focus on. Start with a long list; ask your colleagues, trustees and contacts to share five business contacts each. You'll quickly build a list of 80-100 companies and individuals within those companies.

Then shortlist them and score them based on three key criteria:

1. Shared purpose: To what extent does the company share your charity's purpose?
2. Relationship strength: How strong is the relationship with your contact, and how senior are they?
3. Resources: Does the company have the capacity to make a real difference to your mission?

Rank them and narrow down to your top ten; those will be your focus companies.

The second recommendation is: focus on solving the company's pain.

This is really the opposite of the usual approach charities take when engaging companies. Instead of asking for money, start your meetings by asking, “What are your objectives, and what challenges are you facing right now?”

You'll be surprised how open companies are about their objectives and challenges – whether it's struggling to stand out in the market, engaging staff working from home, or retaining customers and we want to reach new customers. Once you've identified their pain, position your partnership as a way to help solve one of those problems.

If you do that, your partnership becomes a major priority for the company; they'll feel a strong incentive to continue the conversation and build a partnership. You're not asking for money; rather you're offering the company value to help solve their pain. And I believe that when

So, when you meet companies, tell them an emotionally engaging story about one person whose life you've changed through your conservation work.

If you do that, alongside the other two recommendations, I believe you will build truly game-changing corporate partnerships.

Thank you very much for your time, and I wish you the best of luck in building those partnerships.

Q&A

Leigh Morris: Thank you. I don't see any questions in the chat, so we're going to move into a deeper conversation with Jonathan, and hopefully a few more of you will join. Any questions from anyone?

One thing I learned from Jonathan's course, which I took with Graham Makepeace-Warne, CEO of Manx Wildlife Trust, is that I no longer ask corporates for anything. You don't need to go cap-in-hand. Organisations like Manx Wildlife Trust, the Montserrat National Trust, or the Gibraltar Botanic Garden already have a lot to offer. The challenge is communicating that value effectively to businesses. That was my key takeaway from Jonathan's training.

St Helena National Trust: What is the course?

Bermuda National Trust: Yes, how do we find an opportunity to take one of these courses? We do offer so much and offer great opportunity to help meet ESG goals.

A: Thanks for the lead-in, Leigh. We run two courses. The one Leigh and Graham took was our Corporate Partnerships Masterclass, which has helped many people build strong partnerships. We also have a new programme we have created and it's called Remarkable 10, designed to accelerate corporate partnership results. It starts online in February, and anyone interested can contact me at Jonathan@remarkablepartnerships.com for details.

Jodey Peyton (in chat): <https://www.remarkablepartnerships.com/training/>

Leigh Morris: I'm not worried about plugging the course. Jonathan has given his time today to help

everyone improve at corporate relationships, as I think there is money to be had for conservation work. When we did it, we joined charities and other sectors and met interesting people. I would give it a five-star rating. There may even be a discount for UKOT members, but I'll leave that out for now. Now you'll get a flavor of Jonathan in the next session, but I need to step aside briefly for some formalities.

Evidence of Barriers to Marine Conservation in UK Overseas Territories: A Practitioner-Informed Study

Natalie Muirhead-Davies (University of Gibraltar)



Natalie Muirhead-Davies

Muirhead-Davies, N. 2025. Evidence of Barriers to Marine Conservation in UK Overseas Territories: A Practitioner-Informed Study. p 263 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

It is well documented that the United Kingdom Overseas Territories (UKOTs) are home to vast and diverse marine environments, yet efforts to conserve these areas face significant challenges including funding, capacity, and resource limitations. Constraints affecting marine conservation implementation across the UKOTs are investigated in this study, carried out using a dual approach: a systematic literature review and a survey of marine conservation practitioners. The survey was designed to confirm and provide evidence of barriers identified in the literature, including targeted questions around barriers to conservation practitioners may have encountered and approaches to overcoming them. Opportunities to provide anecdotal evidence and expand in areas where the literature may have been unable to were offered as well in order to gain a deeper insight. In total, the survey was completed by 28 practitioners including UKOT government officials, NGO staff, and researchers. The responses revealed widespread issues with under-resourcing, enforcement limitations, and insufficient data to guide decision-making – all of which have potential to hinder conservation effectiveness. Additional themes that surfaced included governance gaps, stakeholder disengagement, and geopolitical tensions, particularly relevant to territories like Gibraltar, the case study used in the thesis that this study is part of. It was found that, while many UKOTs have established marine protected areas, marine spatial plans or other area-based tools, they are often undermined by the lack of implementation support. The findings point to a need for simple, adaptable decision-support frameworks that can help territories prioritise actions and build resilience within existing constraints, without the need for external support. This study is a stepping stone towards practical, scalable solutions for enhancing marine conservation in small, resource-limited island contexts

Natalie Muirhead-Davies (University of Gibraltar)

[Extended abstract above]

General Discussion and Interactive Session on Topic 7

Mike Pienkowski: For those of you who have attended previous sessions, it falls to me around this point to handle the formal task of reviewing recommendations relevant to this section. We have evolved this process over 25+ years. A cross-territory group drafted recommendations months ago, incorporating previous recommendations, abstracts, and input from regional working groups. Drafts were circulated and revised based on the feedback. By the third consultation, only three words changed. The revised version was circulated a week and a half ago, and no further comments have been received. The recommendations are on page 14 of your conference booklet. If anyone has a strong objection, please note it in the chat now. Any new ideas from discussions will be recorded separately in the closing session.

Moving on to the interactive session, which will be the main general discussion for this session, due to technical limitations, we cannot run breakout sessions via Zoom as planned. Instead, partway through the next session, we will invite everyone to join a panel discussion. Participation is optional; you can control whether your camera or mic is on. My colleagues will manage invitations, and unless anyone objects, we'll proceed.

I see no further comments on the draft recommendations in the chat; so I think that they are confirmed.

Now I'll hand back to Leigh Morris and Jonathan Andrews for the interactive session.

Interactive session, run by Leigh Morris & Jonathan Andrews

Introduction, by Jonathan Andrews, Remarkable Partnerships

Welcome everybody. It's great to be here with you. Obviously, as you just seen me talk on recording, this is the live version. What I want to talk to you about this afternoon is a piece of what we go through on the training that Leigh has talked about. But my goal for today, after interacting with Leigh, Mike and the conference-organisers, is to give you something this afternoon that can be more interactive, something where we can hear your voices too. We often get feedback from people we work with. That interactivity really helps with learning. It helps embed ideas and makes sessions more powerful.

What I'm going to do here, giving my talk a big build-up, is share with you what I believe is probably the most valuable insight in building corporate-NGO partnerships: the power of shared purpose, and how that shared purpose can unlock long-term corporate partnerships.

I was recently at a conference held on the Isle of Man, where I had the pleasure of hearing Aviva speak about their incredible partnership with the Wildlife Trusts – a

100-year partnership involving a £38 million investment. I think we can all agree that's the long-term corporate partnership to end all long-term corporate partnerships.

When I'm running an NGO or a conservation-organisation, what I want is to get companies behind my mission so that I have a greater chance of delivering it. That's what this is all about. It's known as the "Magic Circle." Has anyone seen that before? It's Simon Sinek's Magic Circle. A great place to see it is in Simon Sinek's TED Talk, called *Start With Why*. It has millions of views, and it's only about ten minutes long. I think it will unlock something for you about building successful partnerships.

In this TED Talk, Simon shares two key things: a quote and a diagram. The quote is, "People don't buy what you do; they buy why you do it." At this stage in most of my talks, when I meet with charities and NGOs, people's minds tend to explode a bit because they realise they've spent decades talking about what they do; when they were founded; how many species they've saved; and all the incredible science and technology behind their work.

But this idea isn't just opinion – it's grounded in biology. The human brain has three distinct levels that correspond to the "why," the "how," and the "what." This is Simon's Magic Circle, and as you can see, I get quite excited about it. If I'm not excited, how can I expect you to be?



Let me share an example. I once went shopping for sunglasses, and the salesperson said, "I've only got one pair that fits what you're describing." He led me to the Prada counter, and when I tried them on, I absolutely loved them. Immediately my mind went to all the holidays I'd wear them on, walking with my dog and my wife. I justified the purchase with logic afterward – but the decision started with emotion. That's why "why" is so important.

Coming back to you, Leigh, you mentioned your website where people post projects for support. By all means, post the projects, but right up front, make sure people know why each project matters. It's the "why" that makes people buy in.

If we've now established that "why" is so important – and I hope I have – then we can see that it's what makes us act. If there's something in your life that you want to complete but you've lost momentum, it's probably because you've lost connection with your "why."

When you meet with companies, engage them on their “why.” For example, I asked earlier what was driving Lloyd’s decision to invest in Overseas Territories. The answer was brilliant; it involved morality, but also building a more successful business across the UK and maintaining their position after winning a major government contract. “Why” drives decisions.

If we know that, then the most impactful thing we can do is focus on shared purpose. Imagine putting the company mission on the left-hand side and your mission on the right. The overlap between them – that shared purpose – is the secret to long-term, sustainable partnerships.



Think about your own partnerships, whether at work or in your personal life. The reason they work is because of shared purpose. It’s the same for corporate–charity relationships. That shared purpose is the secret ingredient that makes them thrive.

I coach charities every day on how to pitch to companies and build game-changing partnerships, and this shared purpose is what makes them sing. For example, consider the partnership between the Sumatran Orangutan Society and Lush, which created the orangutan-shaped bath bomb.



The mission of the Sumatran Orangutan Society is to protect orangutans, their forests, and their future. Lush’s mission is “to leave the world lusher than we found it.” When we worked together, we identified their shared purpose as a thriving future for wildlife, people and planet. Both organisations instantly agreed – that was them. That statement led directly to their partnership and the successful campaign that followed.

Notice how I put the company on the left and the NGO on the right. That’s intentional. It’s tempting to put your

own organisation first, but by putting the company first, you show that if you deliver for them, they’ll deliver for you in return.

Does that make sense? Thumbs up if it does – great, I see lots of nodding. Excellent.

Here are my recommendations for creating long-term partnerships based on shared purpose:

1. Identify a company you’d like to partner with.
2. Organise a brainstorming session with three or four colleagues to identify your shared purpose.
3. Pitch a tailored and exciting partnership opportunity based on that shared purpose.

When you do that, companies respond enthusiastically. I once pitched on behalf of the RSPCA to Shark Vacuums. We presented the shared purpose between the two organisations, and the company representative literally started stroking the presentation board because she loved it so much. That’s the power of shared purpose. So that’s the presentation part. I’ll stop sharing now. Any questions on what I’ve shared so far?

Q&A

Leigh Morris: Some people here have some knowledge already, but others are conservationists on the front line. They like the idea of corporate partnerships but don’t know where to start. Do you have any top tips for that first spark- how to even begin?

Jonathan Andrews: Great question. To start building corporate partnerships, the first thing a charity should do is have an internal conversation about why you want to partner with companies.

For example, the Head of Corporate Partnerships at Prostate Cancer UK once asked his CEO, “Why should we partner with companies? What’s our goal long-term?” They sat down and figured out their purpose and the biggest obstacles stopping them from achieving it – obstacles that companies could help overcome.

That clarity has driven their incredible growth. So, before reaching out to companies, start with your own “why.”

[Interactive exercises followed.]

Jonathan Andrews: Folks I just want to say thank you to everyone for being part of this session and for trusting us to go with something a little bit different. I hope it’s been really powerful for you to discover you know, the power of shared purpose. Thanks for trusting me, for leaning into it. And also, I just want to say a special thank you to Myles for being our, um, awesome, uh, volunteer. Thank you very much, and I’m going pass over to Leigh.

Leigh Morris: OK, I’m going to sum up with what I think are the conclusions and the recommendations to save time, but then I really would love to hear from other

people. Stick your hand up if there's something I've missed that you really want me to add into this list. So, my conclusions from this are:

- Conservation needs money and partners; Businesses want to support as many of them do. The crescendo in this whole environment around business and corporate funding and backing environment, the timing has never been better for corporate partnerships.
- There is a need to focus our ask. We do need to identify shared purpose, mission. Language of corporates and charities is different; a key point and we've got to understand each other, to drive partnerships and gain financial support.
- We have to make the effort. We can't just have a standard slide-deck and put a pop-up banner up and say, you know, a national trust is wonderful, and we need to save our animals; give us money, please. Because that's not going to tick the boxes. You've got to make the effort and be tactical.
- So you have got to research; you have got to prepare, and you have got to deliver. And so then, in terms of recommendations, I've got down: scope out potential partners that you can feel a connection, a potential connection to with your organisations.
- Please use EcoMatch. If you've got projects, it's not a big ask for you to go there and fill out pro forma to get your projects and to get your organisations onto the Ecomatch platform. Don't miss that opportunity. It costs nothing to get on there, apart from a bit of your time. I am not on commission, but I would consider doing a course with Jonathan and Remarkable Partnerships. I know, for me and Graham, we got a huge amount from doing that online.
- One last recommendation: I've seen faces on here that I don't see in UKOTCF. Working Group meetings. We would love it if you came along to those meetings, because these conversations can happen right through; it's a fantastic network. Please, don't just make this an annual event, or a quadrennial event – whenever we have a triennial event, when we ever have a conference. If you are members or associates of UKOTCF, come along to those working group meetings. They're fantastic and only as good as the people that are there.

That's my last recommendation.

Mike Pienkowski: You don't even need to be a member or associate. We are very open-minded, actually.

Leigh Morris: Any other hands want to pop up in terms of any other conclusions out of this afternoon, please?

No. I will just personally thank everyone for participating, and probably just say, this isn't a conversation about invertebrates or floral checklists, or driving

to do a coral-reef survey. But you can't do all that if you don't have the cash, and I think a little bit of effort in that direction allows you to do so much more of the work you all care passionately about. So, thank you for staying with this. And I hope you take one nugget away that helps you have better conversations with people that want to fund you, because they're out there. Thank you

Mike Pienkowski: And thank you very much to Leigh and Jonathan, for doing that, especially as because of technical challenges we couldn't overcome, they had to rewrite what they were going to do, a couple of hours before the presentation. So you see how good they are when they can supply stuff of this quality. So thank you, and thank you for everybody joining in. That was really great.

Appendix 1: Final published programme

Times, dates (within the conference days) and sessions of each session and talk may change at any time, but the chance of this reduces as the conference days near. Individual talks may start before the advertised time. Talks will generally each last 15 minutes and each will be followed by 5 minutes for questions and answers and changeover time (see [Guidance to participants](#) – from page 8 of this booklet). If speakers take less than 15 minutes, we will try to allow more questions for that item.

Each topic session will end with a general discussion, after confirming the draft recommendations for that topic. Using an approach developed successfully from our 2015 Gibraltar conference and our online 2021 one, these were developed by a cross-territory team using input from speakers, poster-presenters, the conclusions of the earlier conferences, and other UKOTCF meetings. Over three circulations to conference participants, these have been amended in the light of comments on these consultations, a consensus having been obtained by the third wide consultation (on the fourth draft), resulting in the fifth version, included in this booklet.

Instructions for joining the conference are included in [Guidance to participants](#) – from page 8 of this booklet. [Not included in this Appendix]

Posters will be available to view throughout the conference, not just in the session on the Tuesday when poster-authors are requested to be online. *The titles are linked by hotlinks (the number preceding the title) to the abstracts.*

Note that timings may change until delivery.

Times given as BST, Differences from BST: Cyprus 2h ahead; Gibraltar 1h ahead; St Helena, Tristan da Cunha & Ascension (&GMT) 1h behind; Falklands & Bermuda 4h behind; TCI, BVI, Anguilla & Montserrat 5h behind; Cayman 6h behind; Pitcairn 9h behind.

Numbers are links to the relevant abstract. [Not implemented in this Appendix]

Day 1	Monday 13 October 2025
11:50-12:00 BST	Technical opening of the conference:
12:00-13:25	Main topic 1: Sharing Experiences across territories Chairing: Helena Bennett (St Helena); Question-master: B Naqqi Manco (TCI); Rapporteur: Adam Riggs (St Helena)
12:05	1-01 The Manx Blue Carbon Project <i>Rowan Henthorn (Isle of Man Government)</i>
12:20	Q&A
12:25	1-02 Recolonisation and Expansion of Masked Booby Colonies in Sandy Bay, St Helena: A Conservation Success Story <i>Neil Thorpe, Kenickie Andrews & Jolyon Henry (St Helena National Trust)</i>
12:40	Q&A
12:45	1-03 Conserving the Cloud Forest endemic invertebrates of St Helena <i>Liza Fowler (St Helena National Trust)</i>
13:00	Q&A
13:05	1-04 Extending our understanding of important foraging habitats for sea turtles in the Chagos Archipelago <i>Nicole Esteban¹, Jeanne A Mortimer^{2,3} & Graeme C Hays⁴ (1 Department of Biosciences, Swansea University, Wales; 2 Department of Biology, University of Florida, Gainesville, USA; 3 Victoria, Mahé, Seychelles; 4 Deakin Marine Research and Innovation Centre, Deakin University, Geelong, Victoria, Australia)</i>
13:20	Q&A
	Session suspended until after following item. Panel members of topic 1 please keep your cameras on (but microphones muted) during the ministerial session. (This is so that the ministers can see some of the audience; it is very difficult to speak with no audience visible.) However, like all the other participants, please use the Chat-box, not the raise-hand or voice, to offer questions.
13:25-13:30	Short break
13:30 – 14:30	Remarks from Ministers Chairing: Mike Pienkowski; Question-master: Catherine Wensink; Rapporteur: Keith Bensusan (Gibraltar) [This session may need to be moved in time at short notice if Ministers' timing of availability changes.]
13:30	<i>Remarks by Hon. Mary Creagh, UK Minister for Nature, Department for Environment, Food & Rural Affairs</i>
13:35	<i>Brief comments from Hon. Prof. John Cortés, Gibraltar Minister for Education, the Environment, Sustainability, Climate Change, Heritage, Technical Services and Transport; and Chair of the Council of Environment Ministers (or equivalents) of UK Overseas Territories and Crown Dependencies</i>
13:40	Q&A
14:00	<i>Further remarks from Hon. Prof. John Cortés, followed by Q&A for Minister Cortés</i>
14:25	Conference photo
14:30	Break (with territory music) [changed to opportunity for all participants to engage in informal discussion]

15:00 - 16:40	Main topic 1: Sharing Experiences across territories (continued) Chairing: Helena Bennett (St Helena); Question-master: B Naqqi Manco (TCI); Rapporteur: Adam Riggs (St Helena)
15:00	1-05 Cultivating an appreciation and understanding of the environment through the Gibraltar Botanic Gardens <i>Bethany Maxwell & Elizabeth Ulloa Chaura (Gibraltar Botanic Gardens)</i>
15:15	Q&A
15:20	1-06 From Wilderness to Stewardship: Empowering Communities for East Caicos' Conservation <i>Della Higgs (Turks & Caicos National Trust) & Louise Soanes (RSPB)</i>
15:25	Q&A
15:40	1-07 The Community Voice Method - Building UKOT capacity in stakeholder engagement expertise <i>Amdeep Sanghera (Marine Conservation Society)</i>
15:55	Q&A
16:00	1-08 Healing Landscapes: Community, Culture, and Conservation in Montserrat's Botanical Heritage <i>Chris Sealys¹, Dr Jodey Peyton², Dr Sofie Meeus³ and Catherine Wensink² (1. Montserrat National Trust; 2. UK Overseas Territories Conservation Forum; 3. Meise Botanic Garden, Belgium)</i>
16:15	Q&A
16:20	1-09 Tackling plastic pollution across the UKOTs and working towards an inclusive UN Global Plastics Treaty <i>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, Zoological Society of London)</i>
16:35	Q&A
16:40 - 17:40	Confirming recommendations for this topic, and General Discussion
1740 - 18:10	Break (with territory music)
	Posters related to this session
	1-10P Managing the effects of Human Impacts on our marine environment <i>Leeann Henry (St Helena Government)</i>
	1-11P The Gibraltar Biodiversity Portal – Enhancing access to The Rock's research gems <i>Nell Cava & Caroline Moss-Gibbons (University of Gibraltar)</i>
	1-12P Isle of Man bats <i>Nick Pinder (Manx Bat Group)</i>
18:10 – 19:40	Main topic 2: 3rd Sir Richard & Lady Dace Ground Lecture: Whose environment is it anyway? Essential roles of our stewards of today, the guardians of tomorrow and how we can help them Myles Darrell (Bermuda National Trust) , followed by Q&A Chairing & Question-master: Dace Ground [but ill; Ann Pienkowski stood in] & Mike Pienkowski; Rapporteur: Keith Bensusan (Gibraltar)
Day 2	Tuesday 14 October 2025
12:00 – 16:00 BST	Main topic 3: Achieving Biodiversity & Sustainability Targets Chairing: Joan Walley; Question-master: Nancy Pascoe (BVI); Rapporteur: Mike Jervis (Falkland Islands)
12:00	Introduction
12:05	3-01 The spider fauna of Saint Helena: taxonomic and ecological advances <i>Danniella Sherwood (IUCN SSC Atlantic Islands Invertebrate Specialist Group, UK; Arachnology Research Association, UK; Fundación Ariguanabo, Cuba; Centro de Investigaciones Biológicas de Honduras) & Daryl Joshua (Saint Helena National Trust and IUCN SSC Atlantic Islands Invertebrate Specialist Group)</i>
12:20	Q&A
12:25	3-02 Backyard rewilding as a mitigation response to habitat loss in the UKOTs <i>Kathleen McNary (SWA Environmental)</i>
12:40	Q&A
12:45	3-03 The pathway to achieving “30 by 30” in the Isle of Man <i>David Bellamy (Manx Wildlife Trust)</i>
13:00	Q&A
13:05	3-04 Informing Conservation Priorities through Earth Observation in the Caribbean <i>Samuel Pike & Katie Medcalf (Environment Systems Ltd)</i>
13:20	Q&A
13:25	3-05 Mapping St Helena's Endemic Invertebrates for Targeted Conservation <i>Adam Riggs (St Helena Government)</i>
13:40	Q&A

13:45 - 14:15	Break (with territory music) [changed to opportunity for all participants to engage in informal discussion]
14:15	3-06 Planning Marine Biosecurity for Guernsey <i>Julia Henney (Natural Environment, States of Guernsey) & Lucinda Lintott (Senior INNS Consultant Scientist, APEM Ltd.)</i>
14:30	Q&A
14:35	3-07 Wild Water Whales: Studying the Recovery of Baleen Whale Populations in South Georgia <i>Stephanie Martin & Dr Jennifer Jackson (British Antarctic Survey)</i>
14:50	Q&A
14:55	3-08 GBIF Building sustainable biodiversity-data for the UK Overseas Territories <i>Quentin Groom & Dr Sofie Meeus (Meise Botanic Garden, Belgium)</i>
15:10	Q&A
15:15	3-09 Invisible, Undervalued and Underappreciated? Fisheries transparency in Small Island Developing States <i>Tyann Henry (Fisheries Transparency Initiative, FiTI)</i>
15:30	Q&A
15:35 - 17:00	Confirming recommendations for this topic, and General Discussion
17:00 - 17:30	Break (with territory music)
	Posters related to this topic
	3-10P Grasses of Montserrat <i>Virginie Sealys¹, Ajhermae White², Sarita Francis¹, Jodey Peyton³, Catherine Wensink³, Vicky Wilkins⁴, Quentin Groom⁵, Sofie Meeus⁵, Alan Gray⁶ (1. Montserrat National Trust; 2. Department of Environment Government of Montserrat; 3. UK Overseas Territories Conservation Forum; 4. Species Recovery Trust; 5. Meise Botanic Garden; 6. UK Centre for Ecology & Hydrology)</i>
	3-11P Predation of sea-turtle eggs by rats and crabs <i>Holly Jayne Stokes¹, Nicole Esteban¹ & Graeme C Hays² (1. Swansea University, UK; 2. Deakin University, Australia)</i>
	3-12P Other Effective Area-Based Conservation Measures <i>Catherine Wensink (University of Exeter, Jersey International Centre for Advanced Studies (JICAS), and UK Overseas Territories Conservation Forum)</i>
	3-13P Restoring Biodiversity with urban pockets <i>Katrina Jurn (Sustainable Cayman)</i>
	3-14P Manx Birdlife <i>Allison Leonard (Manx Birdlife)</i>
17:30 – 19:00 BST	Main topic 4: Online Posters Session Chairing: Catherine Wensink (UK); Question-master: Myles Darrell (Bermuda); Rapporteur: Jodey Peyton Please see under each topic section for listing. We will be using Zoom for this session, and UKOTCF's website will also be used as a back-up to view posters (available also throughout the conference): https://www.ukotcf.org.uk/ukotcf-online-conference-2025-poster-session-2/ [Note that this link has been found not to work fully on all platforms]
17:30	Welcome & Session Overview
17:45	Poster introductions (length will be determined by final number of posters) Each presenter notes their poster's key points: problem, innovation, impact. Where absent, the chair will do this for them and pass on any questions. (For lists of posters, see the end of each topic section in this programme.)
18:30	Live Q&A with Presenters (Grouped by Themes as per session topics) <i>Moderated by Question-master.</i> Short, focused questions and answers will be encouraged to make best use of time.
19:00	Poster Competition Voting (one vote per conference participant) <i>Led by Question Master</i>
19:15	Key Takeaways & Reflections <i>Led by Rapporteur</i>
19:25 - 19:30	Closing & Poster Prize Announcement <i>Led by Chair</i> [Poster-prize announcement delayed to final day to allow more participants to study posters and vote.]
Day 3	Wednesday 15 October
12:00 – 16:05 BST	Main topic 5: Using technology and data to inform and monitor conservation and novel approaches to address threats to biodiversity Chairing: Andy Pearce (UK); Question-masters: Jodey Peyton & Lord (John) Randall; Rapporteur: Keith Bensusan (Gibraltar)
12:00	Introduction
12:05	5-01 The use of satellites for environmental monitoring in the UK Overseas Territories: Social considerations for the collection and use of data <i>Jasper Montana (Australian National University; University of Oxford)</i>

12:20	Q&A
12:25	5-02 25 years of collaboration: combining field data, genetics, seed biology, and GIS for conservation planning <i>Thomas Heller (Royal Botanic Gardens Kew) & Nancy Woodfield Pascoe (National Parks Trust of the Virgin Islands)</i>
12:40	Q&A
12:45	5-03 Updated population estimates for the Endangered Northern Rockhopper Penguin <i>Eudyptes moseleyi</i> at Tristan da Cunha in the South Atlantic <i>Antje Steinfurth^{1,2}, Richard B. Sherley^{3,4}, Trevor Glass⁵, Chris Bell¹, Ben J Dilley², Delia Davies², Rukaya Johaadien², Fabrice Le Bouard¹, Mara Nydegger¹, Norman Ratcliffe⁶, Karen Bourgeois¹, Jan Bradley¹, Jaimie Cleeland^{1,6}, Roelf Daling¹, Sylvain Dromzee¹, Bruce Dyer⁷, Carmen Ferreira¹, Derren Fox¹, Simon Glass⁵, Ivan Green⁵, Kirsty Green⁵, Matthew Green⁵, Christopher W. Jones¹, David Kinchin-Smith¹, Werner Kuntz¹, Kate Lawrence¹, Henk Louw¹, Greg McClelland¹, Graham C. Parker^{1,8}, Vonica Perold¹, Michelle M. Risi¹, Julian Repetto⁵, Riaan Repetto⁵, Kalinka Rexer-Huber^{1,8}, Andy Schofield¹, Kim L. Stevens^{1,2}, George Swain⁵, Chris Taylor¹, Paul Visser¹, Otto Whitehead², Alex Whittle¹, Emma Witcutt¹, Richard Cuthbert^{1,9}, Brad Robson¹, Peter G. Ryan², Alexander L. Bond^{1,10}</i> (<i>1 RSPB Centre for Conservation Science; 2 FitzPatrick Institute of African Ornithology, University of Cape Town; 3 Environment and Sustainability Institute/Centre for Ecology and Conservation, University of Exeter; 4 Department of Biodiversity and Conservation Biology, University of the Western Cape; 5 Tristan Conservation Department; 6 British Antarctic Survey; 7 Department of Environment, Forestry and Fisheries, South Africa; 8 Parker Conservation, Karitane, New Zealand; 9 World Land Trust; 10 Bird Group, The Natural History Museum, Tring</i>)
13:00	Q&A
13:05	5-04 iRecord St Helena: a community platform for biodiversity knowledge empowering conservation action and decision making <i>Selene Gough & Rebecca Cairns-Wicks (St Helena Research Institute)</i>
13:20	Q&A
13:25	5-05 Safeguarding Tristan da Cunha: Using Areas to be Avoided and Virtual Markers to Protect the World's Most Remote Marine Reserve <i>Katie McPherson (Marine Management Organisation)</i>
13:40	Q&A
13:45	Break (with territory music)
14:15	5-06 The Cyprus Database of Alien Species (CyDAS) <i>Jakovos Demetriou (Laboratory of Vector Ecology and Applied Entomology, Joint Services Health Unit Cyprus, Akrotiri, Cyprus; Enalia Physis Environmental Research Centre, Nicosia, Cyprus; Department of Ecology and Systematics, Faculty of Biology, National and Kapodistrian University of Athens, Greece)</i>
14:30	Q&A
14:35	5-07 In Search of the eDNA Bounty: Uncovering Marine Biodiversity in the Mutineers' Seas <i>Kirsten J. Harper, J. Murray Roberts, Jason Cleland, Simeon Archer-Rand, Georgia Holly & Rob Ogden (The Royal (Dick) School of Veterinary Studies and The Roslin Institute)</i>
14:50	Q&A
14:55	5-08 Beyond bases: modern remote monitoring of animal populations <i>Tom Hart & Laure Cugnière (Seabird Watch, Oxford Brookes University)</i>
15:10	Q&A
15:15 - 16:05	Confirming recommendations for this topic, and General Discussion
16:05 - 16:35	Break (with territory music)
	Posters related to this session
	5-09P Tracking Change: Phytoplankton Trend Analysis in British Gibraltar Territorial Waters (BGTW) <i>Marre Linthorst¹, Stephen J. Warr² and Awantha Dissanayake¹ (1. School of Marine and Environmental Science, University of Gibraltar; 2. Department of Environment, Sustainability, Climate Change and Heritage)</i>
	5-10P The Dietary Dynamics of Red Foxes <i>Vulpes vulpes</i> amidst Changing Rabbit Availability <i>Jemila Mellin (University of Gibraltar), Bethany Maxwell (Gibraltar Botanic Gardens / University of Gibraltar) & Dr Awantha Dissanayake (University of Gibraltar)</i>
	5-11P Ecological insights and conservation challenges for the Orange Cup Coral <i>Astroides calycularis</i> in the Western Mediterranean <i>Awantha Dissanayake (School of Marine and Environmental Science, University of Gibraltar)</i>
	5-12P Establishing a Baseline Characterisation of Marine Benthic Taxa and Trophic Structure in Guernsey: Evaluating the Ecological Impact of Local Fisheries <i>Eve Torode, Jamie Selina Davies & Awantha Dissanayake (University of Gibraltar)</i>

	5-13P Invasive Species dominate tree canopies in Bermuda’s protected areas <i>Alison Copeland¹, Adrian Brennan¹ and Wayne Dawson² (1 Department of Biosciences, Durham University; 2 Department of Evolution, Ecology and Behaviour, University of Liverpool)</i>
	5-14P Ants of the Akrotiri UK SBA (Cyprus) <i>Jakovos Demetriou, Christos Georgiadis, Evangelos Koutsoukos, Lech Borowiec, Helen E Roy, Angeliki F Martinou & Sebastian Salata (Joint Services Health Unit Cyprus, BFC RAF Akrotiri, Cyprus; Enalia Physis Environmental Research Centre, Nicosia, Cyprus Department of Ecology and Systematics, Faculty of Biology, National and Kapodistrian University of Athens, Greece; Section of Zoology and Marine Biology, Department of Biology, National and Kapodistrian University of Athens, Greece; Museum of Zoology, National and Kapodistrian University of Athens, Greece; Myrmecological Laboratory, Department of Biodiversity and Evolutionary Taxonomy, University of Wrocław, Poland; UK Centre for Ecology & Hydrology, Oxfordshire, UK; Department of Ecology and Conservation, University of Exeter, UK; Climate and Atmosphere Research Centre/ Care-C, The Cyprus Institute, Nicosia, Cyprus)</i>
	5-15P Persistence, Accuracy and Timeliness: Finding, Mapping and Managing Non-Native Plant Species on the island of South Georgia <i>Bradley Myer (Indigena Biosecurity International)</i>
	5-16P Bailiwick Eelgrass Project <i>Mel Broadhurst-Allen (Alderney Wildlife Trust)</i>
	5.17P Bugs in our drawers <i>Laura McCoy (Manx National Heritage)</i>
16:35 - 18:50 BST	Main topic 6: Identifying and preparing for future challenges and opportunities Chairing: Sarita Francis (Montserrat) [replaced by Mike Pienkowski, due to unavailability outside her control]; Question-master: Lord (John) Randall [unavailable due to Parliamentary duties] & Jodey Peyton; Rapporteur: John Pinel (Jersey)
16:35	Introduction
16:40	6-01 Roots of Resilience: How Nature Fights Climate Change in the BVI <i>Katie Medcalf¹, Nancy Pascoe² & Samuel Pike¹ (1 Environment Systems & 2 National Parks Trust of the Virgin Islands)</i>
16:55	Q&A
17:00	6-02 What the future could be – Changes in breeding success of Gough Island’s seabird populations in response to the house mouse eradication attempt in 2021 <i>Antje Steinfurth¹, Roelf Daling¹, Lucy Dorman¹, Rebekah Goodwill¹, Hannah Greetham¹, Christopher Jones¹, Vonica Perold¹, Michelle Risi¹, Kim Stevens¹, Trevor Glass², Steffen Oppel¹ (1. RSPB Centre for Conservation Science, Cambridge, UK; 2. Tristan Conservation Department, Edinburgh of the Seven Seas, Tristan da Cunha)</i>
17:15	Q&A
17:20	6-03 Ecosystem Integrity Assessments, GBIF <i>Alan Gray (UKCEH) and Rebecca Cairns-Wickes (St Helena)</i>
17:35	Q&A
17:40	6-04 Education and Youth Participation in the National Trust for the Cayman Islands <i>Catherine Childs (Environmental Programmes Manager, National Trust for the Cayman Islands)</i>
17:55	Q&A
18:00 - 19:00	Confirming recommendations for this topic, and General Discussion
Day 4	Thursday 16 October
12:00 Noon – 16:30 BST	Main topic 7: Funding/resourcing Chairing: Leigh Morris (Isle of Man) [now The Wildlife Trusts]; Question-master: Keith Bensusan (Gibraltar) Rapporteur: Jodey Peyton
12:00 Noon	Introduction
12:05	7-01 Fundraising for South Georgia – obstacles and opportunities <i>Alison Neil (South Georgia Heritage Trust)</i>
12:20	Q&A
12:25	7-02 The Power of Partnerships <i>Nigel Cheesley (Head of Sustainability for Lloyds Bank International in the Crown Dependencies)</i>
12:40	Q&A
12:45	7-03 Eco-Match: Enabling Corporate Partnerships for Conservation <i>Leigh Morris & Jodey Peyton (UKOTCF)</i>
13:00	Q&A
13:05	7-04 The importance of sustainable finance and showcase how both UKOTCF and Manx Wildlife Trust are working with him <i>Greg Easton (MD, Resilience Asset Management)</i>

13:20	Q&A
13:25	7-05 Biodiversity NGO Fundraising Structures are Broken: To What Extent Might a Marketing Requirement be the Solution? <i>Robin Clough</i>
13:40	Q&A
13:45	Break (with territory music) [plus outline of intern opportunities (<i>Graham Makepeace-Warne, Manx Wildlife Trust</i>) and announcement of poster competition (<i>Catherine Wensink, UKOTCF</i>)]
14:15	7-06 Lloyds Bank: Partner of Choice for the UKOTs <i>Matt Pendrey (Head of UK Government & British Overseas Territories, Lloyds Banking Group)</i>
14:30	Q&A
14:35	7-07 Collaborate for Conservation. <i>Jonathan Andrews (Remarkable Partnerships)</i>
14:50	Q&A
14:55	General discussion (including agreeing conclusions on session), followed by: Interactive session, run by <i>Leigh Morris & Jonathan Andrews</i>
16:30 - 17:00	Break (with territory music) [deferred to end of Closng session]
	Poster related to this topic
	7-08P Evidence of Barriers to Marine Conservation in UK Overseas Territories: A Practitioner-Informed Study <i>Natalie Muirhead-Davies (University of Gibraltar)</i>
17:00 BST [actually 16:30 - 17:00]	<p>Closing session</p> <p>[Outline of UKOTCF's forthcoming book <i>The Nature of Britain's Fragments of Paradise: wildlife and its conservation in UK Overseas Territories and Crown Dependencies</i>, edited by Mike Pienkowski & Sara Oldfield, assisted by Catherine Wensink, Ann Pienkowski, Keith Bensusan, Adam Riggs & Jodey Peyton, noting the list of chapters & lead-authors, illustrated by a tiny fraction of the pictures in the book.</p> <p>Key Take-away messages: discussion <i>guided by Keith Bensusan</i></p> <p>Thanks on behalf of conference, <i>by Mike Pienkowski</i></p> <p>Followed by natural night-time sounds from Montserrat.</p>
	Please remember to complete a feedback form The survey takes about 4 minutes to complete and is here: https://forms.gle/JXcDGJdsp87uqh1m6

Interval Music from the Territories

St Helena

Music by Stedson Stroud, conservationist and musician.

Stedson performs “The Flax Mill Blues”. The traditional music of St Helena is being preserved by Fantom Island Studio, see: <https://www.youtube.com/@SouthAtlanticMusic>

Dry Bottle Band “Home Sweet Home”

The traditional music of St Helena is being preserved by Fantom Island Studio, see: <https://www.youtube.com/@SouthAtlanticMusic>

“Provision” by James Fantom, featuring music and videography which is heavily focused on St. Helena’s environment <https://www.youtube.com/watch?v=qW5dQE0UJDU>

Cayman Islands

Stuart Wilson is a reggae, jazz and blues musician from the Cayman Islands. He is the Historic Programmes Manager at the National Trust for the Cayman Islands. By kind permission of Stuart Wilson <https://www.stuartwilsonmusic.com>

“Feel for You” written and performed by Stuart Wilson.

“Real Come Back Story” written and performed by Stuart Wilson.

“Rule the World” written and performed by Stuart Wilson.

Isle of Man

Scran, a contemporary Manx traditional music group from the Isle of Man: young musicians, ages 13 to 17, who play, sing and dance.

Track “A Set” is taken from their album “Nane”. © Culture Vannin.

Track “Polcas” is taken from their album “Nane”. © Culture Vannin.

Track “Illiam” is taken from their album “Jess”. © Culture Vannin.

Track “Yn Gaau” is taken from their album “Jess”. © Culture Vannin.

The live session video was recorded at Drum Base, Ramsey on 14th July 2024, performing “Jerry yn Theihll” (Manx trad.), “Eunyssagh Vona” (Manx trad.) & “Coach to Lorient” (Frank Joughin) and filmed by Brook Wassall. With thanks to Culture Vannin.

Harpist Mera Royle: “Dooraght” from the album “The Ballaglass set”; a Manx tune by Katie Lawrence. With thanks to Culture Vannin

Videos (for longer breaks)

Climate Ranger Bella takes us on a trip to the Mastic Trail on Grand Cayman in the Cayman Islands. Here she meets Stuart Mailer from the National Trust of the Cayman Islands, who shows her some of the different species and habitats found there. For this video and more in the series: <https://www.youtube.com/watch?v=Gd8eUOMg7lQ>

With funding from Aviva, the Manx Wildlife Trust has embarked on a journey to protect and restore temperate rainforest on the Isle of Man. The video of MWT Glen Auldyn Nature Reserve is by Biosphere Photographers in Residence, Adam Morgan and Ciara Kaneen. It showcases the beauty of the islands and its soundscapes. <https://www.youtube.com/watch?v=VbZ5Q1ixWCY>

Appendix 2: Conference Participants

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Appendix 3: Feedback from Participants – Conference Questionnaire Responses

We are grateful to those participants who responded to our questionnaire. The responses are given below.

The UKOTCF organisation-team received many other comments by email or social media but we do not publish these here. However, these were all positive and did not suggest changes in the way in which conferences are conducted.

All conference participants were invited to submit feedback via an online form. We publish this exactly as it was received online (and thus includes some typos which we have not corrected).

Question 1: What aspects of the conference went well?

All was run very well. Moderators were great.

All of it, I really enjoyed it.

I really enjoyed the topics and that there was a general discussion at the end of each topic. I enjoyed the posters too, a great aspect of the conference for something other than presentations.

Timing, variety of speakers.

The quality of the talks was excellent. It was great to see lots of student posters, they should be encouraged to give more of the talks in future meetings. The music in breaks was good, particularly the Manx band Scran. The videos were also very good.

Presentations covered a diverse range of topics as well as representation of UKOTs and partner institutions. Morale-boosting!

Pre-recorded talks were great!

The format of having a host, question-master and rapporteur for each session, as well as oversight from Mike and his team, appeared to work really well.

The lecture from Myles was excellent.

The number of hours of talks each day was about right.

Due to its online nature, we were able to have lots of participants from the Falkland Islands join in, which would not have been possible if it were held in person.

Question 2: What worked less well? Be honest!

Maybe break up the poster sessions between days rather than lump all together. Develop a way to automate for attendees to book important sessions in their calendar eg the programme was a little overwhelming so enable flagged placemarkers for each session to add to calendar.

When there isn't a presentation – no visual to hold interest or to pick up on key points by the presenter.

No other comments here, just see my comment below

about how the conference could be improved.

Links and we couldn't always hear audio during the musical breaks.

“It was frustrating that we wasted conference time ‘discussing’ the recommendations, only to be told ‘we aren't changing them, otherwise we have to consult again’! is that not why people gave their time to attend? I signed up late, so did not see the apparent 3 previous rounds of consulting. Seems like it would be less work for your staff to work on the recommendations after the meeting instead of at the same time as organizing it.

The poster access was a shambles. I felt sorry for people who had spent time preparing posters and videos.”

Zoom format means it's difficult to get a sense of who the other attendees are. The poster session could have been more prominent.

“All of the talks that were delivered live had issues of some kind or another, either sound not working well, powerpoint unable to be shared, slides not advancing properly, or not keeping to time. Pre-recorded talks was definitely the best way to solve that.

There were a lack of questions from the audience and question masters often had to fill the time.

Despite having a lot of online participants, it is difficult to encourage interaction between people because it's not set up to do that.

We had some initial problems logging on to the zoom link and accessing the posters.”

Question 3: Do you have any suggestions on how UKOTCF webinars/conferences can be improved?

Not much audience engagement. Consider how to improve that for future. Reference how many are online for each session – hard to tell.

No – really enjoyed it.

Perhaps the main conference documentation could be within one google document? Conference participants would have view-only access of course. There were several different documents being sent throughout the conference, and sometimes hard to keep track off, especially when links were faulty in some but not others. If there was just one live doc being used it would be easier to manage and find information throughout the duration of the conference.

It was my first, so I was pretty impressed with all of the components. Nothing comes to mind.

It did not feel like a real conference because you could not see who else was there. Would have been nicer to just have everyone in the call at the same status so everyone could interact in the same way, and see all the messages

and information, and who was in the room.

Scope for more structured opportunities for interactions between attendees? Circulate posters for viewing on-screen during breaks?

There is nothing quite like an in-person conference with live talks and opportunities for learning, connecting and socialising. I would love to see a hybrid version of this conference in future. With in-person talks and an option to watch online. I appreciate in-person events are hugely expensive, have a big carbon footprint, and not everyone would be able to attend. But the connections that could be made would be incredibly beneficial to those working in conservation in the UKOTs. (And yes I'll volunteer to help organise it!)

Question 4: Would you like to say anything else?

Congratulations! Thank you for all the hard work.

Fantastic, well done to the team.

No. Thank you to everyone who was involved in the planning and execution, it was a truly valuable, engaging and interesting conference – well done!

Thank you for considering the early hours for some participants and making the conference a more accessible timeframe.

A huge thank you to everyone who worked so hard to make the conference happen! It really is the best platform for sharing conservation work with the other OTs.

Congratulations on a successful conference!

Appendix 4: Recommendations sorted by Type of Addressee

Extract of Recommendations to UK Government

Main topic 1: Sharing Experiences across territories

B. NGOs and their networks are important to UK Government because they help deliver its international commitments, through expert help with some issues that UK Government may lack the capacity to address alone. FCDO is advised to re-strengthen its relationship with NGOs and partners working with the UKOTs, including UKOTCF which, for example, it used to invite, alongside other territory and umbrella bodies, to brief Governors-designate and FCDO's own personnel, and to networking events such as linked to the annual Joint Ministerial Council. *[UK Government]*

Topic 3: Achieving Biodiversity & Sustainability targets

C. Conference asks UK Government: to ensure that it consults official and NGO bodies in the UKOTs and CDs at the start in planning conservation policies, rather than at the end when positions are already firm and time short; and to invite and support UKOT and CD representation as part of UK delegations to COPs. *[UK Government]*

D. Policy mechanisms that recognise formally, and incorporate, local expertise and community-generated data into environmental governance frameworks, ensuring that conservation actions are contextually appropriate and socially inclusive, should be supported. Biodiversity and sustainability targets should be clear, concise, meaningful, tailored to the situation, but be mindful of broader, international targets. When governments develop new policy, whether Multilateral Environmental Agreements or Local Biodiversity Action Plans, accurate targets can help to ensure that the policy delivers what it is intended to do, and fit-for-purpose monitoring protocols are needed also. Policy development should consider also the reporting requirements as most territories have little capacity for lengthy and time-consuming reporting. *[UK & Territory Governments]*

G. UK and Territory governments should provide the financial resources and other support necessary to acquire good data and maintain good records of species, habitats, threats and applied conservation work in the Territories. *[UK and Territory governments]*

I. Our Territories are so small that blue-carbon has been seen to be a better option than some others, but quantifying suitable areas through mapping projects is required first and then there is the need for ongoing monitoring to assure that these sites are still performing as suitable blue-carbon sites – so resources must be allocated to this. *[UK & Territory Governments]*

J. Island and ecosystem restoration programmes should be highlighted as currently one of the most important conservation measures. It should also be highlighted

that effective restoration can be extremely complex and requires a long-term commitment of funding, staff-capacity, resources and monitoring. *[Conservation-managers, NGOs and governments]*

Topic 6: Identifying and preparing for future challenges and opportunities

P. Emergency funding for active responses to critical threats, whether from invasive non-native species, natural disasters and or human or animal pathogens should be identified and provided ahead of any real-time issues or in the immediate aftermath. Known challenges, e.g. resilience to sea-level rise, and adaptation to extreme heat-events, such as the impacts of climate-change, must be addressed before they reach problematic levels. *[UK & territory governments]*

Topic 7: Resourcing Conservation

S. As agreed in the Environment Charters, the UK Government must support the UKOTs in: joining UK's ratification of international environmental agreements protecting species and ecosystems; reaching international targets for biodiversity including the Global Biodiversity Framework Targets (GBF) and the Sustainable Development Goals in UKOTs and CDs; the designation and management of Ramsar Convention Wetlands of International Importance and World Heritage Sites; and in shared high ambitions in combating and adapting to climate-change. Attention is drawn to the inability of CDs to benefit from UK-sourced funding. *[UK Government]*

T. Conference asks that both the Darwin Plus and Blue Belt funding programmes be maintained (the latter with increased open access by non-government organisations that provide so much technical and practical support) as, without these, nature conservation in the UKOTs would be extremely restricted. Even with the maintenance of these schemes, sources of conservation funding for the UKOTs remain limited compared to the UK. Therefore, Conference also strongly recommends: the establishment of an equivalent "Green-Dot" funding scheme for the conservation of terrestrial wildlife (which includes most UKOT endemics); open access to Lottery funding for UKOT conservation projects; and exploring opportunities to support research through UK Research Institute (UKRI) funding. *[UK Government]*

U. UK Government is asked to reduce bureaucracy in the environmental project application process and make some criteria less rigid to take account of the very different situations of the UKOTs. UK Government is also asked to extend support for building on projects that are proving successful, rather than requiring funded projects to be totally innovative. Also, territories have pointed out that the time-limit of one year, or less, of Darwin Local grants does not allow for the time-scales needed for decisions in UKOTs (many of which follow UK slow

practices of former decades). A restoration is needed of support for umbrella and networking bodies of which UKOT and CD bodies are members/associates, e.g. by funding conferences organised by umbrella bodies as well as crucial networking (on par with EU COST actions and to which UKOTs now have limited access). ***[UK***

Government]

X. Conference advises all to remain alert to the pressures on ministers and officials in those several territories whose main source of government income is from taxes accruing from the built development of land; and that this can be a perverse incentive against implementation of the Sustainable Development Goals and environmental conservation, despite the natural environment being a key asset supporting the economies. ***[UK and Territory Governments and NGOs]***

Extract of Recommendations to Territory Governments

Main topic 1: Sharing Experiences across territories

A. Territories are advised to learn lessons from each other in techniques for conservation, and to develop closer conservation-based relationships with neighbouring countries – to encourage shared learning and technical exchanges. *[Conservation workers and authorities in Territories]*

Topic 3: Achieving Biodiversity & Sustainability targets

D. Policy mechanisms that recognise formally, and incorporate, local expertise and community-generated data into environmental governance frameworks, ensuring that conservation actions are contextually appropriate and socially inclusive, should be supported. Biodiversity and sustainability targets should be clear, concise, meaningful, tailored to the situation, but be mindful of broader, international targets. When governments develop new policy, whether Multilateral Environmental Agreements or Local Biodiversity Action Plans, accurate targets can help to ensure that the policy delivers what it is intended to do, and fit-for-purpose monitoring protocols are needed also. Policy development should consider also the reporting requirements as most territories have little capacity for lengthy and time-consuming reporting. *[UK & Territory Governments]*

F. Territories should ensure that they know which of their species and habitats need protecting and recovery/restoration and, ideally, all endemic species should be IUCN Red-listed. All at-risk species and habitats should at least be integrated fully into National Biodiversity Strategies or, ideally, have focused individual Action Plans/Strategies that are adequately resourced. To achieve this, Territories should have sufficient baseline-data, covering species of animals and plants, habitats and land-ownership. *[Territory Governments]*

G. UK and Territory governments should provide the financial resources and other support necessary to acquire good data and maintain good records of species, habitats, threats and applied conservation work in the Territories. *[UK and Territory governments]*

H. For Territory residents to be able to invest in alternative energy, green-energy equipment needs to be affordable; so Territory Governments need to incentivise this and reduce tax on these imported products. *[Territory Governments]*

I. Our Territories are so small that blue-carbon has been seen to be a better option than some others, but quantifying suitable areas through mapping projects is required first and then there is the need for ongoing monitoring to assure that these sites are still performing as suitable blue-carbon sites – so resources must be allocated to this. *[UK & Territory Governments]*

J. Island and ecosystem restoration programmes should

be highlighted as currently one of the most important conservation measures. It should also be highlighted that effective restoration can be extremely complex and requires a long-term commitment of funding, staff-capacity, resources and monitoring. *[Conservation-managers, NGOs and governments]*

Topic 5: Using technology and data to guide conservation

K. Conference notes some Territories' success in using technology to overcome some challenges in conservation, including: remote sensing, satellite-imagery and drones, particularly with the addition of multispectral image-processing to help management of protected areas, including identification of land-clearance monitoring and ecosystem-health (e.g. spread of invasive species or plant-disease); and DNA to identify unknown plant-species. Environmental DNA (eDNA) and bioacoustic surveys have the potential to be useful in conducting more routine biodiversity-monitoring or biosecurity-surveillance. *[Territory governments and NGO land-managers]*

Topic 6: Identifying and preparing for future challenges and opportunities

N. Horizon-scanning for potential known and novel threats has been undertaken and may continue to be useful for governments and NGOs *[Territory governments and NGOs]*

O. Knowledge-sharing of current problems, future risks and support opportunities between governments and with NGOs and neighbouring countries is essential to learn from experience and best practice. *[Territory governments and NGOs]*

P. Emergency funding for active responses to critical threats, whether from invasive non-native species, natural disasters and or human or animal pathogens should be identified and provided ahead of any real-time issues or in the immediate aftermath. Known challenges, e.g. resilience to sea-level rise, and adaptation to extreme heat-events, such as the impacts of climate-change, must be addressed before they reach problematic levels. *[UK & territory governments]*

Q. Governments, including with corporate funds, should be forward-planning for opportunities to restore nature, including opportunities such as strategic land-purchases for nature reserves, to linking existing sites through the development of habitat-corridors; they should ensure that new development does not compromise existing good practice, including by purchase of private land in Protected Areas to return this to public ownership, or preferably, to the inalienable ownership afforded in National Trust Ordinances where these apply. This idea can be expanded to incorporate networks of protected areas for terrestrial conservation as well as for linking Marine Protected Areas. *[Territory governments]*

R. Good climate-models are powerful tools when

designing, managing and communicating the importance of protected areas. Their use can help maintain the biodiversity of the islands for the future. Sharing data and information across projects can increase greatly the robustness of the models. Modelling climate-change can be very helpful by looking at historical data and predictions within a very local scale – so real change can be seen across small islands and then identifying what ecosystem-services areas are providing, then using this as a justification for protection as national parks or for development restrictions. This can be cross-referenced with local weather-data and ground-truthed satellite-imagery. *[Territory governments]*

Topic 7: Resourcing Conservation

X. Conference advises all to remain alert to the pressures on ministers and officials in those several territories whose main source of government income is from taxes accruing from the built development of land; and that this can be a perverse incentive against implementation of the Sustainable Development Goals and environmental conservation, despite the natural environment being a key asset supporting the economies. *[UK and Territory Governments and NGOs]*

Extract of Recommendations to Non-Governmental Organisations (NGOs)

Main topic 1: Sharing Experiences across territories

A. Territories are advised to learn lessons from each other in techniques for conservation, and to develop closer conservation-based relationships with neighbouring countries – to encourage shared learning and technical exchanges. *[Conservation workers and authorities in Territories]*

Topic 3: Achieving Biodiversity & Sustainability targets

E. Any project should have a range of targets, including those which are specific to project outcomes, but which also prompt the organisation to ensure that delivery is being achieved, funding is sufficient, that policies are appropriate and that senior management has a stake in the outcome. Targets should be ambitious, but achievable without overly relying on factors outside of the control of the practitioner. Where partnerships exist, targets should assign clear responsibility to the person(s) or organisation(s) who are responsible for delivery. Appropriate budgets (where applicable) should be set, over a multi-year time-scale (when long-term targets are set) to ensure delivery over an extended period of time. Funding for staff must be sufficient to ensure longevity and continuity of staff through the duration of the targets. This ensures that projects do not fail due to poor planning and resource-provision. *[Project-managers and their senior colleagues]*

J. Island and ecosystem restoration programmes should be highlighted as currently one of the most important conservation measures. It should also be highlighted that effective restoration can be extremely complex and requires a long-term commitment of funding, staff-capacity, resources and monitoring. *[Conservation-managers, NGOs and governments]*

Topic 5: Using technology and data to guide conservation

K. Conference notes some Territories' success in using technology to overcome some challenges in conservation, including: remote sensing, satellite-imagery and drones, particularly with the addition of multispectral image-processing to help management of protected areas, including identification of land-clearance monitoring and ecosystem-health (e.g. spread of invasive species or plant-disease); and DNA to identify unknown plant-species. Environmental DNA (eDNA) and bioacoustic surveys have the potential to be useful in conducting more routine biodiversity-monitoring or biosecurity-surveillance. *[Territory government and NGO land-managers]*

L. Conference notes successes in the deployment of conservation detection dogs across the UKOTs, expanding on work started in South Georgia. Uses include avoiding arrival of invasive species, and finding nest-sites of critically endangered species, such as rock

iguana and sea turtles (in Cayman) so that hatchlings can be placed in protected facilities until mature enough to resist predation. Thermal drones are also a new technology that can assist with tracking animals, particularly those that form colonies – but in hot countries there are challenges with the heat-signals and the ground temperature, so more work in this area is needed. *[Conservation-managers]*

M. Use of combined approaches gets the most out of available data, showing the value of sharing data and technical expertise to add value to analyses and give long-term benefits. Technological advancements make more accessible novel approaches, such as genomic tools and spatial modelling. Care should be taken when introducing novel techniques as they may be complementary to traditional monitoring rather than a replacement methodology. Side-by-side validation can help determine whether new technology provides consistent results in long-term monitoring. *[Conservation-managers]*

Topic 6: Identifying and preparing for future challenges and opportunities

N. Horizon-scanning for potential known and novel threats has been undertaken and may continue to be useful for governments and NGOs *[Territory governments and NGOs]*

O. Knowledge-sharing of current problems, future risks and support opportunities between governments and with NGOs and neighbouring countries is essential to learn from experience and best practice. *[Territory governments and NGOs]*

Topic 7: Resourcing Conservation

V. Corporate businesses and conservation NGOs are encouraged to use tools for example, EcoMatch, so that environmental, social, and governance (ESG) commitments can be met by effective conservation actions in support of the most internationally important biodiversity for which UK and its Territories are responsible. *[Corporate businesses and conservation NGOs]*

W. Generating revenue from services has potential - park rentals for events, filming and photography, and a range of products and merchandise, including clothing, water-bags, stuffed toys etc. Branding items also market the organisation's image and unique species and habitats. *[Territory NGOs]*

X. Conference advises all to remain alert to the pressures on ministers and officials in those several territories whose main source of government income is from taxes accruing from the built development of land; and that this can be a perverse incentive against implementation of the Sustainable Development Goals and environmental conservation, despite the natural environment being a key asset supporting the economies. *[UK and Territory Governments and NGOs]*

Extract of Recommendations to potential funders (other than UK Government)

Topic 7: Resourcing Conservation

V. Corporate businesses and conservation NGOs are encouraged to use tools for example, EcoMatch, so that environmental, social, and governance (ESG) commitments can be met by effective conservation actions in support of the most internationally important biodiversity for which UK and its Territories are responsible. *[Corporate businesses and conservation NGOs]*