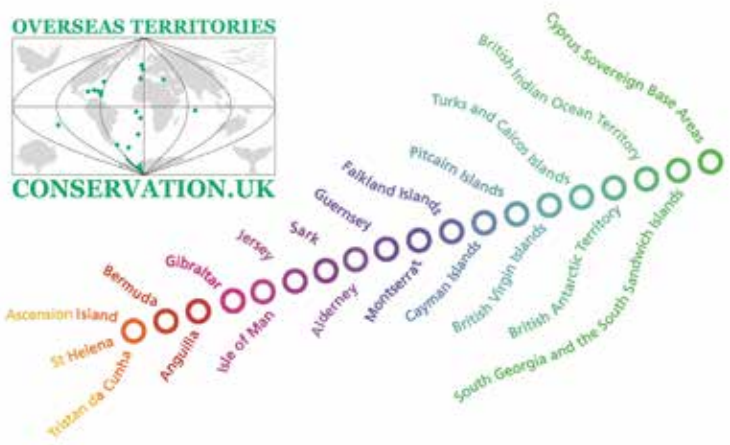

Staying Connected for Conservation in a Changed World:

UKOTCF's 6th conference on conservation and sustainability in UK Overseas Territories, Crown Dependencies and other small island states

By Zoom

2nd, 3rd, 9th & 10th March 2021

Programme, abstracts & participants

Contents

UK Overseas Territories Conservation Forum is pleased to acknowledge support for this conference from Peter Flockhart, anonymous donors and the following sponsoring organisations:

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. Note that multi-author papers will have the correct order of authors after the first in the abstract but this may have been changed here. Talks will generally each last 15 minutes and each will be followed by 5 minutes of questions and answers (see *Guidance to participants* – from page 10 of this booklet).

Each topic session will end with a general discussion, focussed on confirming the draft conclusions and recommendations. Using an approach developed successfully for our 2015 Gibraltar conference, these were developed by cross-territory topic teams using input from speakers and the conclusions of the 2015 conference. Over three circulations to conference participants, these were amended in the light of comments on these consultations, as well as incorporating ideas from submitted posters.

Instructions for joining the conference are included in *Guidance to participants* – from page 10 of this booklet.

Posters will be available to view throughout the conference, not just in the 1-hour session on Tuesday 9th when poster-authors are requested to be online. ***Instructions on accessing posters*** are included in *Guidance to participants* – from page 10 of this booklet.

The titles are linked by hotlinks (the number preceding the title) to the abstracts.

Day 1	**Tuesday 2nd March**
12:00 – 13:00 GMT	**Opening of the conference:**
12:00	Welcome and conference arrangements
12:20	Statement by The Rt Hon Lord Goldsmith of Richmond Park, Minister of State for Pacific and the Environment at the Foreign, Commonwealth & Development Office and the Department for Environment, Food and Rural Affairs
12:30	Address by Hon. Professor John Cortés, HM Government of Gibraltar's Minister for the Environment, Sustainability, Climate Change, Heritage, Education and Culture, and Chairman of the UK Overseas Territories & Crown Dependencies Environment Ministers' Council
13:00	Break (with territory music)
13:15 – 16:00 GMT	**Main topic 1: Progress (or otherwise) in reaching environmental targets**
Topic team	Catherine Wensink *(UKOTCF;* Coordinator & Question-master*);* Leigh Morris *(Manx Wildlife Trust;* Rapporteur*);* Joan Walley *(UKOTCF; former chair, House of Commons Environmental Audit Committee;* Chairing*);* Dr Mike Pienkowski *(UKOTCF)*
13:15	Introduction
13:25	1.01. UKOTCF assessments of progress in Environment Charter implementation, Aichi Targets & Sustainable Development Goals: setting the scene for the future (Catherine Wensink, Mike Pienkowski, Sarah Barnsley & Emma Cary, *UKOTCF*)
13:40	Q&A
13:45	1.02. A biodiversity strategy for the Isle of Man and a mid-term assessment of its implementation (Richard G Selman & Aline M Thomas, *Department of Environment, Food & Agriculture, Isle of Man*)
14:00	Q&A
14:05	1.03. Restoring St Helena's Internationally Important Cloud Forest for Wildlife, Water Security and Socio-economic Development through developing and implementing an integrated Management Plan (*Peaks Project Development Group:* Isabel Peters, Vanessa Thomas-Williams, Steve Coates, Dr Rebecca Cairns-Wicks, *St Helena Government;* Martina Peters, *St Helena National Trust;* Lawrence Muranganwa, *Connect St Helena;* Sarah Havery, *RSPB*)
14:20	Q&A
14:25	Break (with territory music)
14:30	1.04. Producing and maintaining a dynamic catalogue of the endemic taxa of the UKOTs and CDs (Dr Jamie Males, Dr Mike Pienkowski, Catherine Wensink, Ed Lim & Ashleigh Atkinson, *UKOTCF*)
14:45	Q&A
14:50	1.05. Taking UKOT & CD needs in mind in negotiating future target-setting, in the context of the Convention on Biological Diversity (Dr Jane Stratford, Head of UK Delegation to the CBD, Defra)
15:05	Q&A
15:10	Discussion and agreement of conclusions & recommendations
15:45	**Conference photo**
16:00	Session End

	Posters in this session
	1.07P. The Importance of Marine Biodiversity across the United Kingdom's Overseas Territories (Owen Hallett, *University of Exeter*)
	1.08P. Cayman Islands Red-listed endemic plants: rediscovery and research towards conservation goals (Christine Rose-Smyth & Stuart Mailer, *Verdant Isle Orchid Research*)
16:00 – 17:10 GMT:	**Meal break** in main programme, **and open chat session** (potentially with voice on request, probably from about 16:10 to 17:00)
17:10 – 20:00 GMT	**Main topic 2: Engaging people; the wider benefits of conservation and healthy ecosystems**
Topic team:	John Pinel (*Jersey;* Coordinator, and in the Chair)*;* Jake Kuyer *(Economics For The Environment Consultancy Ltd);* Dr Keith Bensusan *(Gibraltar Ornithological & Natural History Society;* Question-master)*;* Camilla Nichol *(UK Antarctic Heritage Trust);* Iain Orr, Dr Mike Pienkowski & Catherine Wensink (Rapporteur) *(UKOTCF)*
17:10	Introduction
17:20	2.01. Nature conservation priorities in a changing world (John Pinel, *Jersey*)
17:35	Q&A
17:40	2.02. NCA: Providing economic evidence for a Green Recovery (The economic benefits of conservation; green economy; green recovery) (Jake Kuyer, *eftec: Economics For The Environment Consultancy Ltd*)
17:55	Q&A
18:00	2.03. Floras of Gibraltar, old and new: botany and public engagement on The Rock (Keith Bensusan, Leslie Linares, Michael Grech, Charles Perez, Albert Gonzalez &Rhian Guillem, Gibraltar Ornithological & Natural History Society & Gibraltar Botanic Gardens)
18:15	Q&A
18:20	2.04. Buy Back Bermuda (Andrew Dobson, *for Bermuda Audubon Society & Bermuda National Trust*)
18:35	Q&A
18:40	Break (with territory music)
18:45	2.05. Behaviour Change for Conservation - approaches and tactics to inspire/enable more people to do something positive for nature (Leigh Morris, *Manx Wildlife Trust*)
19:00	Q&A
19:05	2.06. Championing UK's most special species: the wildlife of the UKOTs & CDs (Lord [John] Randall, UKOTCF & House of Lords)
19:20	Q&A
19:25	Discussion and agreement of conclusions & recommendations
20:00	Session end and conference-day end
	Posters in this session
	2.07P. Learning from networks of wetland educators and NGOs (Connor Walsh, *International Engagement Officer, Wildfowl and Wetlands Trust*)
	2.08P. The Invasive invertebrate Project (Natasha Stevens, Liza Fowler, Daryl Joshua & Christy Jo Scipio-O'Dean, *St Helena National Trust*)
Day 2	**Wednesday 3rd March**
12:00 Noon – 14:30 GMT	**Main topic 3: Facilitating local leads in conservation**
Topic team	Dr Mike Pienkowski *(Coordinator* & Rapporteur); Dr Rebecca Cairns-Wicks *(St Helena Research Institute);* Sarita Francis *(Montserrat National Trust;* in the Chair); Roland Gauvain *(Alderney Wildlife Trust);* Catherine Wensink, Catriona Porter & Lord (John) Randall (Question-master) *(UKOTCF)*
Noon	Introduction
12:10	*3.01. Save Our Special Nature of Montserrat* – integrated conservation, facilitating local community leadership: *Adopt a Home for Wildlife* (Ann Pienkowski, Mike Pienkowski, Catherine Wensink, *UKOTCF*; Sarita Francis, *Montserrat National Trust*)
12:25	Q&A

12:30	3.02. Assessing the Viability of Alternative and Improved Livelihoods in Sustainable Tourism at the East Caicos Key Biodiversity Area (Don Stark, *Turks & Caicos Reef Fund*; and Kathleen McNary Wood, *SWA Environmental*)
12:45	Q&A
12:50	3.03. Alderney NGO working at all levels; attempting to engage all parts of an island community in the goal of nature recovery (Roland Gauvain, Alderney Wildlife Trust)
13:05	Q&A
13:10	Break (with territory music)
13:15	3.04. Creating and sustaining St Helena's Millennium Forest Project: reflections and aspirations (Dr Rebecca Cairns-Wicks, St Helena Research Institute; Martina Peters & Shayla Ellick, St Helena National Trust)
13:30	Q&A
13:35	3.05. Falklands Conservation's Wild Ambition, Partnerships and local leaders in the Falkland Islands (Dr Esther Bertram, Falklands Conservation)
13:50	Q&A
13:55	Discussion and agreement of conclusions & recommendations
14:30	Session end and Break (with videos/music and open use of chat-box)
	Related poster
	3.06P. Insects matter: Take Action (A Ioanna, F Mancini, M Botham J Peyton, HE Roy & AF Martinou, *Laboratory of Vector Ecology & Applied Entomology, Joint Services Health Unit, British Forces Cyprus; & UK Centre for Ecology & Hydrology*)
15:00 – 17:30 GMT	**Main topic 4: Coping with recovery after hurricanes and natural disasters by building resilience**
Topic team	Dr Katie Medcalf *(Environment Systems;* Joint Coordinator, and in the Chair)*;* Peter Beckingham *(UKOTCF; former Governor, Turks & Caicos Islands;* Joint Coordinator)*;* Bryan Naqqi Manco *(TCI Department of Environment & Coastal Resources;* Rapporteur*);* Farah Mukhida, *Anguilla National Trust;* Question-master); Dr Stephanie Martin *(Tristan da Cunha Government);* Susan Zaluski *(Jost Van Dyke Preservation Society, BVI);* Dr Mike Pienkowski & Catherine Wensink, *UKOTCF)*
15:00	Introduction
15:10	4.01. After the volcano – 20+ years on (Sarita Francis, *Executive Director, Montserrat National Trust &* Vernaire Bass, *MNT Board Member in charge of Promotion and Outreach and Director of 664CONNECT*)
15:25	Q&A
15:30	4.02. Tristan da Cunha storms (James Glass, *Chief Islander,* & Stephanie Martin, *Environmental Officer, Tristan da Cunha*)
15:45	Q&A
15:50	4.03. Caribbean coastal resilience and restoration: restoring hurricane-damaged mangrove ecosystems in the British Virgin Islands (Susan Zaluski, *Jost Van Dyke Preservation Society*) [not presented]
16:05	Q&A
16:10	Break (with territory music)
16:15	4.05. Using ecosystem modelling to prioritise nature-based resiliency building actions in Anguilla (Farah Mukhida, Louise Soanes, *Anguilla National Trust*; Katie Medcalf, K. Naumann, S. Pike, *Environment Systems Ltd*; Charlie Butt, Lyndon John, *Royal Society for the Protection of Birds*; C. Rouse, *Department of Natural Resources, Anguilla*; & C. Samuel, *Department of Disaster Management, Anguilla*)
16:30	Q&A
16:35	406. Future proofing endangered species conservation in Anguilla (Farah Mukhida, JC Daltry, M Goetz, L John & Louise Soanes, *Anguilla National Trust, Fauna & Flora International, Durrell Wildlife Conservation Trust, Royal Society for the Protection of Birds, University of Roehampton*)
16:50	Q&A
16:55	Discussion and agreement of conclusions & recommendations
17:30 - 18:45 GMT	**Meal break** in main programme, **and open chat session** (potentially with voice on request, probably from about 17:40 to 18:30)
18:45 - 20:00 GMT	**Short session, linked to Main topic 7: Funding mechanisms – carbon capture**

18:45	Introduction: Clare Brook (*Blue Marine Foundation*) in the Chair & Question-master (Rapporteur: Catherine Wensink)
18:55	Introduction to Conservation Finance - Building an "Investment Case" (James Mansfield, *Finance Earth*)
19:27	Marine aspects (Sriram Natarajan, *Blue Marine Foundation*)
19:40	Q&A
20:00	Session and conference-day end
Day 3	**Tuesday 9th March**
12:00 Noon – 14:30 GMT	**Main topic 5: Nature-based solutions for the UN Decade of Ecosystem Restoration: Terrestrial**
Topic team	Kathleen McNary Wood *(SWA Environmental;* Joint Coordinator, in the Chair)*;* Dr Jamie Males *(UKOTCF; Joint Coordinator;* Question-master); Frederick J Burton *(Cayman Islands Department of Environment);* Julia Henney *(States of Guernsey;* Rapporteur)*;* Alison Neil *(South Georgia Heritage Trust);* Dr Mike Pienkowski & Catherine Wensink *(UKOTCF)*
Noon	Introduction
12:10	5.01. Iguanas, invasive species and the tide of humanity (Frederic J Burton, *Department of Environment, Cayman Islands Government and formerly Blue Dragon Recovery Program*)
12:25	Q&A
12:30	5.02. Rewilding as a tool to restore the biodiversity of UK Overseas Territories and Crown Dependencies (Rob Stoneman, *Rewilding Europe*)
12:45	Q&A
12:50	5.03. Balancing the Scale: Fifteen Years of Pine Rockland Conservation and Restoration in Turks & Caicos Islands (B Naqqi Manco & Junel Blaise, *Department of Environment and Coastal Resources, Turks and Caicos Islands Government*)
13:05	Q&A
13:10	Break (with territory music)
13:15	5.04. Biosecurity: the key to safeguarding South Georgia's ecology (Ross James, *Government of South Georgia & the South Sandwich Islands*)
13:35	5.05. Managing the mosquito problem while protecting biodiversity at the Akrotiri wetland, Sovereign Base Areas, Cyprus (Kelly Martinou, Chris Taylor, *Laboratory of Vector Ecology & Applied Entomology, Joint Services Health Unit, British Forces Cyprus*; Jodey Peyton, Marc Botham, Helen Roy, *UK Centre for Ecology & Hydrology*; Ioanna Angelidou, *both previously named organisations*; Pantelis Charilaou, Graham Johnstone, *SBAA HQ Env. Dept.*)
13:50	Q&A
13:55	Discussion and agreement of conclusions & recommendations
14:30	Session end (and break with music/video and open use of chat-box)
	Related posters
	5.06P. Manx Mires Partnership (Sarah Hickey, *Manx Wildlife Trust*)
	5.07P. War of the Green Horde: Novel Control Strategies for *Iguana* spp. (Joshua Smith, *Jersey International Centre of Advanced Studies*)
	5.08P. Iguanidae as a flagship taxon for the Caribbean UKOT, a collaborative approach to invasive species management across the Caribbean UKOTs (Joshua Smith, *Jersey International Centre of Advanced Studies*)
	5.09P. The connecting link between wetlands and mosquitoes (Katerina Athanasiou, *BSc student, Joint Services Health Unit, British Forces Cyprus, BFPO 57, RAF Akrotiri / Department of Agricultural Sciences, Biotechnology and Food Science, Cyprus University of Technology, 3603 Limassol, Cyprus*)
15:00 – 17:30 GMT	**Main topic 6: Nature-based solutions for the UN Decade of Ecosystem Restoration: Marine**
Topic team	Amdeep Sanghera *(Marine Conservation Society;* Joint Coordinator, and in the Chair); Dace Ground *(UKOTCF;* Joint Coordinator); Don Stark *(Turks & Caicos Reef Fund);* Dr Nicola Weber *(Exeter University; formerly Ascension Island Conservation Officer;* Rapporteur*);* Michele Christian *(Pitcairn Island Divisional Manager of Environmental, Conservation & Natural Resources);* Clare Brook *(Blue Marine Foundation* & Question-master); Dr Mike Pienkowski & Catherine Wensink *(UKOTCF)*
15:00	Introduction

15:10	6.01. Stony Coral Tissue Loss Disease, Turks & Caicos Islands – A UKOT's Outbreak Case Study (Alizee Zimmermann & Don Stark, *Turks and Caicos Reef Fund*)
15:25	Q&A
15:30	6.02. The Nature of Ecosystem Restoration: Smaller steps towards bigger solutions in the British Virgin Islands (Shannon Gore, *Association of Reef Keepers, British Virgin Islands*)
15:45	Q&A
15:50	6.03. Ascension Island marine spatial planning (Diane Baum, *Ascension Conservation Department*)
16:05	Q&A
16:10	Break (with territory music)
16:15	6.04. Stakeholder Engagement in Marine Spatial Planning at Bermuda (Dr Tammy M Warren, Sarah A Manuel, *Department of Environment and Natural Resources, Government of Bermuda*; Cheryl-Ann Mapp, Vanessa L Dick, *Waitt Institute, USA*)
16:30	Q&A
16:35	6.05. Establishing the Tristan da Cunha marine protected area (Fiona Kilpatrick, *Administrator, Tristan da Cunha*)
17:00	Q&A
17:05	Discussion and agreement of conclusions & recommendations
17:40	Guidance on viewing posters (Catherine Wnsink)
17:45	Session end
	Related posters
	6.07P. Engaging recreational fishers in Marine Spatial Planning in Bermuda (Joanna M Pitt & Tammy M Warren, *Bermuda Government Department of Environment and Natural Resources*; Canon Purdy, Cheryl Ann Mapp, Weldon Wade & Vanessa L Dick, *The Waitt Institute, a lead partner in the Bermuda Ocean Prosperity Programme*)
	6.08P. Ensuring the sustainability of coastal small-scale fisheries at Pitcairn Island (South Pacific) within a large scale no-take MPA (Henry Duffy, Fauna & Flora International; Terence Dawson, King's College London; & Robert Irving)
17:45 - 19:00 GMT	**Meal break** in main programme, **and open chat session** (potentially with voice on request, probably from about 17:50 to 18:50)
19:00 - 20:00 GMT	**Poster session** Posters will be available for viewing throughout the conference, and will have the capacity for participants to post questions and the authors to post answers. In addition, for this hour, we are asking poster-authors to be available online, so that question- and answer-posting can be live, and can also use the Zoom chat-box..
	See each topic session for related posters; posters unrelated to main sessions are:
	9.01.P. A review of pupping and site-fidelity trends in the grey seal *Halichoerus grypus* on the Calf of Man from 2009 – 2020: implications for population structure and dynamics in the wider Irish Sea region and future management strategies (Dr Lara Howe & Breeshey Harkin, *Manx Wildlife Trust*)
	9.02.P. Researching for Sustainable Solutions for Sargassum Inundations in Turks & Caicos (Dr Debbie Bartlett, Dr J James Milledge, Birthe Nielsen, *University of Greenwich*; Dr Heidi Hertler, *School for Field Studies, South Caicos*)
	9.03P. The impact of Sargassum brown tides on native seagrass meadows in Anguilla (Anna Smith, *MSc student, Jersey International Centre of Advanced Studies*)
	9.04P. Recreational fishing of Atlantic Bluefin Tuna *Thunnus thynnus* in the Strait of Gibraltar: recommendations for implementing a catch-and-release fishery via stakeholder engagement (Francine R. Pons, Darren A. Fa, Stephen Warr, Clive Crisp & Awantha Dissanayake, *School of Marine Science, University of Gibraltar & Department of Environment, Sustainability, Climate Change and Heritage, Gibraltar*)
	9.05P. The use of a fixed-point underwater camera, to promote stakeholder engagement as a method to increase marine citizenship and effective marine management practices at a local level (Maïté A. S. Kesteleyn, Darren A. Fa, Stephen Warr, Clive Crisp and Awantha Dissanayake, *School of Marine Science, University of Gibraltar & Department of Environment, Sustainability, Climate Change and Heritage, Gibraltar*)
	9.06P. Identifying the importance of cultural ecosystem services provided by Gibraltar's marine environment (Luisa Haasova, Emma McKinley & Awantha Dissanayake, *School of Marine Science, University of Gibraltar. & School of Earth and Environmental Sciences, Cardiff University*)

	9.07P. Flowerpots at sea: a proof-of-concept study for nature-based solutions to retro-fitting artificial shorelines (Ken Ruiz, Darren A. Fa and Awantha Dissanayake, *School of Marine Science, University of Gibraltar*)
20:00	Session and conference-day end
Day 4	**Wednesday 10th March**
12:00 Noon – 14:30 GMT	**Main topic 7: Funding mechanisms – tourism and alternatives**
Topic team	Nancy Pascoe *(Deputy Director, National Parks Trust of the Virgin Islands;* Joint Coordinator & Question-master); Dr Howard Nelson *(Fauna & Flora International & University of Cambridge;* Joint Coordinator & in the Chair)*;* Lord (John) Randall *(UKOTCF; House of Lords*); Catherine Leonard *(International National Trust Organisation);* Mike Jervois *(St Helena National Trust);* Dr Mike Pienkowski & Catherine Wensink (Rapporteur) *(UKOTCF)*
12:00	Introduction
12:10	7.01. A Rock, a hard place and uncharted waters: Brexit and Gibraltar (Keith Bensusan, *Gibraltar Ornithological & Natural History Society & Gibraltar Botanic Gardens*; & Stephen Warr, *Department of the Environment, Sustainability, Climate Change & Heritage, HM Government of Gibraltar*)
12:25	Q&A
12:30	7.02. Can UK Government grant-funding be made more effective for UKOT conservation? (Dr Mike Pienkowski, *UKOTCF, bringing together comments from territories*)
12:45	Q&A
12:50	7.03. Rethinking tourism – experiences from the INTO family (Catherine Leonard, *International National Trusts Organisation*; & David J Brown, *Bearden Brown LLC*)
13:05	Q&A
13:10	Break (with territory music)
13:15	7.04. Alternatives to tourism income for conservation bodies (Nancy Pascoe, *Deputy Director, National Parks Trust of the Virgin Islands* & Dr Howard Nelson, *Fauna & Flora International & University of Cambridge*)
13:30	Q&A
13:35	7.05. Funding models for remote UKOTs (Clare Brook, *Blue Marine Foundation*)
13:50	Q&A
13:55	Discussion and agreement of conclusions & recommendations
14:30	Session end and Break (with music/video, and open use of chat-box)
15:00 – 17:30 GMT	**Main topic 8: Plugging the gap: innovative approaches and capacity-building**
Topic team	Helen Pitman *(Chagos Conservation Trust;* Joint Coordinator & Question-master); Dr Nigel Haywood *(UKOTCF;* Joint Coordinator & in the Chair)*;* Alison Copeland *(Government of Bermuda Department of Environment and Natural Resources;* Rapporteur); Graham Johnstone *(Cyprus Sovereign Base Area Administration);* Dr Mike Pienkowski & Catherine Wensink *(UKOTCF)*
15:00	Introduction
15:10	8.01. New research and higher education facilities in the territories (Sean Dettman & Dr Amy Hall, *Jersey International Centre for Advanced Studies*; Dr Rebecca Cairns-Wicks, *St Helena Research Institute*; Dr Darren Fa, *University of Gibraltar*)
15:25	Q&A
15:30	8.02. Detecting patterns of marine wildlife around islands with and without invasive rats, using long-range UAV images (Melissa Schiele, *Loughborough University's Wolfson School of Mechanical, Electrical and Manufacturing Engineering; and the Zoological Society of London*)
15:45	Q&A
15:50	8.03. Channel Islands pollinator project – Guernsey and beyond (Dr Miranda Bane, *Pollinator Project and University of Bristol*)
16:05	Q&A
16:10	Break (with territory music)
16:15	8.04. Plugging the Gap: With Professional Volunteers in the Cayman Islands (John Bothwell, *Cayman Islands Department of Environment*)
16:30	Q&A

16:35	8.05. Recent innovations in conducting co-operative research with more-than-humans (Kathleen McNary Wood, *SWA Environmental, Turks & Caicos Islands & USA*)
16:50	Q&A
16:55	Discussion and agreement of conclusions & recommendations
17:30	Session end
	Related posters
	8.06P. The Jersey International Centre of Advanced Studies (Dr Amy Louise Hall, *Programme Coordinator & Senior Research Fellow, JICAS*)
	8.07P. Understanding responsibility for biodiversity in the UK Overseas Territories (Dr Jasper Montana, *Research Fellow, University of Oxford*)
	8.08P. Developing our understanding of St Helena's Bone Sharks and the threats they may face (Beth Taylor, Kenickie Andrews & James Wylor-Owen, *St Helena National Trust*)
17:30 GMT	**Student poster prize results**
	Catherine Wensink (UKOTCF) and Jonathan Hall (RSPB) announce results of the competition
17:40	Break (with music/video & open use of chat-box)
17:40 – 18:30 GMT	**Meal break** in main programme, **and open chat session** (potentially with voice on request, probably from about 17:40 to 18:15)
18:30 – 20:00 GMT	**Sir Richard and Lady Ground Lecture on Nature Conservation in UK Overseas Territories and Crown Dependencies, and conference closing**
18:30	Introduction to the Sir Richard and Lady Ground Lectures on Nature Conservation in UK Overseas Territories and Crown Dependencies
18:40	Dace Ground introduces the first Lecturer, Gina Ebanks-Petrie
18:50	Three essential elements for conservation success in the Overseas Territories (Gina Ebanks-Petrie, Director, Cayman Islands Director of Environment), followed by questions and answers
19:45	Closing of the conference
20:00	Conference ends
	Please remember to complete a feedback form The survey takes about 4 minutes to complete and is here: https://www.surveymonkey.co.uk/r/T678TFX

Guidance to participants

These guidelines are intended to help everything run on-time and as efficiently as possible. There are quite a lot of things people have got used to with Zoom; usage for the conference may be different from that you are used to.

Accessing the online conference

Prior to the conference, all persons who have booked will be sent an email which will include links to register for each day of the conference. If you have not received this by Monday 1st March, please check your junk- or spam-folder. (Badly set filters at several internet service providers are known to block some UKOTCF email addresses at times. If you have the capacity, set your email program to accept emails from the following addresses: m@pienkowski.org, mpienkowski@ukotcf.org, cwensink@ukotcf.org, jmales@ukotcf.org, apienkowski@clara.co.uk.) If you book immediately before or during the conference, we will get this link information to you as soon as we can, but please note that all personnel will be very busy running the conference, so there may be a delay.

We are hosting the event on Zoom's "webinar" platform. You need to have a Zoom account to participate – the basic account (which is all you need) is free. We strongly recommend that you **download and install the Zoom Client for Meetings app (https://zoom.us/download) well before the conference**. This will allow you to participate in the conference, including seeing and hearing the presentations and asking questions and making comments (mainly as typed "chat-box" messages). If you already have the Zoom app, please check for updates to make sure you have the most up-to-date version installed.

Although you have booked, you need to register, within the Zoom system to receive the access codes for each day. (It is not technically possible to have one code for all four days.) Before the conference, you will receive an email from us containing the 4 weblinks, one for each day. Please keep a look out for this key email, as you will need the links on it to acquire the 4 different access codes to join the conference on each day. You can register for all 4 days (as 4 processes) as soon as you receive that email. We copy those links below, where you should register in advance:.

UKOTCF conference day 1 (2nd March): https://zoom.us/webinar/register/WN_OpChlF-7SgyemZhea_HuWw

UKOTCF conference day 2 (3rd March): https://zoom.us/webinar/register/WN_hK0LFTvET2-__3KUi9NYsA

UKOTCF conference day 3 (9th March): https://zoom.us/webinar/register/WN_Vg3t_TG5Rp-nI9w77vkrOQ

UKOTCF conference day 4 (10th March): https://zoom.us/webinar/register/WN_ZvDetSFARuqG-g0f5Nt-og

After registering, you will receive a confirmation email containing information about joining the conference on each day.

Please register well before the conference, as the registration process involves a human intervention stage, and we will do this periodically. The registration process does not involve payment; that will already have been addressed at the booking stage. **We advise that you to register at least a day before the start of the conference. If you leave it as late as only an hour before, it is unlikely that you will receive the access codes until some hours after the conference has started.**

When you click the link to register for a conference day, the system will ask you for your name and email address. ***Please use the name that you used to book and the email address which you indicated you will use for the conference.*** (If this is not the one you indicated that you would use for correspondence, please ensure that you check it for the messages providing you with the links. The links will not be sent immediately, but after a checking stage. ***The links are personal to you; if you pass to someone else, you will not be able to connect to the conference yourself. Once you receive the access codes, please keep them safe – and where you can find them on the day!***

Shortly before the start of the conference on that day (or when you want to connect, click the link for that day (see below). Although the conference starts at noon each day, the organising team are likely to have the conference site on the Zoom webinar open for about half an hour before (although, for most of this time, you will be able to see only a message saying that the webinar has not yet started – but this means that you are connected.

Another reason to connect at least 15 minutes early (especially on the first day you join) during this "hidden" time is that, if you cannot connect for some technical reason. Email Catherine Wensink (cwensink@ukotcf.org) briefly explaining the problem. Keep checking your email for a response (as this could, for example, include a new link).

Resources

All booked participants will have received:

- A conference participants' document (including this guidance). This is a pdf document. (Most computer and other devices come with a pdf reader included. If you need one, Adobe allows free download and installation of Acrobat Reader (https://get.adobe.com/uk/reader/). Note that Acrobat Reader is free; Acrobat – which you will not need for this purpose – is not.
- The third draft of the conclusions and recommendations of the conference. As explained in the document, the first draft was assembled initially by cross-territory teams, and then circulated to conference participants (and the first draft also to all others thought likely to book). The second and third drafts take account of comments received on the earlier drafts, and so we anticipate

wide consensus amongst participants (and others consulted within the pool likely to attend). The parts of the document relevant to each topic session will be confirmed in that session's discussion period.

How the conference will run

1. The conference will run as one continuous Zoom Webinar on each day. So, once you are signed into the conference webinar you can remain signed in or enter and exit as you see fit using the webinar link you received when registering for that day.

2. To join the conference please use the link for that day that you will have received during the registration process (see above). We suggest that, at least the first time that you join the conference, you do so at least 15 minutes before the start of the session you wish to connect to. This will allow you time to solve any technical issues should you encounter them. When you click the webinar link, the Zoom client will open. You will be asked to enter the name and email with which you registered for the event. Occasionally, when one joins a Zoom call, the process fails part way through. In every case we have met so far, clicking the link a second time worked.

3. Once you enter the webinar, you may find it in progress, or (if early) the organisers and panel for the first session making final preparations, or a message screen saying that the session will start soon (so, please wait). Unless you are on the panel for that session, your camera and microphone will not be operational. (If you are on the panel, the hosts will activate your camera and microphone (but you will still have to switch them on yourself after a message requesting this). However, please switch both off during the presentations, and please keep the microphone muted unless you need to speak. In the Q&As, it will normally be only the speaker, the chair-person(s) and the question-master (and occasionally the organisers) who need to speak – see below. ***Please remember that, although panel-members cannot see or hear the non-panel participants, the latter can see and hear you if your camera is on or the microphone not muted.)***

4. Participants are invited to open the "Chat" dialogue box, as this will be used for questions and answers (and any important organisational announcements). To open the chat box, hover your cursor over the screen and click the speech bubble at the bottom, labelled chat. **Please do not use the Chat box during sessions for anything other than questions to the speakers or points during the session discussion.** The chat box will be available for general chatting between sessions (just like a physical conference – see below).

5. At the start of the session, the Session Chair-person will:

- Welcome the audience to the session, and make some introductory comments
- Introduce the first speaker.

6. During the session:

- After the first speaker is introduced, the conference organiser will start playing the first talk.
- Each pre-recorded presentation will be approximately 15 minutes long. The presentations are best viewed by clicking the View options at the top rght of the screen, and choosing "Standard"; provided panel members have switched off their cameras, then the presentation (possibly with the speaker inset) will fill most of your screen.
- This will be followed by up to 5 minutes for a live Q&A. After making sure that the drop-list at the bottom of the chat box is "to all participants & panellists", t***ype any question for this speaker into the Chat box (and the enter/return key once finished). Please do this as soon as the question occurs to you,*** as that will allow as much use as possible to be made of the Q&A time. The session question-master will be scanning the chat box during the talk, so that they are ready to put questions from the start of the Q&A period. The question-master will try to give priority to those questions likely to be of most general interest. However, we will do our best to collect other questions, so that they will not be lost and may be answered later.
- Please note the raised hand function will not be used for this purpose.

7. At the scheduled time that the Q&A is supposed to end, the Session Chair-person will introduce the next speaker, and so on.

About half-way through the session there will be a 5-minute break, following one of the Q&A sessions. During this break, a short piece of music from one of the territories will be played, and the screen will indicate the short nature of the break and credit the music.

8. After the Q&A of the last talk in the session, the Chair-person will announce the start of the topic discussion period. This will start by confirming the conference conclusions and recommendations relevant to that session. (A third version of this is being circulated to booked participants just before the conference; this takes account of comments received on the earlier drafts.) After that, the rest of the session discussion period will be spent on other points of general interest raised. To raise, or comment on, a point in the discussion, please make this, or summarise, in the Chat box. Depending on timing, it may be possible for those raising points to speak, but the logistics limit the possibilities for this.

9. At the end of a session:

- The Session Chair-person will thank all and hand over to the conference organisers in case there are any messages before the break.
- Subject to any other arrangements for the break, the Chat box can be used for informal discussions during the breaks. In the

half-hour breaks between main topic sessions on most days, the organisers may also play short videos of interest to the subject or more music. The chat-box will be open for general use (with messages seen by all).

- The organisers will also arrange to switch the panel to those for the following session.

General chat sessions

During some of the long ("meal") breaks, we will experiment with general informal discussion sessions. These will be centred on the chat-box, as for the shorter breaks. However, there is also the option of switching some people temporarily to "panel status." While someone has that status, they can be seen and heard by all. They can also send private chat messages to others in the conference, as well as to everyone (the default status). Switching people is a slow process, because the organisers need to switch each person individually. Anyone who wants to request such status should use the "raise-hand" button at the bottom of the screen – and be patient! For this reason, the temporary panel status will start about 10 minutes into the long break and end about 10 minutes before the end – so that the organisers can remove panel status from all except for those on the panel of the following session. This could rapidly descend into chaos if people try to talk over each other or for too long. At least one member of the organising team will be on duty throughout, to try to respond to requests for status change and attempt to resolve problems. The organisers can switch off anyone's camera and/or microphone (but they cannot switch them on, as opposed to allowing them to be switched on by the user.

This is an experiment. There are many ways in which to try to handle this and what we are trying to do is think about how we have run conferences in the past and what people find useful, but within the constraints of the online platform. The organisers may change the arrangements within a session or between sessions.

Conference photo

At the end of Main topic 1 (15:45 GMT on Tuesday 2nd March), we will attempt a conference photo. This needs patience on the part of all, and takes some minutes. Please help. The process works like this:

- The organisers transfer everyone to panel status; this has to be done for everyone individually, so takes a little time.
- A soon as your status changes, please make sure that your microphone is muted and your web-camera is on (unless you do not wish your image to be recorded, in which case it will be replaced by your name in large letters). The toggle switches for both camera and microphone appear on the lower left of the screen, when you hover your cursor over any part of the screen.
- Once you have checked that these are correct (with a red line through the microphone but not through the camera, please do not change any other settings or anything else, as this could cause your image to move its position on the photographer's screens.
- The photographer then needs to screen-grab the first image (of up to 49 people), save it, then move to the next batch of 49, repeat and so on.
- We will announce when this is done (we have allowed 15 minutes; it should not take that long, but it will take some minutes.
- Until then, please do not change things. We will leave the participants as panellists for a few minutes longer, so that all can move between screens to see others if they want to, but please wait until then.
- It is up to you as to whether or not you use a background (e.g. of your organisation's name/logo or a nice image of your area – but, if you want to do that, please set it up before the photo session, rather than during it!

Conference recording

Each session of the conference will be recorded. As soon as we can (as there is a delay before the recordings become available), the organisers will make these videos available to those booked and registered, using the email addresses participants supplied for conference use during booking. This is intended primarily for those unavailable at the time of the live session.

Posters

Posters are available to view throughout the conference period, and questions may be posted for the poster authors to answer later. In addition, for the conference session on Tuesday 9th March from 19:00 to 20:00 GMT, we have asked poster authors to be online, so that questioning and answering can be in real time. (Sadly, technology does not allow us to offer drinks for this poster-session, as we have traditionally done for physical conferences; please bring your own!)

Some people are having difficulty in accessing the interactive poster board (decribed below), probably because of bandwidth issues. The posters can be viewed also (but questions not asked) at: https://www.ukotcf.org.uk/2021postersession/. The password is: poster. Under each topic heading the posters are in a slide show. Use the arrows to navigate left and right to find the posters.

To access the posters (on the interactive boarrd), we are using an online platform called Miro in order to be able to interact in real time. The link to the poster session board is here: https://miro.com/app/board/o9J_kkXNgQc=/

Miro is an online workspace. You do not need an account to view the contents of a Miro workspace or to comment on something. However, please leave your name with your comment/question.

There are a few features of Miro that you will need to use to navigate the page, which are described in words below. However, the process is actually not as difficult as it sounds in words. ***For a demonstration video,*** link here: https://www.dropbox.com/s/ecfqrag39ozxnr2/Poster%20Session%20Intro_0.mp4?dl=0

The version in words

Moving around the board: use the select tool (which looks like a hand) on the tool bar to the left to select the area of the board you want to view. If you zoom in or out too far or find yourself off-centre, go to the bottom right hand side tool bar. This shows you the board as an overview. You can zoom in and out using the +/- keys and re-centre yourself using the double arrow key.

Leaving a comment or asking a question: to leave a comment or question on the poster, select the comment (which looks like a speech-bubble, and is the second function on the left hand side tool bar and drag it to the space to the right hand side of the poster. Type in the box. If the author is there, they will be able to answer you or anyone else who knows the answer or would like to contribute.

We will keep Zoom chat open during the poster session in case anyone is having any trouble.

If you would like to view the posters as a static slide show instead (but with no interaction) please visit: https://www.ukotcf.org.uk/2021postersession/ and enter the password: poster

We have been running a student poster competition open to high-school, undergraduate and post-graduate students. This has been kindly sponsored by the RSPB in combination with UKOTCF. The results will be announced on or before the closing session on Wednesday 10th March during the session.

Feedback

This conference depended on a substantial amount of funding from UKOTCF and the sponsoring bodies, the time (both paid and very largely volunteer) of organisers, and certainly not least the time and effort of all the participants. In order to secure funding for future such conferences (should they be requested) we need to assess outputs and the benefits of such networking opportunities. We want also to capture any ideas that you have for future priorities for our joint efforts in relation to conservation in the UK Overseas Territories & Crown Dependencies. To help you recall aspects and to help us analyse the results, we have included some questions here, but do not feel the need to answer all of them, and please feel free to add any other points as you see fit.

The survey takes about 4 minutes to complete and is here: https://www.surveymonkey.co.uk/r/T678TFX.

The questions are:

1. Please indicate, for any of the sessions, any aspects that you found useful for your work (especially if you think that they will change how you approach aspects of it). Please indicate also any parts of the sessions that you thought were of little value to you.
2. The choice of session topics was the result of a wide consultation around those working in conservation in the UKOTs and similar areas as to which topics they would find most useful. We tried to accommodate as many of these topics as possible (combining them under broader themes, where appropriate) but could not include them all. If another conference were organised, what topics would you like to see addressed (whether included this time or not) and how would you suggest deciding on these topics?
3. At a previous conference, we experimented with parallel sessions. Feedback strongly suggested that delegates preferred not to have parallel sessions, which were consequently not a feature of subsequent conferences. What are your views on parallel sessions in a conference of this type?
4. We appreciate that an entirely online conference makes it difficult to make personal connections because there is no conventional social time; however, did you make any important links, for example in the chats during breaks, that may aid your own work? If so how do you think they might help? Did you make any important links in previous conferences (if you attended any) that have aided your own work? If so how do you think they have helped?
5. Without ruling out future physical conferences (if and when they can be resourced) do you think that an online conference of this nature is sufficiently useful that another might be organised and, if so, after how many years' interval?
6. What would be the most helpful things that the UK Overseas Territories Conservation Forum could try to do to help its conservation partners (including governments), in the UK Overseas Territories and Crown Dependencies?
7. What would be the most helpful things that the UK Government could try to do to help environmental NGOs and other stakeholders (including governments) in the UK Overseas Territories and Crown Dependencies?
8. Has the conference given you ideas and inspiration in order to deal more effectively with challenges in your work? If so, what were they? What do you think that you will do differently as a result of attending this conference?
9. If you attended previous conferences in this series (Jersey, Cayman, Gibraltar etc) what did you do differently as a result?
10. Any other comments (was the content, length, set-up, cost about right)? Only if you would like to identify yourself, please do so here. Please indicate also if you do not want any quoted comments to be attributed to you.

Code of Conduct

We have always taken it for granted that UKOTCF events are safe for all participants, and all our experience over UKOTCF's more than 30 years of its existence shows positive, friendly and constructive experience. However, to ensure that all voices are heard and that we provide a space where everyone feels valued, we have drawn up this simple code.

We welcome everyone to UKOTCF events, whether physical or online. We work hard to engender and promote a welcoming environment that is collaborative, supportive and engaging for everyone involved. Our events provide opportunities to share, develop and broaden viewpoints in a safe and inclusive environment.

Constructive comment is welcome; personal attacks are not. We celebrate diversity in all its forms and expect that all our participants are respectful and considerate of each other, that they provide supportive critique, and embrace the multitude of opinions that are on offer. Equally, we ask all to recognise that there are a range of culturally and generationally different ways of expressing things, which could initially be taken to imply other meanings by some other persons. So, if you hear something surprising, please do not assume in the first instance that it is intended to upset you; it could be due to the differences mentioned, but we would welcome constructive comments relating to this.

However, if you have any concerns, or feel that any participant of an event has breached this code, or have suggestions for how we can make our events more inclusive and productive, please contact any member of UKOTCF's conference organising team or officer or Council member (contact details of a number of these are on https://www.ukotcf.org.uk).

Social media

Social media enthusiasts can join the conversation on Twitter with the hashtag **#ukotcfconf2021** and follow **@UKOTCF** for updates. However, please do not transmit recordings nor, without the author's permission, images from presentations.

Technical support

If you need technical support during the conference, please email Catherine Wensink cwensink@ukotcf.org who will be available throughout.

Abstracts

Main topic 1: Progress (or otherwise) in reaching environmental targets

1.01. UKOTCF assessments of progress in Environment Charter implementation, Aichi Targets & Sustainable Development Goals: setting the scene for the future

Catherine Wensink, Mike Pienkowski, Sarah Barnsley & Emma Cary (UKOTCF)

Strategic approaches to conservation are impossible without assessments of progress towards objectives. In 2007, UKOTCF (with part-funding from FCO/DFID OTEP, Darwin Plus's functional predecessor) made the first assessment of progress of UKOTs and UK in meeting Environment Charter commitments (which consolidate those of international treaties). UKOTCF (using its own resources) repeated this in 2010 and, in 2015-6, improved techniques and extended them to include Aichi Targets (of CBD) and relevant Sustainable Development Goals. It also developed (as it became more normal practice to share information online) an approach which used even less time contribution from hard-pressed personnel in territories while ensuring that they had full opportunity to review the compilation. All 3 reviews have been much used by UK Government in compiling reports to COPs of international conventions. The 2016 review was endorsed by the UKOT/CD Environment Ministers Council, which in 2018 called for UK Government to fund UKOTCF to assess progress again in 2021, 20 years into the Environment Charters (2001). This again needs undertaking by a body independent of, but with a record of securing input from, Charter parties.

The talk will outline the approach used, some of the overall results and some significant progress made since, as well as plans for a 2021 assessment. Whilst UKOTCF will contribute, it is still looking for a funding partner to contribute also.

[Return to Programme Topic 1]

1.02. A biodiversity strategy for the Isle of Man and a mid-term assessment of its implementation

Richard G Selman & A M Thomas, Department of Environment, Food & Agriculture, Isle of Man

The Convention on Biological Diversity was extended to the Isle of Man in 2012, after the Aichi Targets had been set in motion, and a national biodiversity strategy was agreed in 2015. 2020 is mid-way through the implementation period for *Managing our natural wealth, the Isle of Man's first biodiversity strategy, 2015-2025*, and it is the end of the Aichi Target period. We have assessed where we are up to with regard to the strategy actions, having consulted key stakeholders and implementing organisations. This talk addresses what we have learnt through this process. [Return to Programme Topic 1]

1.03. Restoring St Helena's Internationally Important Cloud Forest for Wildlife, Water Security and Socio-economic Development through developing and implementing an integrated Management Plan

Peaks Project Development Group: Isabel Peters, Chief Environmental Officer, Environmental Management Division St Helena Government (SHG); Vanessa Thomas-Williams, Nurseries Officer, Environmental Management Division, SHG; Steve Coates, Science Teacher, Education and Employment Directorate, SHG; Dr Rebecca Cairns-wicks, Co-ordinator, St Helena Research Institute, Education and Employment Directorate, SHG; Martina Peters, Head of Conservation, St Helena National Trust; Lawrence Muranganwa, Connect St Helena; & Sarah Havery, RSPB

St Helena's cloud forest originally covered all high altitude areas on the island above 600m; today this has been reduced to 16ha, mainly made up of 120 core fragments above 170m on the highest peaks and steepest slopes all within the Peaks National Park. At least 250 unique plant and animal species are found entirely or almost entirely within the Peaks National Park. The Peaks (as it is known locally) is a popular attraction for locals and tourists, and provides an excellent educational resource. The Peaks are also the source of most of the freshwater on St Helena, largely through mist capture. In recognition of its immense biodiversity and economic value, the Peaks needed an integrated Management Plan that through its implementation would enable the restoration and conservation of endemic habitats, safeguard the island's freshwater supply and realise its full potential as a tourism and educational resource. A highly collaborative approach was adopted and through active engagement with stakeholders and the establishment of a Peaks Project Development Group a Peaks Management Plan and Implementation Plan was produced. The Implementation Plan comprises the three pillars: Biodiversity, Water Security and Socio-economics covering the key areas for delivery along with an over-arching Management pillar. The Implementation Plan which covers a 5-year period has been costed and we are actively seeking funding for its delivery. [Return to Programme Topic 1]

1.04. Producing and maintaining a dynamic catalogue of the endemic taxa of the UKOTs and CDs

Jamie Males, Mike Pienkowski, Catherne Wensink, Ed Lim & Ashleigh Atkinson, UKOTCF

The UK Overseas Territories and Crown Dependencies are home to a wide range of animals, plants and fungi, many of which are endemic or of highly restricted global distribution. Whilst previous efforts have compiled static lists of endemic taxa for some of the UKOTs/CDs, there is currently no central online resource to document all known endemic taxa and their conservation status. UKOTCF has therefore undertaken a (currently unfunded) project to produce an accessible catalogue of endemic taxa, with the aim of keeping this regularly updated as knowledge increases, conservation status changes, and taxonomies are revised. The catalogue is expected to find applications in conservation research and priority-setting, policy development, advocacy and education. Technically-qualified UKOTCF volunteers have approached the work by taking major taxonomic groups in turn, with

initial lists for many of these now complete. A range of sources, including checklists, databases and primary literature have been interrogated for relevant information. Expert local sources have also been consulted as much as possible. Whilst work on the first iteration of the catalogue is ongoing, an interim report will be presented in this talk, including an analysis of the collected data. Overall, the catalogue highlights the significance of the UKOTs/CDs as habitats for unique and threatened species, to a far greater extent than the mainland UK. Support for conservation of species and ecosystems in UKOTs/CDs is therefore of special importance for the UK to meet its environmental obligations and targets. Gaps in the available data also point to priorities for future work in field surveying, taxonomic description, and conservation assessment. [Return to Programme Topic 1]

1.05. Taking UKOT & CD needs in mind in negotiating future target-setting, in the context of the Convention on Biological Diversity *Defra* [abstract awaited] [Return to Programme Topic 1]

Posters

1.07P. The Importance of Marine Biodiversity across the United Kingdom's Overseas Territories

Owen Hallett, University of Exeter

A fascination with marine biodiversity shaped much of my undergraduate degree at Southampton, where I studied a number of marine modules by the National Oceanographic Centre. More recently I spent the past year studying for an MSc in Conservation & Biodiversity at the University of Exeter. As part of this, I chose to conduct a research project investigating marine biodiversity across the UK Overseas Territories (UKOTs). This provided the opportunity to collaborate with, and learn from, a wide range of conservation practitioners based across the UKOTs. Alongside these academic studies, I have worked with a number of marine conservation organisations, most recently leading a team at a research station in Greece which conducted research on – and provided protection for – the breeding population of green turtles.

The conservation of marine biodiversity is a matter of global importance, with concerted political and academic effort required to address effectively the range of anthropogenic threats currently facing marine ecosystems. As a network of areas linked by shared governance and funding, the UKOTs provide an opportunity to make meaningful progress in marine conservation towards international goals. These include the Convention on Biological Diversity's Aichi Biodiversity Target 11 (which aims to increase the global coverage of marine protected areas – MPAs), and the UN's Sustainable Development Goal 14 (which focuses on ensuring the sustainable use of marine resources). The UKOTs are spread around the globe, and their combined Exclusive Economic Zones cover an area of over 6.8 million km^2. They are crucial for marine biodiversity, containing 82% of the species found throughout UK waters, and are of international importance for particular taxa, being home to a third of the world's albatrosses and over 25% of the world's penguins. In addition, marine ecosystem-services constitute significant proportions of many of the UKOTs' economies, with tourism and fisheries contributing around US$3 billion to their combined GDP. To date, a single review is yet to assess marine biodiversity across the overseas territories and provide an overview and comparison of the provision of marine ecosystem-services in these areas. This paper provides a systematic review of the existing literature regarding marine biodiversity across the UKOTs, highlights evidence gaps, and demonstrates not only the importance of the overseas territories as a network for the conservation and protection of biodiversity, but also the crucial contribution made by marine ecosystem services to the UKOTs' economies.

[Return to Programme Topic 1]

1.08P. Cayman Islands Red-listed endemic plants: rediscovery and research towards conservation goals

Christine Rose-Smyth & Stuart Mailer, Verdant Isle Orchid Research

The National Biodiversity Action Plan 2009, the National Conservation Law 2013 and the IUCN Red List provide for, respectively, species action plans, conservation plans, and conservation needs for threatened plants of the Cayman Islands. In this poster we illustrate some of the recent work towards achieving the objectives of these mandates for three critically endangered single island endemic flowering plants.

The genus *Aegiphila* has hitherto been known from only a handful of mainly 19th century collections in Grand Cayman. In recent years the discovery of living specimens has revitalized the hope for conserving the enigmatic "downy form" *A. caymanensis*. Finds in 2006, 2014 and 2020 indicate a distinct species differing from *A. alata*, the second species, which though equally rare in Cayman is common elsewhere in the neotropics.

Dendropemon caymanensis is a mistletoe unique to Little Cayman. Collected only twice, in 1967 and 1991, it remained a grail species until re-discovered in 2018. Its extremely limited distribution is offset somewhat by the fact that it fruits readily and the placing of nearby land under the protection of the National Trust for the Cayman Islands, where it may also occur.

Lastly, we highlight the conservation propagation work on the Grand Cayman ghost orchid, *Dendrophylax fawcettii*, which has been enabled by funding from the 23rd World Orchid Conference, the Taiwan Orchid Growers Association and the Dr Cecilia Koo Botanic Conservation Center.

All three of these species are benefiting from partnerships among dedicated plants-people in the Cayman Islands, NGOs, governmental departments, the Queen Elizabeth II Botanic Park, Grand Cayman, RBG Kew and other research collaborators. The welcome discovery of new specimens is tempered by the evidence they provide of the race against time to establish protected areas, legally-effective conservation plans, and ex-situ conservation populations. [Return to Programme Topic 1]

Main topic 2: Engaging people; the wider benefits of conservation and healthy ecosystems

2.01. Nature conservation priorities in a changing world

John Pinel, National Trust for Jersey

The accelerating pace of climate change and the rate of biodiversity loss are considered to be existential threats to humanity. There is a strong case to be made to re-shape the current paradigm of our economic activity and the nature conservation priorities we pursue in order to halt the biodiversity catastrophe and runaway climate change.

For almost 40 years, since the Rio Convention on the Conservation of Biodiversity was agreed, the world has been battling the dual crisis of climate change and biodiversity loss. Governments have made ongoing and increasingly significant commitments to cut our carbon footprints and to conserve habitats around the globe, in order to protect the rich diversity of our natural world. However:

- Anthropogenic CO_2 emissions have increased steadily leading to the highest atmospheric levels in the last 800,000 years.
- Populations of wildlife have declined by two thirds over the past 50 years.
- Since 1990, it is estimated that 420million hectares of forest have been lost through conversion to other land uses.

Despite our best efforts, year on year, the earth has been degraded, whilst we aspire to improve it. We need to transition to a sustainable economic system now, while we protect half our planet from further degradation, in order to build societal resilience to the changing climate. [Return to Programme Topic 2]

2.02. NCA: Providing economic evidence for a Green Recovery (The economic benefits of conservation; green economy; green recovery)

Jake Kuyer, eftec: Economics For The Environment Consultancy Ltd

Crises create opportunities, and it is well documented that while Covid-19 has created many health and economic challenges, in forcing a shift from the status quo it has also opened up the possibility of transformative change in society, with many calling for a 'green' recovery from the disrupted state that much of the world finds itself in in 2021. However, despite best intentions transformative change of this scale is immensely challenging and requires a considerable shift away from 'business as usual'; any such shift should be based on sound evidence and an understanding of the economic and social consequences of policy and planning decisions which impact on the environment and its ability to sustainably benefit people everywhere. Natural capital accounting (NCA) is one such way to measure the flow of benefits that the environment provides, and to understand their value in economic terms.

This lecture will report on the application of NCA in the UK Overseas Territories (UKOTs) and how it has been used to demonstrate both the direct links between the environment and the economy, and the economic value of more indirect benefits of the environment to the people of the UKOTs. The evidence provided in NCA underpins both how the environment supports the economy, and also how dependent society is on the environment. Such evidence can be used to make an economic case for the benefits of conservation activities which both maintain and enhance the value that the environment is able to provide.

Of particular importance for the Caribbean UKOTs is the tourism sector, which is the dominant economic sector underpinning much of the wider economy in many of the UKOTs (along with other small island developing states). Due to the economic importance of the sector, there may be a tendency towards prioritising short-term recovery by encouraging a tourism recovery at any cost. This would be a mistake if the result is to the detriment of the UKOTs' natural environment on which the tourism sector is dependent (both to attract tourists and to provide protection for tourism infrastructure from extreme weather events), as any short term economic boost would be eclipsed by medium to long term decline in the environment and the economic value on which it depends.

Rather, economic evidence such as generated through NCA could be used to make a case for investment in conservation activities which build resilience in to the UKOTs' natural environment, and their ability to sustainably provide value to ensure the long term viability of the UKOTs' economies, and notably the tourism sector. This lecture will outline how the application of economic evidence in this way would support not just conservation in the UKOTs but also the broader Green Recovery.

[Return to Programme Topic 2]

2.03. Floras of Gibraltar, old and new: botany and public engagement on The Rock

Keith Bensusan - Director of Gibraltar Botanic Gardens (GBG) & General Secretary of Gibraltar Ornithological & Natural History Society (GONHS); Leslie Linares - Botanical Section Head GONHS & Associate Researcher GBG; Michael Grech - GONHS Council & Associate Researcher GBG; Charles Perez - Ornithological Section Head GONHS & Technical Officer GBG; Albert Gonzalez - Information Systems Officer GBG & GONHS; Rhian Guillem - Invertebrates Section Head GONHS & Scientific Officer GBG All authors: Gibraltar Ornithological & Natural History Society & Gibraltar Botanic Gardens

The flora of Gibraltar was first studied in detail by Victorian and early 20th Century botanists from the UK. They made important contributions, but with little meaningful interaction with the local population, in an era when people in the colonies did not benefit from full British Citizenship and were viewed as 'exotic' by visiting UK personnel.

The first Gibraltarians to take an interest in the flora of Gibraltar did so via photography, decades before the advent of digital photography that has so popularised nature photography. They did so during an era when an interest in wildlife was awoken in the local population, leading to local expertise and formation of a natural history society in a period when interactions between

Gibraltarians and UK Military personnel with an interest in natural history increased. There was also positive interaction with Spanish botanists following the opening of the border with Spain in 1985.

It was this grassroots movement in the population that led to a more widespread interest in conservation and the drafting of strong conservation legislation, including very complete protection of flora. Moreover, the constitutional evolution of Gibraltar and strengthening of Gibraltarian identity led to public recognition of endemic and near endemic species as important aspects of their heritage, which aids in their conservation.

In our new digital era, GONHS and the Gibraltar Botanic Gardens has produced the most complete and up to date flora of the Rock, online. This digital resource allows unprecedented access of botanical information by the public, for free, and has led to an increase in submission of new and interesting records from the public, largely via the adoption of digital photography. Thus, social, political and technological development have jointly assisted in the widest ever knowledge and appreciation of Gibraltar's rich and important flora among Gibraltarians. [Return to Programme Topic 2]

2.04. Buy Back Bermuda: A campaign to save open space from development

Andrew Dobson, Past President, Bermuda Audubon Society

Bermuda's landscape can be described as suburban in nature. With a population of over 60,000 and land area of only 57 sq. km., the remaining natural environment is under constant pressure from building development. In 2004 at a meeting of ECO Bermuda (a coalition of local environmentalists) members learned that 22 beach front condominiums were proposed requiring a pond to be filled in. The Bermuda Audubon Society concluded that the only solution was to buy the land at the market price, but would only likely achieve success as a joint environmental initiative with the Bermuda National Trust. *Buy Back Bermuda* was formed to buy areas of land threatened with development. Committee members Dr David Saul (former Premier of Bermuda) and Dr David Wingate (former Bermuda government conservation officer) became the faces of *Buy Back Bermuda*. To be considered for purchase, any proposed area must:

- Be at risk of development
- Have ecological value (natural habitat and biodiversity)
- Offer potential to be improved and managed as nature reserves
- Be contiguous with other protected open areas to create a greater area of open space and natural habitat
- Have the opportunity for pond restoration
- Have a connection to a historic structure or use
- Provide public access

The success of any project would depend not only on a successful fundraising campaign but also on the support of the whole community – the general public, private business, and the Government. The three projects at Somerset Long Bay East, Vesey Nature Reserve and Eve's Pond are all examples of successful campaigns.

2.05. Behaviour Change for Conservation – approaches and tactics to inspire/enable more people to do something positive for nature

Leigh Morris. CEO, Manx Wildlife Trust

Across conservation organisations and environmental movements there exists the desire to change people's behaviour, in order that they minimise their environmental impact and do something positive to help nature, wildlife, and the environment. There is a long history of campaigns and initiatives to promote more positive behaviour in people, which have had varying degrees of impact. Positively changing the behaviour of the masses of people on our planet remains the holy grail for environmentalists worldwide, ultimately to support the delivery of a global Nature Recovery Network and Nature-based Solutions to mitigate against climate change.

The federation of The Wildlife Trusts across the British Isles (46 individual Wildlife Trusts) have recently agreed that a key target for all of them is "People are taking action for nature" and they are in the process of formulating cross-federation initiatives to drive this behaviour.

Leigh Morris has been involved in environmental education and public engagement for 30 years, in projects worldwide, based in land-based/agriculture colleges, botanical gardens, zoological societies, marine conservation and now as CEO of Manx Wildlife Trust (MWT), an independent charity on the Isle of Man, a UK Crown Dependency. Leigh's presentation will define and summarise the aims of behaviour change for conservation, and showcase the approaches being employed by MWT for various audiences across the Isle of Man, including digital engagement, working closely with Manx farmers, and enabling more community members to undertake wildlife gardening at home.

Leigh will end his talk by discussing the potential of several ways to upscale impact. These include, linking the work of The Wildlife Trusts with other conservation organisations, linking strategies across the UKOTs and Crown Dependencies, and engaging enthusiastically with social scientists to inform, help design and revise approaches, and measure the impact of our actions

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2.06. Championing UK's most special species: the wildlife of the UKOTs & CDs

Lord (John) Randall, UKOTCF & House of Lords

The wildlife of Great Britain and Northern Ireland (GB&NI) is important but that of the UKOTs is hugely more so in international terms. For example, at least 94% of the endemic species (those that occur naturally nowhere else) depend on the UKOTs, rather than on GB&NI. (We say "at least" because the UKOTs have been far less studied than GB&NI, and new endemic species are being discovered as new studies take place.)

However, the human populations and economies of the UKOTs are generally small, so that limited financial and human resources are available to conserve these vulnerable species and special ecosystems – which also provide vital services for the human communities. The latter include hurricane protection, the basis of the economically vital tourism industry, water supply, fisheries and other natural products, and the quality of life. The citizens of UKOTs and CDs are UK citizens, and the lands and seas of the territories are UK sovereign territory. Wildlife of its family of 21 UKOTs & CDs are a shared responsibility of UK, which is committed to answering for them internationally.

Thus, these small places of UK territory and British citizens punch above their weight for the UK in terms of the globally important wildlife that depends on them – but they do not get the recognition and support they need.

We are inviting influential people, including UK Parliamentarians, and others with a high profile, such as sports-persons with links to UKOTs or CDs, to build a partnership with us to raise the awareness in Britain of the global importance of the wildlife of UK's Overseas Territories (UKOTs) and Crown Dependencies (CDs), and UK's shared responsibility for them. They can do this by agreeing to champion and promote one or more of these special species to help change the present state. This complements a similar initiative relating to species in Great Britain & Northern Ireland, by a consortium of conservation bodies for this area.

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Posters

2.07P. Learning from networks of wetland educators and NGOs

Connor Walsh, International Engagement Officer, Wildfowl and Wetlands Trust (WWT)

(MSc Conservation Science, Imperial College London 2016; previously Communications Officer at Wetlands International, Presenter at Paignton Zoo, and production roles at BBC World Service and Radio New Zealand International)

Participating in international voluntary networks can bring benefits, especially in public engagement work. This poster looks at the example of Wetland Link International (WLI), run by the Wildfowl and Wetlands Trust (WWT). Resolutions VII.9, VIII.31, and X.8 of the Ramsar Convention on wetlands enshrine work in Communications, Engagement, Participation, and Awareness (CEPA); the role of national CEPA Focal Point to the convention; and encourages participation in WLI. Examples of how the WLI network helps environmental educators and visitor centres strengthen their work include: directly connecting distant places linked by shared migratory species and individuals, such as the Dutch island of Terschelling with the Basque Country estuary at Urdaibai; Erasmus+ exchange that coincidentally inspired staff on visitor centre facilities; and video conferences between shared language-groups of children in the same bird flyway. Many conservationists are used to being part of nature clubs; networks are different from clubs and being aware of this can help guide expectations and thus develop projects and products that would otherwise be beyond the capacity of an individual visitor centre. [Return to Programme Topic 2]

2.08P. The Invasive invertebrate Project

Natasha Stevens, Liza Fowler, Daryl Joshua & Christy Jo Scipio-O'Dean, St Helena National Trust

Overview of the project: St Helena has over 420 endemic terrestrial invertebrate species and many are threatened by invasive invertebrates. The project will facilitate endemic invertebrate recovery and re-establish their associated ecosystem functions, by testing and establishing invasive invertebrate control methods. The project focuses on the wasp *Vespula vulgaris*, key ant species (*e.g. Pheidole megacephala*) and the springbok mantis *Miomantis caffra,* while also building local capacity, embedding results and engaging people in citizen-science. This project will be a collaboration with government, local community and partners. Outcome of the project: a decline in one of the target invasive invertebrates, endemic invertebrate population recovery and the control method implemented in St Helena Government work-plans. [Return to Programme Topic 2]

Main topic 3: Facilitating local leads in conservation

3.01. *Save Our Special Nature of Montserrat* – integrated conservation, facilitating local community leadership: *Adopt a Home for Wildlife*

Ann Pienkowski, Mike Pienkowski, Catherine Wensink (UK Overseas Territories Conservation Forum) & Sarita Francis (Montserrat National Trust

UKOTCF and partners in Montserrat and elsewhere have been investigating and trialling approaches to empower local communities to manage the land and coastal areas on which their economies, welfare, employment and quality of life often depend. In Montserrat, our 2-year project 2016-18 involved several aspects of ecosystem restoration, maintenance and enhancement, following the volcanic destruction from 1995-2010 and the continuing challenge of 2/3 of the island being inaccessible for safety reasons. One important

component was developing and piloting for a year Adopt a Home for Wildlife. This empowered local groups, businesses, land-owners, schools etc. to restore and manage globally and locally threatened ecosystems, such as tropical dry forest, wet forest, wetlands, coasts and shallow marine. This included removing waste (including plastic) from the sea and land, removing invasive plants, encouraging native ones to regenerate or planting local stock reared in Montserrat National Trust's nursery, supported by the project. This achieved good sign-up and participation, and was highly rated by the funding body's independent assessor. The project is efficient because most of the work is donated by the local community. However, it does depend on the provision of technical guidance, the employment of a project officer and linking to their largely voluntary specialist advice network being the main costs. However, this sort of project is not familiar to funding bodies and, despite the positive assessment and local support, the UK Government funding body has not supported work after the pilot in the three following rounds of applications. Meanwhile, UKOTCF and MNT have struggled to maintain some continuity from their own meagre resources. We hope that the current round, or one of the other sources to which application has been made, will take a more forward-looking view, as the potential here (and in other countries and territories watching with interest) is great. [Return to Programme Topic 3]

3.02. Assessing the Viability of Alternative and Improved Livelihoods in Sustainable Tourism at the East Caicos Key Biodiversity Area

Don Stark, Turks & Caicos Reef Fund and Kathleen McNary Wood, SWA Environmental

Fishing for conch, lobster and commercially attractive fish species is the primary livelihood of the population of the small island of South Caicos. As fish, conch and lobster stocks decline, traditional livelihoods are under severe pressure, and the viability of the local economy is threatened. Fisherfolk are not integrated into the TCI's growing tourism economy, and are generally marginalized by it. Strategies to diversify fisher livelihoods towards ecotourism would reduce dependence on traditional fisheries and improve qualities of life. The project aimed to assess fisherfolk interest, skills, enthusiasm and needs in order to determine the feasibility of diversifying the local economy through ecotourism business opportunities on nearby uninhabited East Caicos, a key biodiversity area. The project team conducted two structured workshops with stakeholders on South Caicos and field studies on East Caicos. The outcomes of this project included five preliminary business plans for ecotourism ventures which were integrated with other research conducted off the coast of East Caicos by TCRF. The addition of stakeholder input to our expanding quantitative inventory of natural assets has also enabled the TCRF to work with local stakeholders and the TCI Government to identify appropriate conservation management and sustainable uses for the East Caicos ecosystem. [Return to Programme Topic 3]

3.03. Alderney NGO working at all levels; attempting to engage all parts of an island community in the goal of nature recovery

Roland Gauvain, CEO, Alderney Wildlife Trust

Island NGOs are commonly locally grown organisations, formed by islanders and with the specific interests of their natural environment and community integral to their existence. Often these organisations reach out to become part of wider networks, and seek to become part of federations with common goals. As both a locally formed nature conservation charity and a part of the federation of British Wildlife Trusts, the Alderney Wildlife Trust (AWT) has found itself both responding to local conservation priorities and attempting to bring global issues such as ecosystem decline and climate change into focus within its community.

The AWT has attempted to engage as much of the island's community as possible, from politicians to businesses and residents, with the ecological challenges they face and to develop an understanding of the importance of natural resources in sustaining island life. This has been increasingly done in the midst of real ecological crisis, societal disturbance and global financial pressures.

This presentation will lay out the pathway charted by the AWT to attempt to respond to these challenges, the limitations created by a small organisation maintaining such a broad mandate and the subsequent successes and failures. [Return to Programme Topic 3]

3.04. Creating and sustaining St Helena's Millennium Forest Project: reflections and aspirations

Dr Rebecca Cairns-Wicks, Coordinator, St Helena Research Institute; Martina Peters, Head of Conservation, St Helena National Trust; & Shayla Ellick, LEMP Project Manager, St Helena National Trust

After 20 years, the Millennium Forest Project remain an ambitious and exciting project. It is St Helena's only long running and successful community-focused habitat restoration project.

In the millennial year, 4,000 trees were planted by the community and every school age child planted a tree. Hundreds more were planted by members of the community in 2002 as part of the Island's Quincentenary celebrations. Initiated and originally managed under the Environmental Coordinator's Office of the St Helena Government, the Millennium Forest Project was handed over to the St Helena National Trust to be managed as one of its inaugural projects in 2002.

Much has changed since then, the project has seen many different managers and staff, who as evidenced by their actions, have been inspired by the potential, heartened by the progress achieved and have taken pride in their personal contributions to the development of the forest. Whilst some of the developments made may not always be to everyone's liking, the point is, it doesn't matter, the vision for what the future forest may look like or include was never fixed. The vision has become a collective one, 'owned' not by a single individual or organisation, but by many, all those members of the community who have worked, volunteered, planted, visited or enjoyed and engaged with the project. So for those who want to make a difference to the forest, they have been free to do so.

Sponsored planting by visitors and the public remains a core element of the Millennium Forest and until 2020 it was a regular stop-off for visitors using the Island tour operators.

UK Government project funding and airport project mitigation have been the key enablers for large scale planting and ecological

restoration activities. From the initial planting of gumwoods, the Millennium Forest now supports established populations of 8 different endemic plant species, has a rich invertebrate fauna and provides habitat for the islands last remaining endemic landbird species, the wirebird (St Helena Plover). The growth of trees is changing the environment and new opportunities now present themselves. In the coming years we hope that research conducted by Shayla Ellick into the carbon sequestration potential of the gumwoods will also enable the development of an evidence based carbon sink programme.

Today, the Millennium Forest Project is managed under the leadership of Martina Peters, Head of Conservation at the St Helena National Trust. She describes the Millennium Forest as her 'happy place'. It is a place where she has made a big difference. She has designed and built trails through the forest established for young people to explore nature, led on educational activities for young people, planted tea plants that are now flowering madly and overseen the set-up of a beautiful nursery producing strong seedlings.

I would go as far as saying, the Millennium Forest is a 'happy place' for many different people, for many different reasons. It is a place that the community is proud of and enjoys sharing with others. It is a place that people have become 'connected' to and which does draw people back. Our work is to keep that community connection to the forest growing generationally.

[Return to Programme Topic 3]

3.05. Falklands Conservation's Wild Ambition, Partnerships and local leaders in the Falkland Islands

Esther Bertram, CEO Falklands Conservation

Following Brexit and COVID-19 we are all going to rely even more heavily on nature to rebuild the economy – further complicated by the global influence of climate change. We are going to need to be ambitious to give nature a fighting chance. We are going to need to work together, in partnerships to make larger change. In terms of ecological restoration, this ambition will be needed from decision makers and landowners at all levels. This talk will discuss the role that will be needed from Government, civil society organisations like Falklands Conservation and community members.

- Government investment in looking at new approaches which are non-polluting, would pay dividends – such as: Peatlands management and carbon farming (planting to stop erosion for offsetting finance); Developing habitat restoration targets; Exploring what it would take to be carbon-zero and investing in the nation's natural sites to stop them quite literally blowing away.
- Civil society organisations and individuals
  - Ensuring we are able to engage and provide hands-on learning about restoration for our future leaders through running the Watch Group and other youth groups who enjoy the outside world.
  - Creating stepping stones for wildlife – where it can flourish.
  - Recognising and celebrating nature's gems.
  - Restoring habitats to safeguard our important sites.
- Working in partnership. Following the addition of New Island after our merger with the New Island Conservation Trust, Falklands Conservation now has 19 offshore islands under our stewardship for the benefit of nature – such partnerships will be crucial to safeguard nature.
- Getting informed and encouraging local community input on public consultations on new developments that would impact on nature.

[Return to Programme Topic 3]

Posters

3.06P. Insects matter: Take Action

A Ioanna [1,2,3], F Mancini [2], M Botham [2], J Peyton [2], HE Roy [2] & AF Martinou[1]

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(Ioanna Angelidou MSc is a Darwin Research Fellow at the Joint Services Health Unit and UKCEH. She holds a degree in Agricultural Sciences from the Cyprus University of Technology and a MSc degree in Ecology and Conservation of Biodiversity from the National & Kapodistrian University of Athens, Greece. For her MSc thesis she has been developing and testing a citizen science programme for pollinators (Pollinator Monitoring Scheme of Cyprus: Poms-ký), aiming at raising awareness regarding the importance pollinators to citizens of all ages and involving them in biological recording. For her fellowship she is looking at how land-use changes and biological invasions affect ecosystem services provided by the Akrotiri wetland, Sovereign Base Area, Cyprus. For her undergraduate thesis on insect biodiversity in agricultural systems, she has received the 1st award by the Research Promotion Foundation in Cyprus.)

Dr Marc Botham is an ecologist, working in UK Centre for Ecology & Hydrology.

Dr Francesca Mancini is a Research Associate - Ecological Modeller, working in UK Centre for Ecology & Hydrology.

Miss Jodey Peyton is a Biodiversity Science Area Coordinator and Ecologist, working in UK Centre for Ecology & Hydrology.

Prof. Helen Elizabeth Roy is an ecologist, Individual Merit (IMP) Scientist and Group Leader, at UK Centre for Ecology & Hydrology

and a visiting Professor in the School of Biological Sciences, University of Reading.

Dr Angeliki Martinou is the Head of the Laboratory of Vector Ecology and Applied Entomology, Joint Services Health Unit, British Forces Cyprus.

Insects are extremely important organisms as they contribute to fundamental ecosystem processes, such as pollination, biological control, seed dispersal, decomposition, nutrient-cycling, and they are prey for many species. Based on their intrinsic ecological value, they should be protected. However, many insect species are facing declines caused by humans. The Akrotiri wetland, Sovereign Base Area, does not have a well-documented insect fauna, as is the case also for the rest of the island of Cyprus. More effort is needed to increase understanding of insect diversity and distribution across Cyprus, to inform insect conservation and monitoring schemes for insects.

Through the Darwin-funded research project RIS-Ký, we developed a scheme for monitoring pollinating insects in Cyprus - PoMS-Ký. PoMS-Ký adopts citizen-science approaches in order to record insects visiting flowers and provides an opportunity to address current data gaps for species populations and distributions across Cyprus. Perhaps as importantly, PoMS-Ký aims to improve the knowledge of the general public regarding the importance of pollinating insects.

As children are the hope and the future of our planet, involving and informing young people about insects is very important. Therefore, we modified PoMS-Ký and developed a scheme for elementary and high school children, the mini PoMS-Ký. An online game similar to Guess Who (that can be played online even during Covid times) is soon to be released. The game aims at helping children but also adults to develop basic skills in morphological insect identification. [Return to Programme Topic 3]

Main topic 4: Coping with recovery after hurricanes and natural disasters by building resilience

4.01. After the volcano – 20+ years on

Sarita Francis, Executive Director, Montserrat National Trust & Vernaire Bass, MNT Board Member in charge of Promotion and Outreach and Director of 664CONNECT

1.Background Information on Montserrat and the Trust

The Caribbean Overseas Territories of the United Kingdom are made of Bermuda in the North Atlantic to the Turks and Caicos Islands, Cayman Islands in the Western Caribbean and Anguilla and Montserrat in the Eastern Caribbean. They are all subjected to Atlantic hurricanes which periodically wreak havoc to their small fragile economies.

While most of the other territories are composed of small, low lying limestone land formations, Montserrat is rugged and mountainous, formed on the Eastern Caribbean tectonic plate-boundary which is typified by earthquakes and volcanic eruptions. Montserrat's Soufriere Hills volcano started a new phase of eruption in 1995 which destroyed the capital Plymouth, the airport and permanently displaced 2/3 of the island's population.

For over 50 years, Montserrat National Trust has been the leading organization in the conservation of historical, cultural and environmental aspect of the island. This has been done with the assistance of many organisations.

2.Hurricane Hugo and the Soufriere Hills Volcano and Impacts of Covid 19 and Responses.

3.Projects which assisted in Building resilience., including Mountain Chicken and Oriole captive breding; Mountain Chicken Recovery Programme; MNT Archive Programme; Save Our Special Nature of Montserrat

4.Lessons Learnt (e.g. importance of Partnering with others; documentation, storage of data and photographs, flexibility and openness to change) and looking to the future.

[Return to Programme Topic 4]

4.02. Tristan da Cunha storms: [abstract awaited]

4.03. Caribbean Coastal Resilience and Restoration: Restoring Hurricane Damaged Mangrove Ecosystems in the British Virgin Islands

Susan Zaluski, Jost Van Dyke Preservation Society

The restoration of mangrove areas within BVI began in 1999 as a joint project between the National Parks Trust of the Virgin Islands (NPTVI) and the former Conservation and Fisheries Department. The activity was initiated in response to the rapid decline in mangrove forests and the increase in coastal development. This effort primarily involved use of the Riley Encased Method (REM) in areas where mangroves had historically been found. During the 2017 Atlantic Hurricane season, two Category 5 Hurricanes (Irma and Maria) decimated once-healthy mangrove forests on the BVI, resulting in approximately 90% mortality of adult red mangrove trees (Moore and Zaluski, 2018). Since 2017, restoration of this key ecosystem has been expressed as a priority by both the Government of the Virgin Islands, local community-based organisations and residents of the Virgin Islands.

There have been a small number of separately funded projects (2019, Caribbean Development Bank-funded Project, 2019-2022 IUCN-led Darwin-Plus-funded project, etc) that are contributing towards goal of a Territory-wide restoration plan for degraded mangrove systems. This presentation will give an overview on post-hurricane restoration initiatives and lessons learnt for restoring coastal ecosystems and building small island resilience to the impacts of Climate Change. [Return to Programme Topic 4]

4.05. Using ecosystem modelling to prioritise nature-based resiliency building actions in Anguilla

Mukhida, FM[1], Soanes LM[1] , Butt, C[2], Medcalf, K[3], Naumann, K[3], Pike, S[3], John, L[2], Rouse, C[4], & Samuel, C[5]

[1]Anguilla National Trust, [2]Royal Society for the Protection of Birds, [3]Environment Systems Ltd, [4]Department of Natural Resources, Anguilla, [5]Department of Disaster Management, Anguilla.

Anguilla's coastal and wetland habitats have suffered severe degradation in recent years, primarily due to land development, the impact of hurricanes and sand mining. To address habitat degradation and in an attempt to reduce flood risk to vulnerable communities, the Caribbean UKOT of Anguilla, with funding from Darwin Plus, has adopted an ecosystem modelling approach to identify and prioritise key coastal and wetland habitats for restoration. With the aim of increasing the resilience of Anguilla's coastal habitats and local communities to climate change, we used satellite imagery and advanced, ecosystem modelling techniques to predict how the re-vegetation of Anguilla's coastal areas and wetland catchment areas can help to reduce the impact of flooding caused by severe weather events, both in terms of hurricanes and ground seas.

The initial results highlight the importance of the dune systems as well as the more understood key roles played by mangroves, wetlands and coral reefs. The project also modelled future land development scenarios and examined the impact that further development may have on increasing erosion risk, surface water run-off and resulting flood risk to vulnerable communities around one of Anguilla's key wetland community. This work should help stakeholders and developers understand the need for careful development that preserves and replaces key areas of natural capital. [Return to Programme Topic 4]

4.06. Future proofing endangered species conservation in Anguilla

Mukhida, F[1], Daltry, JC[2], Goetz, M[3], John, L[4], Soanes, LM[1,2,5]

[1]Anguilla National Trust, [2]Fauna & Flora International, [3]Durrell Wildlife Conservation Trust, [4]Royal Society for the Protection of Birds, [5]Univeristy of Roehampton,

Anguilla's biodiversity has declined due to invasive aliens and other anthropogenic pressures, and the changing climate could be the final straw. With a focus on five reptiles and two plant species, this Darwin Plus-funded project aims to increase the resilience of Anguilla's most endangered species. Baseline data on the distribution and ecology of each species were combined with climate change predictions for the region (i.e., increasing likelihood of severe droughts and storms and sea level rise) to (a) assess species climate change vulnerability and (b) develop population viability models using VORTEX. We then conducted stakeholder workshops to review the findings and identify conservation management options, the potential impacts of which were tested using the population viability models. This culminated in a climate change-informed conservation action plan for all seven endangered terrestrial species. A number of priority actions have already begun to be realised, for example the successful translocation of Critically Endangered Lesser Antillean iguanas to a more secure offshore cay and restoring the vegetation cover of Sombrero island to benefit the endemic Critically Endangered Sombrero ground lizard. [Return to Programme Topic 4]

Main topic 5: Nature-based solutions for the UN Decade of Ecosystem Restoration: Terrestrial

5.01. Iguanas, invasive species and the tide of humanity

Frederic J Burton, Department of Environment, Cayman Islands Government

One of the most recognized wildlife symbols for the Cayman Islands, the Grand Cayman Blue Iguana was functionally extinct before an integrated conservation programme restored a breeding population in protected areas. Like so many inspirational recovery efforts for critically endangered animals, the Blue Iguana conservation effort still faces a very challenging future. At the same time the Sister Isles Rock Iguanas on Cayman Brac and Little Cayman, are now critically endangered and likely to have to follow the same path of emergency rescue.

A plague of invasive Green Iguanas combined with the crisis of unsustainable human population growth with all that brings in terms of deforestation and traffic, are all compounding longer-established but equally existential threats from invasive feral mammals.

The arrival of a novel helicobacter pathogen apparently carried by green iguanas that is lethal to the Grand Cayman Blue Iguana places extreme urgency in preventing a green iguana population explosion in the Sister Isles. If unmanaged, this could mirror Grand Cayman, which reached 1.3 million before an island-wide cull was launched. There is no reason to suppose other West Indian rock iguanas will not be equally susceptible to this pathogen, and the green iguana invasion is marching through the Caribbean and on to the tropics globally

There is a long-standing but increasingly urgent need for cost effective, sustainable options to substantially reduce the populations of these increasingly diverse invasive species, so that landscape level restoration can be possible in settings like Cayman where small offshore cays are not available for restoring refugia. Failing this, the only remaining option is turning protected areas into habitat islands with biosecure fences at immense cost. [Return to Programme Topic 5]

5.02. Rewilding as a tool to restore the biodiversity of UK Overseas Territories and Crown Dependencies

Rob Stoneman, Rewilding Europe

Rewilding is capturing the zeitgeist of global nature conservation. Across the popular media, the word is consistently used from everything from planting trees to reintroducing lost species. In the science literature, rewilding is gradually emerging as distinct

discipline or tool within a range of techniques to help us conserve and restore biodiversity across the globe. This talk focuses on a European understanding of rewilding, drawing particularly from the work of Rewilding Europe and its local partners. It then looks at why rewilding, as a tool to restore biodiversity, has a particular resonance to islands to conclude that island rewilding could be one of the most cost-effective and climate resilient tools for island ecosystem restoration. [Return to Programme Topic 5]

5.03. Balancing the Scale: Fifteen Years of Pine Rockland Conservation and Restoration in Turks & Caicos Islands

B Naqqi Manco and Junel Blaise, Department of Environment and Coastal Resources, Turks and Caicos Islands Government

In 2005 the invasive pine tortoise scale *Toumeyella parvicornis* was identified on pine yard ecosystem foundation species *Pinus caribaea* var. *bahamensis* in Middle Caicos, Turks and Caicos Islands. A series of hurricanes with sea surge intrusion in 2008 and catastrophic dry-season wildfires in 2009 further impacted the ecosystem. Within ten years, the population decreased by over 97% and the species and its habitat were not recovering. With partnership assistance originally initiated through UKOTCF, from Royal Botanic Gardens, Kew's United Kingdom Overseas Territories Programme; the United States Forest Service; The Nature Conservancy; Bahamas National Trust; Bahamas Forestry Unit; US Department of Defence; University of the South, Sewanee; local partners Department of Environment and Coastal Resources and Turks and Caicos National Trust were able to build capacity to manage many components of a species survival programme locally. Further ecosystem management techniques have been developed with partners including *ex situ* seed storage, nursery growth of pines, genetic analysis, ectomycorrhizal fungi studies, biodiversity profiles for pine yard ecosystems, plant pest identification, tree stress levels, volatile chemical production, a controlled burning programme, and habitat restoration. While much of the pine yard habitat has been lost, habitat recovery in managed areas and restored areas is observable and work continues despite challenges in securing long-term funding. [Return to Programme Topic 5]

5.04. Biosecurity: the key to safeguarding South Georgia's ecology

Ross James, Government of South Georgia & the South Sandwich Islands

The last decade has seen reindeer, rats and mice successfully eradicated from South Georgia. An ambitious invasive weed programme continues to control and remove invasive plant species. These large-scale habitat restoration projects have provided the conditions for ecological recovery: areas once overgrazed by reindeer are now biodiverse resilient habitats; species that were pushed to the brink of extinction in the presence of rodents are now increasing in number.

As we embark on the UN Decade of Ecosystem Restoration, South Georgia may stand as an exemplar of ecosystem restoration and environmental management, and bear testament to nature's capacity to recover when given a chance. How do we maintain this incredible legacy? Biosecurity is key to preventing invasive species and pathogens from establishing, and therefore safeguarding South Georgia's ecology.

Biosecurity is not a short-term project, it is an ongoing effort and can only be properly achieved when it becomes an intrinsic part of operations. Biosecurity measures are not static and must be able to keep pace with emerging threats. In this presentation we'll discuss how we achieve a biosecurity system sufficiently robust to safeguard South Georgia's ecology, looking at how we work across the biosecurity continuum from pre-border, border and post-border. Focusing resources to ensure invasive species and pathogens don't reach South Georgia, and keeping a close watch so that we can act effectively when they do.

[Return to Programme Topic 5]

5.05. Managing the mosquito problem while protecting biodiversity at the Akrotiri wetland, Sovereign Base Areas, Cyprus

Kelly Martinou[1], Jodey Peyton[2], Ioanna Angelidou[1,2,3], Marc Botham[2], Pantelis Charilaou[4], Graham Johnstone[4], Chris Taylor[1] & Helen Roy[2]*

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Jodey Peyton: I'm an ecologist at the UK Centre for Ecology & Hydrology and project manage our Darwin Plus088 project: Addressing drivers of change in Lake Akrotiri, Cyprus. I am a botanist by training and am currently undertaking a part time PhD on Invasive Non-Native Species. I am also chair of the Events & Communications Committee of the Botanical Society of Britain and Ireland and Vice-Chair of the National Forum for Biological Recorders. I really enjoy being part of the projects I am on, that help connect people and nature.

Akrotiri is the largest wetland complex in Cyprus. It is a migratory stop for birds flying from Africa to Europe with over 200 bird species visiting and another 120 species finding a a refuge during the winter months. Mosquitoes are a natural component of the biodiversity of the wetland. However, managing their populations is imperative due to the high degree of urbanization and interest in development around the wetland and the risk for mosquito borne diseases. We would like to provide an overview of our collaborative work undertaken during the last 5 years, presenting the integrated vector management programme run by the Joint Services Health Unit, British Forces Cyprus and our research projects funded by the Darwin Plus initiative, addressing drivers of change such as invasive alien species around the Akrotiri wetland. We will also present our more recent efforts regarding two citizen-science initiatives dedicated to raising awareness about vectors of disease such as invasive alien mosquitoes and aiming to familiarise the public regarding pollinators and other beneficial insects. [Return to Programme Topic 5]

Posters

5.06P. Manx Mires Partnership

Sarah Hickey is a Conservation Officer with Manx Wildlife Trust (MWT). She founded the Manx Mires Partnership and is currently leading a survey of the depth and extent of peat covering the uplands of the Isle of Man (IOM), which has also identified key areas for restoration. She has contributed to the Independent Climate Action Report for the IOM Government (Appendix 10 (a) Peatlands). As well as working on peatland mapping and restoration, Sarah also carries out professional ecological surveys on behalf of MWT Consultancy and co-ordinates volunteering within MWT. She holds a master's degree in Research in the Natural Environment from the University of Edinburgh and has previously worked in outdoor and environmental education.

Peatlands globally are an important ecological habitat and carbon store. They are a key element of Nature-based Solutions (N-bS) to help mitigate the climate crisis, the importance of which has now been fully recognised by the Isle of Man (IOM) Government. The IOM has up to 10,000 ha of upland peat habitat but, until recently, relatively little was known about its full extent and condition. This is now changing due to the formation of the Manx Mires Partnership, led by Manx Wildlife Trust, which, with the help of volunteers, has now mapped and surveyed over half of the Island's uplands to assess the depth and extent of peat. Plans have been made to begin a series of peatland restoration projects, working closely with upland farmers and the local community. The aims are to protect and restore the peat and encourage the recovery of blanket bog habitat to enable increased carbon sequestration from peat-forming habitats. The poster summarises the work to date. [Return to Programme Topic 5]

5.07P. War of the Green Horde: Novel Control Strategies for *Iguana* spp.

Joshua Smith, Jersey International Centre of Advanced Studies

(I am currently studying on a MSc course in Island Biodiversity and Conservation at JICAS; University of Exeter. I have recently returned to cold, lockdown UK after four months of research on sunny, Covid-free Anguilla. On Anguilla, I surveyed populations of native and invasive Iguana *spp. to develop a distribution model. In addition, I assisted a project to investigate the impact of* Sargassum *brown tides on native seagrass meadows. Previously, I graduated from the University of Birmingham studying BSc Biological Sciences (Zoology). My main research projects at Birmingham involved the development of a foraging enrichment strategy for captive Asian small-clawed otters* Aonyx cinerea*; and the investigation of shell selection behaviours by hermit crabs* Pagarus bernhardus*.)*

A collaborative approach among Caribbean UKOT partners, through the exchange of novel control methodologies and experiences, may be the key to eradicating the green horde of invasive *Iguana* spp. Several Caribbean nations are independently fighting against the invasion, However, no country yet has successfully eradicated a population of invasive iguanas. The widespread occurrence of invasive iguanas presents the Caribbean UKOTs an opportunity to trial, share and develop a unified approach towards their control. Novel control strategies may include a combination of the following: pathway interception, demographic/population modelling, behavioural studies, targeting of communal nests, detector animals, bounty hunters and drones.

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5.08P. Iguanidae as a flagship taxon for the Caribbean UKOT, a collaborative approach to invasive species management across the Caribbean UKOTs

Joshua Smith, Jersey International Centre of Advanced Studies *(See previous abstract - 5.07P - for personal profile)*

I argue that Iguanidae should be considered as the primary flagship taxon for the Caribbean UKOTs for the following reasons: They are generally the most charismatic and/or largest native terrestrial vertebrate on the island; they are highly threatened by multiple pressures; they provide beneficial ecosystem services. Currently there are six native Iguanidae species across the UKOTs, of which three are critically endangered, two are endangered and one has not yet been evaluated. When the causes of each species' decline are followed, common trends are found that highlight repeating threats such as specific invasive species and comparable human development. A collaborative approach is necessitated, whereby independent conservation bodies working on separate UKOTs and separate Iguandiae species, unite to develop a synthesised West Indies Iguanidae recovery strategy which aims to target common threats and parallel challenges. To consolidate the network, individual representatives from each species would routinely travel to other islands to exchange ideas, techniques, and expertise. Combating the "common" threats, which drive native Iguanidae to extinction, also coincide with the conservation of several other Caribbean UKOT taxa. Thus, creating the conditions for native Iguanidae to thrive will drive the UKOTs towards its biodiversity goals. It is highly suspected that this taxon also plays a considerable role in seed-dispersal services due to the iguanas' high rates of frugivory. There is a surprisingly deficient level of research dedicated to the ecosystem-services that Iguanidae provide to the native fauna and flora, of which they have co-evolved alongside over a thousand millennia. However, uncovering and understanding hidden mutualistic interactions between native Iguanidae and floral species may generate the political capital needed to save this revered taxon. [Return to Programme Topic 5]

5.09P. The connecting link between wetlands and mosquitoes

Katerina Athanasiou (katerinac.athanasiou@gmail.com), BSc student, Joint Services Health Unit, British Forces Cyprus, BFPO 57, RAF Akrotiri / Department of Agricultural Sciences, Biotechnology and Food Science, Cyprus University of Technology, 3603 Limassol, Cyprus.

(Katerina Athanasiou is an undergraduate student at the Department of Agricultural Sciences, Biotechnology & Food Science, Cyprus University of Technology. I do my practice with Dr Angeliki F. Martinou, Joint Services Health Unit (JSHU), British Forces

Cyprus. I started studying mosquitoes at JSHU in June 2020 and my project focused on the breeding preferences that mosquitoes show. I am very interested in mosquito biodiversity and vector-borne diseases that mosquitoes can cause to humans and wildlife. I studied under the supervision of Angeliki (Kelly) Martinou, PhD, DIC, FRES, who is the Head of the Laboratory of Vector Ecology and Applied Entomology, Joint Services Health Unit, British Forces Cyprus. Her research focuses on vectors of disease such as mosquitoes, invasive species and integrated vector management. She is a strong supporter of the One Health approach and much of her work focuses on highlighting the importance of insect conservation and citizen science.)

Wetlands are areas where the water covers the soil, or is present either at or near the surface of the soil permanently or for varying periods of time during the year. Mosquito species are connected with the wetlands because all mosquito species, without exception, require water in which their eggs can hatch and go on to develop through larvae and pupae stages. It is this obligate need for immatures to develop in aquatic habitats that inherently binds the mosquitoes to water availability. Part of the wetland in the Akrotiri peninsula, Sovereign Base Areas Cyprus, is designated as a Wetland of International Importance under the Ramsar Convention. The wetland, except of the salt lake, is rich in freshwater and mostly in saltmarshes, where one can encounter mosquitoes such as *Aedes detritus* and *Aedes caspius*. By the sea in the rock-pools, one can find *Aedes mariae*. In temporary ponds full of rainwater, we find species like *Anopheles claviger, Anopheles sacharovi, Culiseta longiareolata, Culiseta annulata* and *Culex pipiens*. In the freshwater stream at Episkopi hills, one can observe *Aedes cretinus*. Mosquito species are an important component of wetland biodiversity as they filter the water and they are food for other species like the endemic fish *Aphanius fasciatus*, many birds and aquatic invertebrates. Mosquito species are therefore closely associated with wetland habitats but also the water which people store around their homes. It is these synanthropic habitats that are generally associated with mosquito- borne pathogen transmissions and human diseases such as West Nile Virus and malaria. [Return to Programme Topic 5]

Main topic 6: Nature-based solutions for the UN Decade of Ecosystem Restoration: Marine

6.01. Stony Coral Tissue Loss Disease – Turks & Caicos Islands – A UKOT's Outbreak Case Study

Alizee Zimmermann & Don Stark, Turks and Caicos Reef Fund

Stony Coral Tissue Loss Disease (SCTLD) is a lethal coral disease first observed in Florida in 2014. The cause of the disease which remains unknown includes a waterborne bacterial pathogen that responds to the amoxicillin antibiotic. SCTLD was first seen in the Turks & Caicos Islands (TCI) in January 2019. Within a year it had been reported on every frequented dive site in the archipelago. Since August 2019, we have been conducting Roving Diver Surveys to assess the extent of SCTLD. In January 2020, Turks & Caicos Reef Fund (TCRF) was given a research permit to test the efficacy of the amoxicillin in CoreRx Base2B (a specially formulated paste from Ocean Alchemists) with the intention of comparing our results with the Department of Environment and Coastal Resources' (DECR) tests of the chlorine treatment. On the 150 colonies treated around Providenciales, TCRF has had up to 90% success rate across multiple coral species. A further 70 colonies were treated on the Turks Bank and efficacy data from those is forthcoming and looks to show similar success to those treated on the Caicos Bank. These test sites were rigorously monitored, mapped and photographed. A treatment expansion permit application was submitted to DECR in mid-2020 to allow TCRF to treat large, priority colonies with less rigorous monitoring as these may be deeper and less accessible on regular scuba with the goal of saving more reproductive coral biomass. Treatment is labour-intensive and with many of the larger colonies being deeper (60->100 ft), we developed a method to 'opportunistically monitor' treated colonies with custom-made individual tags with instructions for divers to photograph and email sctld@tcreef.org. As SCTLD is a fast moving, lethal disease (average of 80% colony mortality within highly susceptible species), time is of the essence for saving corals. TCRF is committed to helping preserve the genetic diversity of the reefs in the TCI and actively works with numerous organizations and researchers across the region and in Florida to contribute to the accumulation of knowledge about this new disease. As new approaches are developed to the goal of finding a non-antibiotic treatment for SCTLD, we hope to help with the necessary field testing. TCRF also aims to build a land-based facility to grow stony corals to preserve genetic samples as well as for eventual repopulation of the reef should environmental conditions permit. This facility would function as a partially self-funded educational centre for locals and visitors.

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6.02. Establishing Ascension's Marine Protected Area

Dr Diane (Dee) Baum, Ascension Island Government Conservation Department

The land area of many UK Overseas Territories may be small, but their marine zones cover a vast extent. That lends global significance to the management choices made in those zones, and means the UK Overseas Territories and the UK Government have an opportunity to become world leaders in marine protection. Ascension Island is just one of the seven UK Overseas Territories and dependencies involved in the Blue Belt Programme, but its journey to plan, designate and manage a large marine protected area illustrates themes common across the network. Here we describe the sometimes convoluted path by which Ascension has established its MPA, and the plans and structures being put in place to manage 445,000 km^2 of remote open ocean in a rapidly changing world. It is too early to judge success, but the need to adapt spatial planning paradigms developed in terrestrial and coastal settings is already evident if we are going to provide the protection our open oceans deserve. [Return to Programme Topic 6]

6.03. Stakeholder Engagement in Marine Spatial Planning at Bermuda

Tammy M Warren[1], Sarah A Manuel[1], Cheryl-Ann Mapp[2], and Vanessa L Dick[2]

[1]Government of Bermuda, Department of Environment and Natural Resources

[2]Waitt Institute, La Jolla, California, USA

Through the Bermuda Ocean Prosperity Programme (BOPP) the Government of Bermuda, in partnership with the Waitt Institute and the Bermuda Institute of Ocean Sciences, is developing a comprehensive ocean plan for Bermuda's 200 nautical mile Exclusive Economic Zone. One of the Programme's main goals is to develop a Marine Spatial Plan (MSP) which will minimize conflict among ocean uses, manage the Island's marine resources, and designate 20% of Bermuda's EEZ as a network of no-take marine protected areas (MPAs). This presentation will concentrate on the first phase of the MSP stakeholder engagement process which has been complicated by the Covid 19 pandemic. The stakeholder engagement is centered on eight stakeholder focus groups known as the Ocean Village. Each of these groups, which represent different ocean use sectors, are tasked with providing input into the MSP objectives and the use and value of Bermuda's ocean space through participatory mapping applications. Additionally, the Ocean Village members have been encouraged to reach out to individuals in their organisations and various networks to foster wider public participation in the process. It is anticipated that a draft Marine Spatial Plan will be ready for public consultation by July 2021 and a final draft plan will be ready for presentation to the Minister responsible for the Environment in October 2021. For more information on the BOPP, see www.bermudaoceanprosperity.org. [Return to Programme Topic 6]

6.04. The Nature of Ecosystem Restoration: Smaller steps towards bigger solutions in the British Virgin Islands

Shannon Gore, Association of Reef Keepers, British Virgin Islands

The British Virgin Islands, like many other small island nations, are experiencing continued degradation of marine ecosystems. Despite the advancement of science and technology to better understand the causes and effects of ecosystem degradation and a number of effective methodologies to restore ecosystems, only a few projects have been implemented on local levels. For a number of scientists, small organisations or anyone trying to sell the concept of restoring an ecosystem that will ensure environmental, social and economic benefits as well as help build resilience, funding applications are too often turned down. This raises a fundamental question as to "why" many projects still aren't being approved, funded or implemented. Taking an approach to specifically look for some of the issues hindering restoration efforts in the first place helps provide deeper insight towards what types of projects would have more "buy-in" and ultimately be more effective. By exploring some of these underlying issues, common themes are revealed and a number of projects are identified, some which are currently being implemented as an effort towards marine ecosystem restoration in the BVI. While some projects may be small scale, they may ultimately have a bigger impact overall. [Return to Programme Topic 6]

6.05. Establishing the Tristan da Cunha marine protected area [abstract awaited]

[Return to Programme Topic 6]

Posters

6.07P. Engaging recreational fishers in Marine Spatial Planning in Bermuda

Joanna M Pitt, Canon Purdy, Cheryl Ann Mapp, Weldon Wade, Tammy M Warren and Vanessa L Dick. Dr Joanna Pitt is the Marine Resources Officer with the Bermuda Government Department of Environment and Natural Resources, and works with colleague Dr Tammy Warren, the Senior Marine Resources Officer, on a wide variety of marine resources management issues. The remaining co-authors, both local and overseas, are communications and project management specialists from the Waitt Institute, a lead partner in the Bermuda Ocean Prosperity Programme.

The Bermuda Ocean Prosperity Programme is utilizing Marine Spatial Planning (MSP) to optimize sustainable growth across the maritime economy, based on sector-specific assessments, while managing marine resources for the future by incorporating 20% of Bermuda's EEZ within a network of fully protected areas (MPAs). The stakeholder engagement process is centered on a series of working groups called the Ocean Village, which recruit representatives from the various local marine sectors. The members of the groups then reach out to their organizational members and personal networks in order to acquire wide-ranging input on the MSP objectives and the spatial distribution of particular stakeholder activities, the latter facilitated by participatory GIS. This works well for industry groups, but less efficiently for recreational activities. At present, lobster diving and spearfishing are the only recreational fishing activities that are licensed, with known participants. The Lobster Divers' Association facilitates easy contact with this sector, ensuring good representation, but spearfishers are fewer in number and not formally organized beyond social media groups. Angling clubs are known stakeholders but only cover ~8% of recreational hook and line fishers, primarily those targeting pelagic species. In contrast, reef and shoreline fishers are not well represented by the clubs, and contacting these stakeholders is challenging. Facilitators therefore utilized social media and personal networks to identify potential participants for this working group and to broaden the coverage of fishing patterns described via the participatory GIS. In addition, while email communications were the standard approach for stakeholder communication, many fishers preferred to communicate by phone or messaging apps. This highlights that overarching models of stakeholder engagement may not fit all sectors, especially for recreational activities, so multiple approaches are necessary, social networking is useful, and flexibility is key.

This poster will support Dr Warren's talk. [Return to Programme Topic 6]

6.08P. Ensuring the sustainability of coastal small-scale fisheries at Pitcairn Island (South Pacific) within a large scale no-take MPA

Henry Duffy, Fauna & Flora International; Terence Dawson, King's College London; & Robert Irving

(Henry Duffy undertook research on Pitcairn Island as an MSc student at Imperial College London, completing a thesis focusing on the application of Baited Remote Underwater Video Systems (BRUVS) to assess human impacts on reef fish populations. He now works as a Marine Technical Specialist at Fauna & Flora International, supporting a range of conservation and fisheries management projects in Southeast Asia. Terence Dawson is Professor of Global Environmental Change at King's College London and has more than 20 years of research expertise in biogeography and natural resource management with a specific interest in human-environment interactions, ecosystems services and climate change. He has been a regular visitor to the Pitcairn Islands since 2010. Robert Irving has run his own marine environmental consultancy Sea-Scope for over 30 years. He has been fortunate enough to visit the Pitcairn Islands on several occasions since his first visit in 1991 as a member of the Sir Peter Scott Commemorative Expedition to the Pitcairn Islands. The work featured in this poster was undertaken as part of a Darwin Initiative project, 2013-2017.) *(Contact: robert@sea-scope.co.uk)*

The Pitcairn Islands, located in the central South Pacific, contains near-pristine marine ecosystems which support unique fish assemblages, including both endemic and threatened species. Pitcairn itself is the only inhabited island in the group, and prior to this study, the environmental impact of local fisheries was unclear, with little data to inform conservation and management. In 2014-2015, near-shore fish populations were assessed through two methods: a newly introduced system of fishers' catch monitoring and Baited Remote Underwater Video Systems (BRUVS). Thirty-nine BRUVS deployments recorded 88 species in total, with small-bodied herbivores (*e.g. Kyphosus pacificus*) and mesopredators (*e.g. Xanthichthys mento*) dominating a 'bottom heavy' assemblage. Several large pelagic predators were recorded, but reef-associated predators were rare with only one shark observed. Subsequent to BRUVS sampling, a local fisheries officer post was created to collate catch data from nearshore fishers. Regular returns were obtained from over half of the active fishers (representing approximately 80% of catches), with *K. pacificus* also dominating catches together with the small grouper *Epinephelus fasciatus*. Thirty fish species were represented in the recorded catch over a 12 month period. Results from this mixed methods approach indicated that Pitcairn's top predator assemblage was demonstrably impoverished compared to 'pristine' sites elsewhere, including other islands within the Pitcairn group. This suggested that the island's small-scale fishery was having an adverse impact on the near-shore ecosystem. Following local consultations, a Fisheries Management Plan was subsequently proposed which introduced a number of measures to help address environmental concerns. The creation of new Coastal Conservation Areas around each island has allowed for the continuation of sustainable domestic fishing practices (both recreational and artisanal) within one of the world's largest no-take Marine Protected Areas (designated in 2016).

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Main topic 7: Funding mechanisms – tourism and alternatives

7.01. A Rock, a hard place and uncharted waters: Brexit and Gibraltar

Keith Bensusan[1&2] & Stephen Warr[3]

[1]Gibraltar Ornithological & Natural History Society

[2]Gibraltar Botanic Gardens

[3]Department of the Environment, Sustainability, Climate Change & Heritage, HM Government of Gibraltar

Gibraltar has had a deeper relationship with the EU than any other UKOT or CD. It was a member of the EU under the UK and in the 2016 EU Referendum, 96% of the population voted 'remain'. Thus, Gibraltar was tightly aligned with EU environmental policy and had transposed all relevant EU environmental law. Brexit potentially jeopardises not only Gibraltar's intricate relationship with the rest of the European mainland, but also environmental governance on The Rock. Challenges posed by leaving the EU include loss of EU funding (including for environmental projects), access to EU markets and weakened 'supranational' environmental protection. With regard to the latter, relevant legislation includes the Birds, Habitats, Marine Strategy Framework, Marine Spatial Planning, and Ambient Air Quality Directives. In a small and densely populated place such as Gibraltar, the environment is always under pressure and the EU provided a useful overarching safeguard against the worst excesses of human impact on our natural surroundings. Thus, strong and sincere action is required to ensure that leaving the EU does not result in weaker environmental governance. Here, we outline Gibraltar's approach to this problem and highlight potential pitfalls. Although we lose all of these legislative frameworks, HM Government of Gibraltar has so far shown a commitment to dynamic alignment with EU legislation. This is positive, but it will lack monitoring by the EU Environment Directorate-General and a new environmental watchdog is required. There is interest in joining regional and international conventions, but these lack the strong enforcement afforded by EU courts. Meanwhile, a new relationship with Europe could be on the horizon for Gibraltar, with discussions between the UK, Gibraltar and Spain including the environment. This could lead to a continuing and strengthened relationship between Gibraltar and its geographical neighbours, even whilst the UK drifts further from the EU.

As a result of UK's leaving the EU, other UKOTs are losing the conservation funding, such as BEST and the potentially much larger funding from LIFE, which is probably being extended at last to EU overseas entities. There may also be losses with environmental consequences because of loss of access to EU markets of sustainably produced natural products. The Crown Dependencies may also meet problems. For example, the French ports at which some Channel Islanders land their catch are not customs ports, so that ports much further away would be the only option.

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7.02. Can UK Government grant-funding be made more effective for UKOT conservation?

Dr Mike Pienkowski, UKOTCF, bringing together comments from territories

Whilst there is an extremely strong case, voiced by many organisations (territory, UK and international) for increased UK funding for conservation in UKOTs, especially for terrestrial ecosystems, the question has been raised as to whether existing (and potential future) funding could be deployed more effectively. UKOT personnel are very reluctant to comment directly to UK Government grant-funding bodies, partly out of natural courtesy and partly from fear of generating future negative attitudes. However, they do tell UKOTCF, as the organisation bringing their network together. UKOTCF has received many unsolicited comments from those with experience of working on conservation in the UKOTs on flaws in the existing grant-decision processes, and will use these here to suggest positive changes which would lead to more conservation-effective deployment of resources.

[Return to Programme Topic 7]

7.03. Rethinking tourism – experiences from the INTO family

Catherine Leonard, Secretary-General of INTO, and David J Brown, Principal at Bearden Brown LLC

Research conducted by the International National Trusts Organisation (INTO), with funding from American Express, shows how heritage organisations are addressing issues of sustainable tourism.

The pandemic has strained financial and programmatic capabilities. But at the same time, National Trusts have found new and creative ways to ensure their special places are not another casualty of the crisis.

In doing so, they are having to balance the need to address sustainable tourism issues with building sustainable communities.

INTO members with established local audiences are weathering the pandemic better than those that are over-reliant on tourism dollars. And as we look forward, there are many lessons we have learned about reducing the environmental impact of tourism, enhancing visitor experience, engaging more broadly and deeply with the local communities, supporting local economies, and protecting traditional values.

This presentation will highlight the global National Trust experience and share new ideas, best practices and innovative ways of addressing tourism issues as we move forward. [Return to Programme Topic 7]

7.04. Can we fund conservation without tourism in the UKOTs?

Nancy Pascoe, Deputy Director, National Parks Trust of the Virgin Islands & Dr Howard Nelson, Fauna & Flora International & University of Cambridge

Funding for conservation activities in the UKOTs has become dangerously reliant upon international tourism. This sad reality became undeniably true in 2020 when the COVID-19 global pandemic impacted the world. So what led to this current predicament and what can we do to create more sustainable and resilient funding sources for conservation?

The primary role of protected areas is habitat and species conservation for the benefit of the country and its residents. UKOT Governments committed themselves to biodiversity conservation through their endorsement of various environment agreements and policies. However the costs associated with environmental conservation are becoming solely reliant on tourism. These costs should be part of national planning due to the ecosystem services that the environment provides, in terms of disaster resilience, food security and the provision of jobs for the local community

Solutions

- Many UKOTs are offshore finance centres with the benefit of resident financial experts but this has not been pursued to advise on sustainable financing for protected areas. The UKOTs should capitalize on this industry to assist with the creation and management of endowment funds. Case studies such as the Bahamas Protected Areas Fund, which was created in 2014 to ensure sustainable financing: https://bahamasprotected.com/
- Advocate for the creation of an environment tax that is not just aimed at tourists. At present the BVI charges a Tourism and Environment tax which is only paid by tourists upon entry, but this does not include cruise-ship passengers, due to pre-existing fee agreements that are for set terms. If every resident in the BVI paid just $50 annually at 30,000 people that would be $1,500,000! The rationale is that the environment provides many ecosystem services that benefit the entire community: https://bvi.gov.vg/media-centre/environmental-levy-takes-effect-september-1
- The creation of environmental impact fees (EIF) as part of the development process. [Return to Programme Topic 7]

7.05. Funding models for remote UKOTs

Clare Brook, CEO Blue Marine Foundation

I We have two trends which make for an interesting shift in funding models for remote islands:

1. Islands are looking to preserve their natural capital in perpetuity and move away from reliance on the sale of fishing licences (which can fluctuate and increasingly come with the heavy price tag of human rights abuses).

2. There is growing interest in the global philanthropic sector to back large-scale marine protection. (Legacy donors) Examination of global philanthropic sector trends.

II The endowment fund model is particularly suitable for remote islands which want to have an MPA, but can't necessarily fund it through eco-tourism and entry fees.

- The endowment model (pros and cons)
- Ascension example
- Tristan da Cunha example.

III Other potential funding models:

- Blue carbon
- Bonds based on natural capital/biodiversity

This third trend – the required shift of as much as $711 billion annually to stave off catastrophic decline of nature/climate change, as identified by Hank Paulson, Mark Carney et al – is something that could completely reposition remote islands. The first shall be last and the last shall be first… [Return to Programme Topic 7]

Main topic 8: Plugging the gap: innovative approaches and capacity-building

8.01. New research and higher education facilities in the territories

Sean Dettman & Dr Amy Hall, Jersey International Centre for Advanced Studies; Dr Rebecca Cairns-Wicks, St Helena Research Institute; Dr Darren Fa, University of Gibraltar

In the last five years, several new research and higher education facilities have been founded based in the UK Overseas Territories and Crown Dependencies.

Founded in 2015, the University of Gibraltar links the Mediterranean, Atlantic, Africa and Europe, the Straits of Gibraltar, which provides an ideal natural laboratory in which to undertake research in disciplines such as marine science, ecology, palaeoecology and soil science. Within the marine realm, its School of Marine Science currently provides a Master's degree in Marine Science and Climate Change, with several others in preparation. Primary research areas include climate change effects (including palaeoclimates), species and habitat conservation, marine policy, protected areas and spatial planning, often focussing on the limitations and opportunities afforded by small territorial size. Associate Campuses include HM Government of Gibraltar's Department of the Environment, Gibraltar Botanic Gardens and Gibraltar National Museum which strengthen and extend its research capacity into other disciplines and biomes.

The Jersey International Centre for Advance Studies (JICAS) welcomed its first cohort of students in 2019. JICAS aims to create a suite of niche postgraduate degrees programmes aimed not only at importing students and staff to the island, but also exporting knowledge and expertise around the world. Accredited by the University of Exeter it has developed a Master's degree in Island Biodiversity and Conservation and hopes to launch a new MSc in Islands and Climate change (in partnership with the Global Systems Institute at the University of Exeter) for September 2021. JICAS brings together a consortium of world-leading academics drawn from institutions across three continents, to come together in Jersey to produce a unique programme of research-led study. Primary research areas include climate change, island ecology and invasive species impacts all with an island focus.

The St Helena Research Institute (SHRI) was launched in 2019 to create and promote opportunities for research and the advancement of education and learning on St Helena connecting researchers and people on St Helena, across the South Atlantic and beyond. SHRI supports research across all disciplines with a particular interest in research supporting sustainable island development. Founding areas of research focus include: terrestrial ecology, climate change, society, health and well-being, education and ICT.

This presentation introduces these new world-class facilitates to advance learning and understanding of the natural environment (as well as other related subjects) and the opportunities this provides for those in the UK territories, Crown Dependencies as well as internationally.

It is evident that there exist commonalities in both the challenges and opportunities facing island states and small territories. The research institutes here presented are all enabling services, with an ethos of building in-country capacity and local ownership of knowledge and projects through educational excellence, building self-sufficiency, and supporting sustainable development, albeit at different stages of establishment, and following a diversity of pathways to the same end.

They are also all ambitious and clearly punching above their weight – to an extent this is aided by being small, streamlined and adaptable to work with limited resources. This has developed not only a pool of regional expertise, but also an efficient set of problem-solving skills and a 'can do' attitude. All institutions independently identify the need to create a balance in approaches to this development – top down and bottom up – so as to create an enabling environment for lifelong learning, but we also need political support to equip the institutions with the frameworks to achieve their visions, something that might benefit from greater impetus if coming from an international group as opposed to a local organisation.

As each of us continues to develop our local capacity in a variety of ways, there emerges a real and exciting opportunity – the recognition that in a very real sense, as far as the UKOTs and CDs are concerned, the sum of all parts is very much greater than that of individual members. The joint pool of experience and expertise, together with unique characteristics of each UKOT or CD, present opportunities for exporting rather than importing knowledge, making the most of our global dispersion and biogeographical distinctiveness, developing joint frameworks for educational development and access to financial support, and generally sharing experiences, knowledge and resources.

The recent move to online communications which has been unfortunately spurred by the recent pandemic has had the positive

outcome of changing the way we work, with more effort being put into e-networking and developing relationships without physical contact, with the added advantage of increasing accessibility to a wider audience. The possibility of scaling up the work of the various Territories and Crown Dependencies to a larger, more globally-connected network of collaborating partnerships is tremendously exciting. [Return to Programme Topic 8]

8.02. Detecting patterns of marine wildlife around islands with and without invasive rats, using Long-range UAV images

Melissa Schiele, Loughborough University's Wolfson School of Mechanical, Electrical and Manufacturing Engineering; and the Zoological Society of London

Bird colonies on islands have shown to sustain elevated fish productivity level and reef fish biomass on adjacent reefs, through nutrient subsidies. However, the implications of this localised enhancement on higher and often more mobile trophic levels (marine megafauna, such as elasmobranchs) is unclear. We used a novel long-range water-landing fixed-wing UAV (unoccupied aerial vehicle) to survey the distribution of marine megafauna associated with tropical coral islands with and without bird colonies, in 2018 and 2020, in the British Indian Ocean Territory Marine Protected Area. The UAV has water-landing capabilities allowing for easy retrieval from the ocean once landed and 2018 was the first time this type of technology had been trialled in BIOT. Systematic and opportunistic flights over the island canopies enabled counts of seabird densities and dominant foliage assemblages. From the two expeditions, we identified sooty terns, red footed boobies, and turtles (green and hawksbill) to species level. We were able to identify sting rays, noddys, frigate birds, reef and nurse sharks, eagle rays and other terns to genus level. Total detections across all samples shows the relative abundance of conspicuous species across the archipelago (13 islands across six atolls), were in line with expectation, seabirds dominate. From the UAV imagery we manually identified five bird species to species or genus level, three elasmobranchs to genus level, teleosts to group level and turtles to species level. We calculated densities of all detected wildlife per km^2 which showed sooty tern counts being the highest (314 km^{-2}) over near-pristine islands with bird colonies, as opposed to the former coconut plantation islands where no sooty terns were observed. We detected elevated numbers of sharks and large fishes (0.91 – 13.3 km^{-2}) around islands with bird colonies compared with rat infested islands. Mixed effect modelling is being used to quantify effects of the variables of atoll, year, side of the island (reef or lagoonal zones) on the presence or absence of marine megafauna on islands which are near pristine or former plantations with rats. No pronounced difference was detected between the occurrence of prominent canopy plant species between the island types. Our results provide some evidence that naturally occurring nutrient subsidies likely introduce distribution gradients in high-trophic levels and that this may be further affected by the atoll location and whether the habitat is ocean or lagoon side. Water-landing fixed-wing long-range unoccupied aerial vehicle technology, designed for surveillance and mapping, may provide cost effective monitoring opportunities in remote ocean locations, and engineering developments are ongoing, with further UK and BIOT trials planned for the future. [Return to Programme Topic 8]

8.03. Channel Islands pollinator project – Guernsey and beyond

Dr Miranda Bane, University of Bristol, speaking on behalf of the Guernsey Pollinator Project

The Guernsey Pollinator Project – a La Société Guernesiaise initiative - was founded in 2017 with the aim to educate, research and contribute to pollinator conservation in the Channel Islands. The group has come a long way in three years and continues to develop new ways to engage the public and highlight the plight of pollinators. One of the keys issues we face is a lack of understanding about the current state of pollinators in Guernsey. Furthering local knowledge at a community level - about what species we have in the Channel Islands and what plants they depend upon for their survival - is vital for conservation success. In order to address this, we have created citizen sciences projects which enable us to gather ecological data through the participation of local volunteers. In this talk we present the key lessons we have learned from two of our citizen science projects and highlight the value of citizen science in our island community.

Gordon Steele and Barry Wells from the Pollinator Project available for Q&A [Return to Programme Topic 8]

8.04. Plugging the Gap: With Professional Volunteers in the Cayman Islands

Cayman Islands Department of Environment

The Cayman Islands, named Las Tortugas by Christopher Columbus in 1503. By the early 20th century Cayman Islands sea turtle nesting populations were considered extinct by some researchers. In 1999 the Cayman Islands Department of Environment set up an ongoing Marine Turtle Research Programme to identify nesting and to increase protection of the few remaining nesting turtles. The programme has been very successful, with nest numbers increasing substantially to [over 300 nests per year]. But this was only possible because the programme was set up, from its inception, as a volunteer staffed programme. The department of Environment have learned three things. There is always more work than staff available, random people who want to help are generally more work to manage than the work they take on, projects planned around professional volunteers can produce successes. Marine Turtles, Blue and Green Iguanas, Nassau Groupers and Lionfish: all projects which the Cayman Islands are reaping the benefits of, all projects that were built on the assumption of volunteer workers. Professional volunteers who for a set period of time will dedicate as much time, and skills, to the project as our regular staff. Volunteers who are essentially staff. Sometimes even becoming paid staff. But these successes are only possible when the project is designed, from the start, for volunteers. With an overview of some of these projects we can identify some commonalities of these very successful projects: focus, branding, a corporate structure supporting the project and providing the continuity of a few professional staff, and building each programme around volunteers from the very beginning, not trying to fit them in when someone shows up wanting to help. [Return to Programme Topic 8]

8.05. Toward a Truly Restorative Ecology – Co-operative Research with the More-than-Human World

Kathleen McNary Wood, SWA Environmental, Turks & Caicos Islands & USA

The United Nations General Assembly (UNGA) has declared the decade spanning from 2021-2030 as the "Decade on Ecosystem Restoration" (Cross, Nevill, Dixon, & Aronson, 2019; U.N., 2019), promoting "the recovery of degraded, damaged, and destroyed ecosystems to regain ecological functionality and provide ***the goods and services that people value***" (U.N. as quoted in Cross *et al.*, 2019, p. 1). While the ambition of ecosystem restoration is lofty, the standpoint that values the living and material world only in terms of its utility to humans lies at the heart of the Anthropocene cataclysm and therefore cannot be incorporated as the axiological basis to resolve it. The assumptions underlying environmental scientific inquiry date back to Ancient Greece, when Socrates first conceived the dualisms of "universal and particular, noumenon and phenomenon, mind and body, and spirit and matter" (Spretnak, 1991, p. 250) and placed "rational" male humans at the top of a constructed hierarchy of consciousness. In 17th Century Europe "enlightened" men conceived a mechanized world, governed by predictable natural laws, and ripe for human mastery. In 1620, Frances Bacon, the father of the scientific method, bade humankind to "recover that right over nature which belongs to [humans] by divine bequest… [and] establish and extend the power and domination of the human race over the universe (as quoted in Merchant, 1995, p. 32).

Four-hundred years of human domination over nature have resulted in atmospheric carbon levels, which are currently higher than at any time in the history of the human species (IPCC, 2018), planetary deforestation of approximately fifty percent (WWF, 2016), and an extinction rate at least three orders of magnitude higher than pre-industrial levels (Balasubramanian, 2019; Kolbert, 2014). For as long as humans have put chisel to stone to craft the stories of their existence, they have foretold the tragic consequences of hubris. As long as conservation and environmental sciences are premised on what matters to humans, as opposed to what matters to the more-than-human world, the incremental destruction of nature will continue. Human exceptionalism is responsible for the Anthropocene, and the human ego must now be decentered in order to restore the ecosphere.

The co-operative and participatory research paradigms (Heron, 1996; Heron & Reason, 2001), used extensively in human social sciences, erase traditional researcher/research subject hierarchies and allow the myriad subjective voices of all research participants to emerge. Based on an expanded and reflexive epistemology, the co-operative and participatory research paradigms embrace experiential, presentational, propositional, and practical ways of knowing. Rather than holding objectivism as the paramount research goal, co-operative and participatory research prioritize universal flourishing and practical action as their primary objectives (Reason & Bradbury, 2001). Co-operative and participatory action research with the more-than-human world are emergent fields of inquiry, conducting research ***with*** rather than ***on*** more-than-humans (Bastian, Jones, Moore, & Roe, 2017). By gearing environmental research towards ***what matters*** to more-than-humans, rather than ***what matters*** to humans, practical solutions that foster universal flourishing, as opposed to mere human utility, can lead to a truly restorative ecology. [Return to Programme Topic 8]

Posters

8.06P. The Jersey International Centre of Advanced Studies

Dr Amy Louise Hall is the programme coordinator and a senior research fellow at JICAS specialising in islands and climate change and island ecology. A zoologist and ecologist with more than 20 years of experience, Amy is also Chair of the Jersey Bat Group and of the Zoology Section of the Societe Jersiaise. Amy is a chartered biologist and a member of both the Royal Society of Biology and the Chartered Institute of Ecology and Environmental management and a Fellow of the Linnean Society of London. Dr Amy Louise Hall was educated in Jersey and obtained her undergraduate degree in Zoology from the University of Wales (Aberystwyth). Amy furthered her studies by studying for a Master of Research (MRes) in Ecology and Environmental Management and then a PhD in Environmental Economics and Management from the University of York. She has recently completed a Master of Laws (LLM) in Environmental Law and Practice from De Montfort University. Amy has been co-author on numerous papers with JICAS senior research fellow and lecturer Professor Julia Fa and research teams at the University of Oxford, Imperial College London, African Wildlife Foundation, Manchester Metropolitan University and the University of Malaga, with Amy being involved mainly with the provision of GIS coverages and spatial analysis aspects of this research. Amy has also undertaken field work in Jersey (birds, reptiles, small mammals and bats), the UK (small mammals, bats, and badgers), the Caribbean (Solenodons and Hutias) and South America (small mammals, bats and Andean bears) in conjunction with a number of in-country conservation organisations.

The Jersey International Centre of Advanced Studies is a postgraduate research institute that focuses on islands and island communities. In collaboration with our partner the University of Exeter, we offer niche postgraduate degree programmes aimed not only at importing students and staff to the island, but also exporting knowledge and expertise around the world. We believe that Jersey is set to become the key global academic hub in all aspects of islands and island life. So why Islands? Islands provide some of the planet's most spectacular examples of biodiversity, making them important repositories of unique species. Yet there are probably more endangered species and habitats per capita in Small Island States and territories than anywhere else in the world. Species living on islands are more vulnerable to extinction, largely because of the impact of introduced species. Islands, especially isolated oceanic islands, have evolved in isolation for millions of years, and their animals and plants have had to compete with only a limited range of species. For this reason they provide a ready home for many species of exotic animals and plants, and their flora and fauna is especially vulnerable to extinction after the arrival of man and the exotic animals and plants that always accompany him to those islands. This poster will introduce JICAS, our current MSc in Islands Biodiversity and Conservation, the modules that we teach and our research group interests. We will also introduce our future courses including Islands and Climate Change (in partnership with the Global Systems Institute at the University of Exeter) which we hope to launch in spring 2021 for a September 2021 intake.

[Return to Programme Topic 8]

8.07P. Understanding responsibility for biodiversity in the UK Overseas Territories

Dr Jasper Montana, Research Fellow, University of Oxford

(Jasper Montana is an environmental social scientist based in the School of Geography and the Environment at the University of Oxford. His research uses qualitative methods to examine the design and operation of environmental governance arrangements for biodiversity. At present, Jasper is conducting research on conservation and biodiversity management in the UK Overseas Territories as part of an Early Career Fellowship funded by the Leverhulme Trust. He is interested in the role of science and collaboration in addressing threats to biodiversity.)

The UK Overseas Territories boast some of the most iconic environments on Earth and harbour a myriad of unique flora and fauna. As elsewhere, this biodiversity is fragile and vulnerable to human-induced pressures. And a myriad of actors – from governments to NGOs – are working to ensure its sustainable use and conservation for the future. However, responsibility for biodiversity is not always clear. Hence, in this poster I ask: how do diverse stakeholders understand responsibility for biodiversity in the UK Overseas Territories? The research draws on qualitative interviews with 50 stakeholders from UK and Overseas Territory government departments and agencies, civil society and scientific organisations. I show that perceived responsibility for biodiversity differs depending upon the 'mode of political organisation' considered most appropriate for a given issue. The three concurrent and interdependent 'modes of political organisation' are i) government, ii) management, and iii) governance. Each offers distinct answers to the questions: Who is responsible? What is responsibility? And, what resources or capacities are needed to enact responsibility? Recognising that responsibility can take different forms ensures the widest possible range of actors are enabled and empowered to contribute to sustaining biodiversity in the UK Overseas Territories. [Return to Programme Topic 8]

8.08P. Developing our understanding of St Helena's Bone Sharks and the threats they may face

***Beth Taylor**, MSc Marine Environmental Management (York University) has ten years' experience in marine conservation, including mega fauna research, with a particular focus on the social behaviour, reproductive periodicity and related management of manta rays. **Kenickie Andrews**, BTEC Environmental Conservation. Eleven years' experience of both terrestrial and marine conservation, with particular focus on the reproductive and ecological monitoring of seabirds on St Helena and Ascension Islands. **James Wylor-Owen**, BSc Wildlife Conservation and Ecology (University of Chester). Five years' experience of undertaking diverse conservation fieldwork including; spatial ecology research, behavioural observation, and population studies, with an emphasis on core natural history research and holistic problem-solving.)*

St Helena's IUCN Category VI Marine Protected Area serves as a feeding – and possibly breeding - location for whale sharks (locally; 'bone sharks'), which aggregate annually (December-March). With historic research restricted to *ad hoc* sightings from the public and periods of visitation by researchers, 328 sightings were documented across 15 years. The Trust's increased survey effort across 8 weeks alone in 2019 resulted in 165 sightings - highlighting the need for increased and consistent survey effort. Furthermore, the Trust recorded the first mass aggregation of bone sharks (70+) ram filter-feeding in Flagstaff Bay. Our goal this year is to continue research streams previously led by St Helena Government and Georgia Aquarium, to understand why bone sharks migrate to St Helena, whether they breed here, and what affects their biological imperatives while here. We will document site-fidelity, individual and group behaviour, through standardised in-water observations (photo ID), dorsal camera (CATS cam) deployments, and aerial drone monitoring. Through citizen-science, we aim to increase survey capacity, via St Helena's first fully-automated bone shark sightings app. Additionally, an ROV will be operated (with no animals present), to observe bone shark aggregation sites too deep for observation via snorkel or SCUBA; possibly providing insight into why certain sites/habitats are 'favoured' by these animals. In 2021, a new aspect of research is analysing factors affecting biological imperatives – namely how feeding strategies could be influenced by plastics ingestion. Marine litter and microplastics have been shown to impact >650 marine species worldwide; in fish, microplastics have been shown to cause reductions in food-uptake. We aim to quantify and qualify the presence of marine litter and microplastics around free-ranging, feeding bone sharks using a peer reviewed non-invasive sampling method, to gain further insights into potential plastic ingestion by these endangered filter-feeders. [Return to Programme Topic 8]

Posters on Other Topics

9.01. A review of pupping and site-fidelity trends in the grey seal *Halichoerus grypus* on the Calf of Man from 2009 – 2020: implications for population structure and dynamics in the wider Irish Sea region and future management strategies

***Dr Lara Howe** is Marine Officer at the Manx Wildlife Trust, managing a wide range of marine- and freshwater-based projects, including mammal strandings, invasive species monitoring and the puffin re-introduction programme, as well as supporting various government departments. She has worked as a marine environmental impact assessor for Cefas and her PhD with the University of Liverpool assessed the impact of and recovery from marine pollution on the Isle of Man, following an undergraduate degree in Marine Biology. She is also a keen scuba diver, regularly braving Manx and UK waters, as well as warmer destinations! **Breeshey Harkin** holds an undergraduate degree in Biological Anthropology from the University of Cambridge and, following a master's degree at UCL, chose to follow a career in education, teaching Biology and Environmental Science in various British and Swiss secondary schools over the past decade. A decision to return to academic research prompted her work with the Manx Wildlife Trust on the Calf of Man seal breeding survey 2020, and she is currently working on a PhD proposal to continue research into the spatial structure and population dynamics of the Irish Sea grey seals. She is also training as a bird-ringer, making the most of the local Manx wildlife with the current Covid-19 travel restrictions still in place.*

The Calf of Man, a small islet off the south of the Isle of Man, has long been viewed as an important site for grey seals. With our central Irish Sea location and high numbers of seals consistently observed, we have the potential to contribute to important questions on the spatial population structure and movement ecology of grey seals, and subsequent implications for population resilience and regulation of management units. As such, the pupping season on the Calf has been monitored by the Manx Wildlife Trust since 2009. The season mainly runs from September to November, with a mean annual birth rate of 54.2 pups and a mean mortality rate of 5.7%. 12 pupping sites have been observed in continued use, with a consistent number of pups born at each site. 198 females have pupped on the Calf during this period, 47.5% of whom have returned for more than one season, with one individual returning to breed on 11 occasions. Of the seals who have only pupped in one season, 28.0% have been sighted in other years, even if they have not been observed to reproduce. Of the returning females, 87.2% have utilised two or less pupping sites, showing a high level of site fidelity. Data sharing with similar organisations is elucidating the movements of the Calf seals outside of the breeding season, with photo-identification matches in Cornwall, England, as well as satellite tagging linking seals with the Dee Estuary, England and Strangford Loch, Ireland. The IUCN recommends continued management of sites utilised by grey seals, as well as ongoing assessment of population trends. The Manx Wildlife Trust can contribute to this, informing species management and helping to achieve sustainable development alongside conservation of biodiversity as determined by the Island's UNESCO Biosphere designation. [Return to Programme Poster session]

9.02. Researching for Sustainable Solutions for Sargassum Inundations in Turks & Caicos

Dr Debbie Bartlett *is an established and professional Chartered Landscape Architect (Management Division) and Fellow of the Chartered Institute for Ecology and Environmental Management with over 25 years of experience in consultancy and local government. A Senior Fellow of the Higher Education Academy she currently applies this range of experience to research, teaching and mentoring students. Research interests are currently focused on applying Nature-based Solutions to climate adaptation and socio-economic aspects of wildlife conservation and integration with livelihoods.* ***Dr J John Milledge*** *has a particular interest in the genus Sargassum and has produced an extensive number of peer-reviewed publications on algae biorefining and biofuels. John and* ***Birthe Nielsen*** *are both active members of the University of Greenwich Algal biotechnology Group and experienced in characterisation of different Sargassum spp. and valorisation of seaweed, particularly for biofuel and pharmaceutical applications.* ***Dr Heidi Hertler*** *is an experienced marine biologist who has worked on South Caicos for many years. Her research interests are focused on the relationships between land use and coastal marine systems, and on ways to integrate science and research into the development of environmental strategies and policies for the conservation of biodiversity and coastal resources. Her role as head of the School for Field Studies combines coastal education with community outreach raising awareness of the importance of environmental stewardship.*

Since 2011 beaches across the Caribbean, the Gulf of Mexico, and West Africa, have experienced massive inundations of pelagic sargassum, known as 'golden tides', significantly impacting the local economy and environment. These consist of holopelagic *Sargassum fluitans* and *S. natans* and when floating are ecologically important. They are the spawning grounds for economically important, and iconic fish species and several turtle species use them as nurseries. However, when seaweed is washed on to the beach, it is unsightly, restricts access to the water and causes an unpleasant smell. TCI is one of the UKOTs affected. This project aims to find out where sargassum is landing, when this is happening and the impact on wildlife and the economy, with a view to identifying a commercial use to make beach clearance cost-neutral and minimise environmental impact. In the first year of the project we:

• have produced a report on the impact of sargassum on tourist-based industries based on 100 interviews

• engaged students in monitoring to determine the locations, quantity and seasonality of sargassum deposition

• created and distributed simple identification sheets to enable the different morphotypes of *Sargassum* affecting the islands to be identified

• determined the relative proportions of different morphotypes deposited and level of contaminants in beach deposits

• collected samples and analysed chemical composition - high arsenic levels could be problematic (21- 124 mg kg^{-1} dw

• assessed the potential of *Sargassum* as a source of biogas – methane yields are low (< 145 L CH4 g^{-1} volatile solids)

• published initial results.

Further chemical characterisation to determine the potential for commercial uses of sargassum is ongoing, and work is underway on evaluating the environmental, social and economic impacts of both removing deposits or leaving them *in situ*. We would like to hear from anyone with any information or opinion on these issues. [Return to Programme Poster session]

9.03P. The impact of *Sargassum* brown tides on native seagrass meadows in Anguilla

Anna Smith, MSc student, Jersey International Centre of Advanced Studies

(I am an MSc student studying at the University of Exeter/JICAS. I have a specific focus on invasive species and seagrass, having previously carried out research on the impact of invasive lessepsian migrants on Posidonia oceanica *in the Mediterranean. I am currently completing my dissertation on "The impact of sargassum brown tides on native seagrass meadows in Anguilla".)*

Sargassum is an important holopelagic species which itself forms islands by matting together. This algal-based ecosystem holds its own endemic species. However, in recent history, *Sargassum* has become a pest species across the Caribbean due, in part, to increased seeding at the Amazon estuary and warming ocean temperatures. The build-up on Caribbean coasts causes products from the decaying algal matter to leach into the ocean *en masse*. Ammonia and sulphate (products of *Sargassum* decomposition) is vital for seagrass growth in moderate amounts. However, when in large quantities, it can cause over-production of algae in coastal

marine ecosystems. This reduces the light and oxygen availability for photosynthesising organisms, such as seagrass and coral. My dissertation project was looking at the extent which this has impacted native seagrass meadows in Anguilla across six sites which have suffered varying amounts of *Sargassum* in recent years. I found that, in sites of high *Sargassum* and/or disturbance, there was a turnover from native seagrass meadows to the invasive *Halophila stipulacae*. This could be due to mass die-offs of native, slow-growing seagrass due to eutrophication during times of high *Sargassum* decomposition which the invasive, fast-growing seagrass has then taken the opportunity to replace. I hope to use these data to inform the government of Anguilla of the remaining healthy seagrass meadows and their importance, with advice on non-destructive removal of beach *Sargassum*.

[Return to Programme Poster session]

9.04P. Recreational fishing of Atlantic Bluefin Tuna *Thunnus thynnus* in the Strait of Gibraltar: recommendations for implementing a catch-and-release fishery via stakeholder engagement

Francine R. Pons[1], Darren A. Fa[1], Stephen Warr[2], Clive Crisp[2] and Awantha Dissanayake[1]

[1]School of Marine Science, University of Gibraltar.

[2]Department of Environment, Sustainability, Climate Change and Heritage, Gibraltar

Francine R. Pons - BSc Wildlife Conservation (Liverpool John Moores University), MSc Marine Science and Climate Change (University of Gibraltar). Francine is embarking on a PhD on marine microplastics.

The Atlantic Bluefin Tuna (ABT - *Thunnus thynnus*) is a highly prized species for both commercial and recreational fisheries. Atlantic Bluefin Tuna exhibit migratory behaviour and are found to migrate into the Mediterranean Sea between May and early June and migrate out to the Atlantic waters between July and August. Marine management of British Gibraltar Territorial Waters (BTGW) is mandated under the Nature Protection Act (1991) and Marine Protection Regulations (2014), and there are no commercial fisheries. An ABT recreational fisheries is allowed to operate only under a strict permit and defined season of quotas, *i.e.* Total Allowable Catch (TAC) under the Tuna Preservation Regulations (2014).

A statistical analysis for the Gibraltar catch data (2017 – 2019) was carried out, demonstrating that the fishing method employed (trolling, popping and live bait) has a bearing on the size parameters of the tuna caught (weight, kg) (fork length, cm).

As part of stakeholder engagement and by way of gauging perceptions, the tuna angler community were canvassed for opinions by way of an anonymised online survey. Results show that 92% of respondents are interested in implementing a catch-and-release fishery. Potential implications, as well as best-practices for catch-and-release and tagging are discussed, including recommendations to increase compliance, sustainability and animal welfare. [Return to Programme Poster session]

Keywords: Atlantic Bluefin Tuna, Recreational Fisheries, Marine Management, Catch and Release

9.05P. The use of a fixed-point underwater camera, to promote stakeholder engagement as a method to increase marine citizenship and effective marine management practices at a local level

Maïté A. S. Kesteleyn[1], Darren A. Fa[1], Stephen Warr[2], Clive Crisp[2] & Awantha Dissanayake[1]

[1]School of Marine Science, University of Gibraltar

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Maite is a recent graduate of the University of Gibraltar's MSc in Marine Science & Climate Change programme.

Remote camera technology, such as underwater cameras, has been used as effective tools to monitor biodiversity and human impacts on the marine environment. The advent of technology has allowed marine scientists and managers to gather data on the abundance and biodiversity of species. Through citizen-science approaches, the goal of this project was to assess a fixed-point underwater camera installed within a Marine Protected Areas (MPA) as a tool with which to support research and engage with local stakeholders. The overall goal of this project (Project SEACOMM) was to promote marine citizenship through stakeholder engagement and communication, and support effective marine management practices at a national level within a UK Overseas Territory (UKOT) in line with national governmental aims. Gibraltar is a UKOT situated at the entrance to the Mediterranean and known globally as a biological 'hotspot' for diversity. Gibraltar, as with other countries within the Mediterranean, suffers from the spread of an invasive alien species of macroalgae which are restructuring the benthic environment; the long-term consequences of its spread are currently unknown.

The current project assessed the use of social-media platforms as a method to increase participation. Screen recordings from the underwater camera were taken at 10-min random time points at morning, midday and evening between May and July 2020. Species were identified and number quantified (where possible) within the recordings and communicated to the public via social media posts in order to encourage participation.

From the recordings, 32 marine species were identified from 15493 individuals, predominately fish species. In terms of identification success only < 2% of individuals were not identified. Throughout all the recordings, the most common were Sparidae (bream) and Labridae (wrasse) families. Notably, three identified species were on the red list, labelled vulnerable: *Dentex dentex* common dentex; *Balistes capriscus* grey triggerfish; and *Labrus viridis* green wrasse.

Since the Department of Environment (DESCCH) installed the underwater camera in 2015, participation via the public has been requested by email. Project SEACOMM facilitated over a four-fold increase in participation since the camera's launch in 2015 with over 400 photos received from the public through social-media channels (WhatsApp, Facebook and Twitter).

This project enabled a 'baseline' of species identification within a Marine Protected Area shedding light on local biodiversity and increased stakeholder engagement and communication; the contribution to marine management and increasing conservation

practices is discussed. [Return to Programme Poster session]

Keywords: Underwater camera, Biodiversity, Marine management, Stakeholder engagement, Citizen Science, Gibraltar.

9.06P. Identifying the importance of cultural ecosystem services provided by Gibraltar's marine environment

Luisa Haasova[1], Emma McKinley[2], and Awantha Dissanayake[1]

[1]School of Marine Science, University of Gibraltar.

[2]School of Earth and Environmental Sciences, Cardiff University

Luisa is a recent graduate of the University of Gibraltar's MSc in Marine Science & Climate Change programme.

The concept of ecosystem-services has become popular over the past decades with increasing amount of studies dedicated to human–environment interactions and the importance of cultural benefits for human wellbeing. Scientists and policymakers, particularly, are still facing the challenge of incorporating Cultural Ecosystem Services (CES) into the ecosystem services framework due to various factors associated with incommensurability, interconnectivity and difficulty to measure. Despite barriers in applicability, CES should not be left out of the decision-making processes, as the non- material benefits, more often than not, are more important to people than material ones. This study investigated how people in Gibraltar value and use the marine and coastal environment and its CES. Data from an online questionnaire of over 100 participants were analysed and results showed that multiple CES benefits are important to human wellbeing such as place identity, contact with nature and enjoyment provided by wildlife, sense of calmness/tranquility and personal identity. The present study also identifies the cultural practices that are taking place in Gibraltar's marine and coastal areas with an aim to understand the society's relationship with these blue spaces. Non-material benefits derived from CES have not been studied in Gibraltar to this day, as well as CES are not incorporated in any official government publication; this study is the first of its kind in Gibraltar and will aid/inform marine and coastal management. By understanding marine and coastal environmental places, cultural practices and values, decision makers are provided with a framework, which demonstrates the importance of the benefits that CES provide for human wellbeing at a local level. [Return to Programme Poster session]

Keywords: Cultural Ecosystem Services (CES), Blue space

9.07P. Flowerpots at sea: a proof-of-concept study for nature-based solutions to retro-fitting artificial shorelines

Ken Ruiz[1], Darren A. Fa[1] and Awantha Dissanayake[1]

[1]School of Marine Science, University of Gibraltar.

Ken came to the academic marine world relatively late in life. Born in Gibraltar in 1958, I left for Sheffield University, UK at age 19 and graduated in Medicine in 1984. In 1994 I took up my consultant anaesthetist post in the UK NHS and returned to Gibraltar in semi-retirement in 2016. The University of Gibraltar announced its inaugural Marine Sciences programme 2018 and I enrolled, for four years commuting to the UK until my final retirement in 2020, the year in which I graduated MSc Marine Science & Climate Change from University of Gibraltar. The research proposed here was to have been my Master's research project, but Covid lockdowns prevented excursions outdoors and the project was postponed. The undersea world has been a lifelong source of fascination for me, and as a youngster I'd spend entire summers snorkelling in the small rocky bays on Gibraltar's south west coast. SCUBA diving was a natural progression, and I've logged several hundred dives mostly in the Egyptian Red Sea, as well as the Indian Ocean, Florida, around the UK and of course Gibraltar.

Rapid urbanisation encroaching on coastlines often armours the coast to protect the valuable assets placed there. The natural shore can disappear altogether, replaced by artificial structures. Gibraltar is no exception. While artificial shorelines provide habitats for nature, these are of lesser quality than natural shorelines, lacking habitat complexity and heterogeneity, and made of components that are far more uniform in size, texture etc. than rocks in a natural rocky shore.

The biodiversity on artificial shores can be increased by adding simple features, *i.e.* increasing habitat heterogeneity. Typically water-retaining, e.g. grooves and pits, an artificial rock pool retains the most water. The proposed Proof of Concept study uses earthenware flowerpots as a low-cost, cost-effective alternative to other studies' methods, which have used expensive, and at times commercially available custom-manufactured structures. These flowerpots will be used to create pools when placed in the gaps between the rocks of an artificial rock shore in the intertidal zone. Local changes in biodiversity shall be measured against undisturbed gaps between the rocks, using multiple spatial replicates and recorded over time. A pot that sits firmly in an existing gap between rocks would be held in place by plugging gaps between the flowerpot and the rocks with vegetable matter, which would then be cemented over. Neither power tools nor particular skills are required. The materials used are ubiquitous and cheap and any vegetable matter readily to hand can be used.

So inexpensive is this technique that retrofitting existing artificial rock shores is a realistic option, and it may become a matter of routine to include these in new structures at the time of construction. Additionally, developing countries may be encouraged to become involved in enhancing their biodiversity of their artificial rock shores by the simplicity and low cost of this method.

Keywords: Artificial shore, Habitat heterogeneity, Biodiversity, Gibraltar [Return to Programme Poster session]

Interval Music from the Territories

Day 1 Before Topic 1	By Peter Millington, a medley of traditional Tristan da Cunha dance tunes, including: *The Pillow Dance; Donkey Dance; Untitled Shottee; Walking Time;* & *Tapioca's Big Toe*. The tunes were leant from recordings of islanders Percy Lavarello, Charlie Green, Big Herbert Glass & George Swain made in the 1960s and 1970s. Peter played his accordion for dancing on Tristan when he visited in 2020. The tunes are played on a one-row diatonic accordion or melodeon, tuned to the key of D. © Peter Millington
Topic 1 break	"Dooraght" performed by Manx harpist Mera Royle, on her album *The Ballaglass Set* (2018). Winner of the BBC Radio 2 Young Folk Musician of the Year 2018. Melody composed by Katie Lawrence and now popular as a folk dance. By kind permission of Mera Royle, Isle of Man. https://meraroyle.bandcamp.com
Before Topic 2	"My Affection" (2019). Written and performed by Stuart Wilson a reggae, jazz and blues musician from the Cayman Islands. Stuart has performed all over the world with a variety of artists. He is also the Historic Programmes Manager at the Cayman Islands National Trust. By kind permission of Stuart Wilson https://www.stuartwilsonmusic.com
Topic 2 break	"Rule the World" from the album *Holding the Fort* (2012). Written and performed by Stuart Wilson from the Cayman Islands. By kind permission of Stuart Wilson https://www.stuartwilsonmusic.com
Day 2 Topic 3 break	"Water Droplets" composed and performed by Dominic Lambert, who is currently studying at the Jersey Internationa Centre for Advanced Studies (JICAS).
Before Topic 4	"Magh ass e Kishtey" (Out of her Box) by Clash Vooar, on their album, *Rumours of Unease* (2018). Words and melody by Aalin Clague. What happens when a revived language is set free, running along like a mountain stream, picking up odds and ends on its way to the sea.... By kind permission of Clash Vooar. https://clashvooar.bandcamp.com/album/rumours-of-unease 6
Topic 4 break	The music planing is "Feel for You" (2016). Written and performed by Stuart Wilson, Cayman Islands.. By kind permission of Stuart Wilson https://www.stuartwilsonmusic.com
Before short session	"Dooraght" performed by Manx harpist Mera Royle, on her album *The Ballaglass Set* (2018). Winner of the BBC Radio 2 Young Folk Musician of the Year 2018. Melody composed by Katie Lawrence and now popular as a folk dance. By kind permission of Mera Royle, Isle of Man. https://meraroyle.bandcamp.com
Day 3 Pre-start	"So In Love With You" from the album *Holding the Fort* (2012). Written and performed by Stuart Wilson, Cayman Islands.By kind permission of Stuart Wilson https://www.stuartwilsonmusic.com
Topic 5 break	"Chanter's" performed by Scran, on their album, *Nane* (2018). Scran consists of some of the most talented young traditional musicians in the Isle of Man. The Chanter's (Tune) comes from the Irish tradition, although it is played all over the Celtic world, and Three Little Boats/Three Baatyn Beggey is a Manx tune. Permission of Culture Vannin. https://culturevannin.bandcamp.com/album/nane 3
Before Topic 6	"Hold Your Head Up High" (2015). Written and performed by Stuart Wilson, Cayman Islands. By kind permission of Stuart Wilson https://www.stuartwilsonmusic.com
Topic 6 break	"Real Come Back Story" (2013). Written and performed by Stuart Wilson, Cayman Islands. By kind permission of Stuart Wilson https://www.stuartwilsonmusic.com
Before poster session	"Turks Anthem" and "Turks & Caicos" by Dean Sparks the Turks Cactus, who has been building his solo career as a hip-hop artist since 2013. He is best known for spreading the messages of Peace, Love and Positivity in his community. Now being more realistic of what really goes on in the world/streets where "dogs eat dogs" and friends kill friends, he uses his real-life experiences that shaped his mind, not to continue the vicious cycle of violence but to expose this cycle for what it is and go against it.
Day 4 Pre-start	"Bokset" performed by Scran, on their album, *Nane* (2018). Scran consists of some of the most talented young traditional musicians in the Isle of Man. A set of lively tunes from the Isle of Man and the Basque Country: S'laik Lhiam Bine dy Yough (Greg Joughin as Sarah Hewson) - Bok e Spok (Kepa Junkera) - Flitter Dance (Trad.). With permission of Culture Vannin. https://culturevannin.bandcamp.com/album/nane
Topic 7 break	"Represent" from the album Holding the Fort (2012). Written and performed by Stuart Wilson, Cayman Islands.By kind permission of Stuart Wilson https://www.stuartwilsonmusic.com
Before Topic 8	"La Nina" composed and performed by Dominic Lambert, who is currently studying at the Jersey Internationa Centre for Advanced Studies (JICAS); and . "Mylecharaine's March/Moirrey ny Cainle" performed by Manx harpist Mera Royle, on her album *The Ballaglass Set* (2018). By kind permission of Mera Royle. https://meraroyle.bandcamp.com/
Topic 8 break	"Fathaby" performed by Scran, on their album, *Nane* (2018). Scran consists of some of the most talented young traditional musicians in the Isle of Man. A set of lively jigs! Fathaby Jig (Trad.) - Kiaull as Craic (Owen Williams) - Sac dy C'heck (Gilno Carswell). With permission of Culture Vannin. https://culturevannin.bandcamp.com/album/nane
Pre-closing session	"Three Kings" (2012). Written and performed by Stuart Wilson, Cayman Islands. By kind permission of Stuart Wilson https://www.stuartwilsonmusic.com
At closing	"Lhiggeyder Folley" (The Blood Letter), words and melody by Aalin Clague & Breesha Maddrell, and, and "Long Grass", words and melody by Aalin Clague. Both by Clash Vooar, on their album, *Rumours of Unease* (2018). By kind permission of Clash Vooar. https://clashvooar.bandcamp.com/album/rumours-of-unease

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