The Joint Nature Conservation Committee response to
‘**Safeguarding the environment in British Overseas Territories: call for evidence’**

July 2019

Summary of JNCC key messages

1. JNCC has worked with the UK's Overseas Territories (OTs) for approximately 10 years, prepared the 2011 UK OT Biodiversity Strategy on behalf of Defra and since that time has provided strategic support for implementation of the Strategy by working with the OTs to mainstream biodiversity issues into decision making.

2. JNCC supports the Territories, and UK Government, in the implementation of Multilateral Agreements such as the Convention on Biological Diversity, Convention on Migratory Species and Ramsar Convention on Wetlands of International Importance; the implementation of UK Government policy in the Territories; the use of new technologies and new techniques to assist the OTs to meet existing and anticipated environmental challenges; and capacity building to reduce the dependence of the Territories on outside assistance.

3. JNCC currently has 25 staff across the organisation who commit all or part of their time to OTs work, including an officer based permanently in the Falkland Islands. This breadth of engagement, in time, space and across a range of technical and policy issues, and marine and terrestrial environments, places JNCC in a unique position to implement transformational change projects in the OTs.

4. Most recently, JNCC has led in the application of natural capital techniques in the OTs, making innovative use of Earth Observation and economics techniques for mapping and evaluating environmental assets, and is leading on behalf of Defra in the application of the 25 Year Environment Plan in the OTs to develop monitoring, indicators and reporting programmes.

5. JNCC is also working with the OTs to develop Coral Reef Action Plans under the UK's OT Coral Reef Initiative which will help the OTs to identify priority actions to contribute to a global reef assessment.

6. The overarching objectives of the JNCC work programme, funded by the UK Government, are **to encourage effective biodiversity conservation in the OTs and demonstrate how biodiversity supports economic security and disaster resilience, whilst simultaneously reducing the dependency of the Territories on outside assistance in managing their environments**. This support for the Territories includes significant capacity building, promoting the role of biodiversity conservation in contributing to Territories' economic security, and enhancing nature-based solutions towards building disaster resilience and climate change adaptation.

7. In respect **of the ability of the Territories to benefit from spending on biodiversity** and other environmental issues, JNCC's OT experience indicates two significant limitations:

    i. A lack of ability by the OTs to maximise use of existing data from prior OT projects implemented by outside agencies because of limited access to

data and outputs from diverse work programmes held in diverse, often overseas, locations. This reduces OT ability to obtain maximum benefit from data and products already acquired and compromises the value for money to be expected from UK Government supported projects;

ii. Data management limitations in many OTs, as large amounts of new data emerge from satellite, drone and marine surveys. Such data are being acquired at a pace which continues to outstrip the ability of the OTs to store, collate and analyse new data from diverse sources.

8. In respect of the **administration and use of funds available through Darwin Plus, CSSF and ODA, JNCC recommends:**

i. **For Darwin Plus**: that the Programme a) implements a more rigorous process to ensure non-OT based organisations seeking funding clearly demonstrate that proposals meet OT priorities; b) discriminates in favour of projects that have a minimum level of funds transferred to partner OT organisations with consideration given to setting the minimum at 25% of the total project costs where Territories have the capacity to benefit; c) establishes an 'entry-level' tier of funding, for smaller projects and exclusively reserved for OT-managed projects.

ii. **For CSSF:** there should be a clearly defined environment element of the CSSF programme, focused on the 'Stability and Security' aspects of the fund, targeted at supporting and enhancing those ecosystems goods and services essential to support economic stability and mitigate disaster risks in the OTs.

iii. **For ODA**: Darwin Plus and CSSF should follow the lead of the 'main' Darwin Initiative programme and require all projects using ODA funding to be explicit as to the societal benefits of the projects, rather than assume that any project implemented in an ODA eligible OT automatically meets the expectations associated with development assistance.

9. In respect of the **quantum of spend required to support biodiversity conservation in the Overseas Territories:**

i. JNCC makes no specific recommendation on the amount of funding required, but funding should be sufficient to provide evidence and support for appropriate interventions, policy making and planning in the OTs. Data collection without sufficiently clear purpose or sufficient links to OT objectives and priorities, or driven by priorities and objectives of non-OT organisations implementing projects, should be avoided. A closer link between funding and policy outcomes should be established to ensure the projects are delivering tangible benefits to OT environment and economy;

ii. JNCC believes that the data and products coming out of UK investment in OT biodiversity projects are significantly under-utilised by the OTs. This is

due to the lack of data management capacity, inadequate access by the OTs to data collected in their own Territory, and limited human capacity and expertise. JNCC recommends that a high priority in the future should be an increased focus on supporting projects that add value to investment already made in data collection and analysis. In some cases, this will provide more cost-effective support for managing OT biodiversity issues than gathering new data.

10. **Wider economic and strategic benefits from biodiversity conservation** - the OT natural capital programme led by JNCC is directed towards integrating valuations of biodiversity – social and monetary – into policy making and planning. An analysis of the economic benefits arising from biodiversity, and benefits from 'nature-based solutions' to build resilience to extreme weather events resulting from climate change, make a very convincing case not only for the protection of existing biodiversity but for active restoration of terrestrial and marine habitats.

11. **The Call for Evidence on 'Safeguarding the environment in British Overseas Territories', in parallel with the 2019 Spending Review, offer significant opportunities to reassess the effectiveness of current funding mechanisms**, the scale of funding appropriate to the scale and nature of the environmental challenges facing the Territories and how to best target future funding to maximum effect. In this submission, JNCC comments on the barriers to effective investment in OT environmental management, how these barriers may be overcome and how new ways of working could add value to data already collected to ensure the Territories obtain maximum benefit from future investment.

12. **In this submission JNCC outlines one mechanism, for a transformational programme, which would complement other programmes of work and research, such as the Blue Belt programme**, to bring about a material change in the ability of the participating OTs to manage their own environmental issues and enhance biodiversity conservation. This programme would integrate capacity building, in human resources and data management, with other focussed technical programmes designed to maximise the value of previous UK Government investment in the Territories. JNCC estimates that such a transformational programme would require approximately £10 million over a 4/5-year period.

Contents

1. Introduction to JNCC

1.1 JNCC's statutory UK role

1.1.1 JNCC is the public body that advises the UK Government and devolved administrations on UK-wide and international nature conservation[1]. The organisation's work helps maintain and enrich biological diversity and sustain those natural systems on which we all depend, such as food, fresh water and clean air. The goods and services that these systems provide contribute to economic growth and social well-being and are integral to sustainable development.

1.1.2 Good policy-making, planning, development and risk management all depend on reliable, up-to-date information about biodiversity status and trends. JNCC's UK role is to provide evidence, information and advice so effective decisions can be made that protect natural resources and systems. JNCC advises Government and a wide range of bodies to help join up policy and to deliver a strong and cost-effective evidence base by helping to see that the best possible return is achieved from investment in research and surveillance in the UK and internationally.

1.1.3 Over the last decade JNCC has used its UK experience to build long-term, strategic partnerships with the governments of the inhabited Territories of the Caribbean and South Atlantic. **The overarching objective of the JNCC work programme, funded by UK Government, is to encourage effective biodiversity conservation in the OTs and demonstrate how biodiversity supports economic security and disaster resilience, whilst simultaneously reducing the dependency of the Territories on outside assistance in managing their environments.** This support for the Territories includes significant capacity building, promoting the wider role of biodiversity in contributing to Territories' economic security, and enhancing nature-based solutions towards building disaster resilience and climate change adaptation.

1.2 JNCC competency areas

1.2.1 JNCC has a high level of competency and expertise in linking science to policy. Its UK and international functional roles emphasise the collection and provision of evidence, information and advice, so effective political and planning decisions can be made that protect natural resources and systems. The organisation has significant experience in applying this approach to working with UK and OT Government departments to support their policy and planning processes.

1.2.2 Key JNCC technical functions and competencies in context of the Call for Evidence submission are:

Environmental Surveillance and Monitoring[2]

- JNCC delivers surveillance and monitoring through partnerships, which aim to answer a wide range of questions at different geographic scales. Work also involves developing strategies and innovations to improve value for money and the quality of evidence delivered;

[1] https://jncc.gov.uk/about-jncc/
[2] https://jncc.gov.uk/monitoring/analyses-trends/

- JNCC has world-class expertise in the field of Earth Observation (EO) and uses this to provide high-quality evidence on biodiversity and ecosystems to inform decisions affecting the environment[3]. Through using open data available from the Sentinel satellites, as part of the Copernicus Programme, EO can help meet environmental policy and operational evidence needs. JNCC is a member of the Defra EO Centre of Excellence, a collaboration with organisations across the Defra network.

Marine evidence and monitoring[4]

- JNCC works to develop an understanding of how human activities (e.g. fishing activities) can cause pressures in the marine environment (e.g. abrasion, siltation), and how the spatial overlap of pressures with sensitive species and habitats exposes these ecosystem components to impact;
- With 10+ years of analytical experience (domestic & international) mapping fishing impacts, JNCC has extensive experience in analysing fisheries effort data.
- JNCC created and maintain the marine habitat classification for Britain and Ireland, and have used this knowledge to lead multiple national and international projects to map and model the distribution and extent of seabed habitats using data from surveys and environmental parameters;
- JNCC produces standards, guidance and protocols to ensure consistency and quality assurance of marine data gathered, and to enable integration of data from different sources.
- As part of the UK Marine Monitoring and Assessment Strategy, JNCC lead in developing a coordinated UK Marine Biodiversity Monitoring R&D Programme. The Programme spans UK territorial and offshore waters and includes monitoring for all biodiversity elements both in Marine Protected Areas and in the wider marine environment;
- JNCC works to develop options and refine methods for efficient, integrated monitoring of marine biodiversity to provide the evidence needed for all the policy drivers.

Marine ecosystem assessment[5] and management

- JNCC provides scientific and technical advice to the UK Government and international organisations on the assessments of impacts from human activities, status of vulnerable habitats and species, and environmental trends on the marine environment;
- JNCC coordinates and engages with national and international partners to develop key indicators of the health of the marine environment, and recently we have been engaging with OTs on the development of indicators and assessment methods to assess the condition of benthic habitats and mobile species, providing guidance to support the implementation of the 25 Year Environmental Plan;

[3] https://jncc.gov.uk/monitoring/earth-observation/
[4] https://jncc.gov.uk/our-work/uk-marine-biodiversity-monitoring-programme/
[5] https://jncc.gov.uk/our-work/marine-assessment/

- JNCC is working with the UK Government and the OTs to identify prioritised actions and to develop Coral Reef Action Plans under the UK's OT Coral Reef Initiative;
- JNCC represents the UK Government and the OTs on the International Coral Reef Initiative's (ICRI) Global Coral Reef Monitoring Network (GCRMN) Steering Committee to facilitate OT access to, and participation in, regional hubs and promote data flows into regional and global assessments;
- JNCC have over 10 years of experience in the design and implementation of projects to deliver Marine Protected Area networks across the UK. This has included the design of stakeholder-centred processes and involved significant engagement with international partners under OSPAR and other MEAs to advise on and share best-practices. JNCC has been advising MMO and Cefas on some of their work under the Blue Belt Programme and are well-placed to extend our skillset into the OTs moving forward drawing upon and building on our existing effective networks.

Multilateral Environmental Agreements (MEAs)[6] and other international initiatives

- JNCC provides scientific and technical advice to the UK Government and the OTs on the interpretation, application and implementation of the MEAs, including Convention on Biological Diversity (CBD), Convention on the International Trade in Endangered Species (CITES), the Ramsar Convention on Wetlands of International Importance, the Convention on Migratory Species (CMS) and the OSPAR Convention. We currently undertake a similar role in relation to the International Coral Reef Initiative and the Commonwealth Blue Charter Coral Reef Protection and Restoration Action Group; both contribute to the UK's domestic and international commitments as outlined in the 25 Year Environment Plan and International Ocean Strategy (pending publication);
- JNCC (and RBG Kew for flora) have Memoranda of Understanding to act as the Scientific Authority for CITES in the Falkland Islands and British Indian Ocean Territory and are currently in discussion with St. Helena. JNCC provide informal advisory services on CITES to the other Territories;
- The Falkland Islands, South Georgia and South Sandwich Islands, Tristan da Cunha and the British Antarctic Territories are all included in the UK's ratification of the Agreement on the Conservation of Albatrosses and Petrels (ACAP). ACAP has a meeting of parties every 3 years. JNCC supports OTs Governments to implement the agreement by helping to define what kind of work and evidence are needed to meet obligations and aspirations to ACAP;
- JNCC draft UK reports to MEAs, including consultations with, and data collation from, those OTs to which MEAs have been extended.

Natural capital[7]

- One of JNCC's core functions is the delivery of common approaches and standards and JNCC is developing the natural capital concept to assess biodiversity and ecosystem services;

[6] https://jncc.gov.uk/our-work/international-conventions/
[7] https://jncc.gov.uk/our-work/natural-capital-in-the-overseas-territories/

- JNCC is well placed to work with partners in the UK and internationally to produce an evidence-based natural capital approach which is scalable (i.e. can be used for local to supranational level), relates biodiversity data to ecosystem services, and can be integrated for modelling purposes for use in optimising land uses;
- Internationally, the UK is in the vanguard of thinking on natural capital and its practical application through fora such as the European Commission's Mapping and Assessment of Ecosystems and their Services (MAES) project and through its Overseas Territories programme.

1.2.3 Key JNCC non-technical functions and competencies in context of the Call for Evidence submissions are:

Close functional links with UK Government Departments

- JNCC provides the Secretariat function for the UK Government's OT Biodiversity Group;
- JNCC chairs and provides the Secretariat for the UK OTs Coral Reef Initiative Steering Committee;
- JNCC works through Defra to utilise CSSF and ODA funding to support environmental projects in the OTs;
- JNCC has implemented environmental mainstreaming and natural capital projects on behalf of the FCO between 2012 and 2019[8];
- JNCC is represented on the Darwin Plus Advisory Group and contributes to the strategic planning for this programme and the annual review of projects submitted through each bidding round;
- JNCC enables cross-UKOT experience and information sharing through the UKOT Training and Research Steering Group;
- JNCC has specialist staff seconded into Defra and DfID.

Close functional links with OT Governments and their representatives

- In the OTs, JNCC works exclusively with OT Government Departments, relevant Ministers and agencies to support policy and planning priorities in the individual OTs, building institutional capacity;
- JNCC liaises with the London representatives of the OT Governments (UK Overseas Territories Association) to ensure maximum communication of its work to OT Governments;
- In implementing projects in the Overseas Territories, JNCC routinely liaises with island based, FCO or DfID appointed Governors.

Proven institutional capacity to consult with Overseas Territories and deliver extended, meaningful, capacity building programmes.

- JNCC has managed a significant number of training events in the OTs over the last decade building capacity in a wide range of technical areas, including use of

[8] http://jncc.defra.gov.uk/page-6436 and https://jncc.gov.uk/our-work/natural-capital-in-the-overseas-territories/

GIS, Earth Observation data, use of environmental indicators, data management and economic approaches to valuing the environment[9];

- JNCC has engaged in systematic consultations with individual Territories, or groups of Territories, to establish environmental priorities and ways and means to address these in the context of Environmental Mainstreaming and natural capital programmes implemented on behalf of the Foreign and Commonwealth Office[10].

2. JNCC's approach and role in the UK Overseas Territories as context for this submission

2.1 JNCC Strategic Approach

2.1.1 As small islands, the United Kingdom's inhabited Overseas Territories provide a home to approximately 250,000 people who are reliant on their natural environment, and the benefits that it provides, for their economic welfare and their security. JNCC's work programme is designed to **support economic security, build disaster resilience and encourage effective biodiversity conservation**. JNCC's programme of work recognises, as does the Call for Evidence, '*that action on biodiversity contributes to delivering a range of sustainable development objectives'*.

2.1.2 JNCC's Overseas Territories programme also focuses on building capacity in the Overseas Territories to maximise their ability to address their own environmental issues and reduce their dependence on outside assistance. To contribute to this enhanced capacity, JNCC is promoting the key role of biodiversity in the context of sustainable economic growth, food security, water security, livelihoods, climate change adaptation and mitigation and disaster risk reduction.

2.1.3 Through the use of CSSF funding, JNCC has pioneered the use of a 'natural capital approach' in the OTs to provide better information to Territory Governments on the benefits the natural environment provides to society to allow aspirations for economic growth to be met whilst ensuring the ability of the environment to deliver these benefits is not compromised. The natural capital approach also provides a policy and planning framework, and a variety of processes to make a wide range of socio-economic and scientific data policy-relevant[11].

2.1.4 JNCC's CSSF OT natural capital work identified two significant problems related to use of socio-economic and scientific data currently impeding transformational change in OT environmental management. One is a lack of ability by many OTs to fully access and use existing data from prior projects, the other a data management capacity problem. The rapid increase in available data (from satellites, drones, Lidar, marine surveys etc) is outstripping storage/management capacity. The net result of both problems is that OTs cannot gain maximum benefit from the multiple previous and current projects.

2.1.5 JNCC recognises that new data are required, and will continue to be required, to provide the evidence base for environmental management (in particular in the marine environment) but significant new effort should be put into maximising the value of existing

[9] http://jncc.defra.gov.uk/page-7004
[10] https://jncc.gov.uk/our-work/natural-capital-in-the-overseas-territories/
[11] http://jncc.defra.gov.uk/pdf/UKOTNaturalCapitalGuidance.pdf

data. Seven years of Darwin Plus investments and over three years of CSSF supported work have created substantial data sets but the OTs have legitimate concerns that they are not getting the maximum benefit from projects commonly managed by off-island organisations. JNCC believes that data and products are frequently under-utilised by the OTs because of technical and human capacity limitations. JNCC itself is now making a strategic shift in its OT policy to support their ability to **discover – access – manage – analyse – make use of existing data** to enhance economic security, build disaster resilience and support biodiversity conservation.

2.1.6 JNCC accepts that recruiting project managers to work full-time within an OT, for example managing a Darwin Plus project, is desirable but it is often difficult to implement in practice because of the length of recruitment processes, employment law restrictions and the remote nature of some of the OTs limiting the potential field for applicants. JNCC is developing technical assistance programmes that involve short term secondments across a wide range of specialist staff to maximise the capacity building element of its projects ensuring meaningful rather than token training programmes.

2.1.7 As a result of these challenges and limitations, JNCC is implementing a new approach to supporting the UK Overseas Territories involving three aspects:

- *Focussing increasingly on use and analysis of existing data* (in particular data coming from previous UK Government investment through Darwin Plus and CSSF projects) to maximise the value of prior investments by UK Government and the value of this data for effective OT decision making;

- *Moving away from the 'fly-in-fly-out' approach* typically used in OT project management and, where recruiting OT based project managers is not feasible, use short-term placements of JNCC technical experts into the OTs to contribute to project management, and to implement in-depth capacity building and skills transfer;

- *Reducing the dependence of OTs on outside assistance* by building significant new human capacity to manage and analyse data, add significant new IT capacity to store and process data, and develop tools (GIS, database, data analysis techniques) to make data policy-relevant.

2.2 JNCC role

2.2.1 JNCC has been working with the UK's Overseas Territories (OTs) for approximately 10 years, prepared the 2011 UK OT Biodiversity Strategy on behalf of Defra and since has provided strategic support to implementation of the OT Biodiversity Strategy by working with the OTs to mainstream biodiversity issues into decision-making in the Territories.

2.2.2 JNCC supports the Territories, and UK Government, in the implementation of Multilateral Environmental Agreements such as the Convention on Biological Diversity, the Convention on Migratory Species, the Convention on International Trade in Endangered Species and the Ramsar Convention on Wetlands of International Importance.

2.2.3 JNCC supports the implementation of UK Government policy in the Territories though use of new technologies and new techniques to assist the OTs meet existing and anticipated

environmental challenges. Most recently, JNCC has led in the application of natural capital techniques in the OTs, making innovative use of Earth Observation and economic techniques for mapping and evaluating environmental assets. JNCC is also leading, on behalf of Defra, in the application of the 25 Year Environment Plan in the OTs to develop OT and UK related monitoring and reporting programmes and represents the UK Government and the OTs on the International Coral Reef Initiative's (ICRI) Global Coral Reef Monitoring Network (GCRMN) Steering Committee to facilitate OT access to, and participation in, regional hubs.

2.2.4 JNCC currently has 25 staff across the organisation who commit all or part of their time to OTs work, including an officer based permanently in the Falkland Islands. The Appendix to this report summarises JNCC engagement with the Territories at the time of this submission. This breadth of engagement, in time, space and across a range of technical and policy issues means JNCC is well-placed to implement transformational change projects in the OTs.

2.2.5 JNCC has the following unique attributes:

Terrestrial – Marine role

JNCC holds a unique position in respect of its work with the OTs. Other organisations focus on marine or terrestrial work programmes, have specialised roles involving biosecurity, invasive alien eradication or control, or mapping terrestrial vegetation. Working with Territory governments and their agencies, JNCC provides technical assistance to support biodiversity and wider environmental management strategies across *both* terrestrial and marine environments, linking science to policy.

Wide skill set and a unique role in advising UK government

In respect of JNCC's advisory role and project implementation for terrestrial and marine systems, JNCC's key competencies developed over two decades in its support for the UK, and subsequently OT Governments, are in:

- terrestrial and marine biodiversity surveillance and monitoring, assessment and reporting;
- use of state-of-the art earth observation techniques and technology;
- all aspects of marine management, including the design, implementation, management, monitoring and assessment of marine protected areas;
- advising on implementation of multilateral environmental agreements;
- in-depth capacity building through long term training programmes and partnerships;
- support for ongoing Territory based consultative processes to assist the Territories to identify, revise and refine environmental priorities and develop new environmental management strategies to address future challenges, including informing climate change adaption and mitigation strategies.

Links to UK and OT Government bodies

- JNCC has established links, through secondments, project management and policy advice to UK Government departments, DfID, FCO, and Defra;
- JNCC has working relationships at technical, senior civil servant and Ministerial levels in the inhabited Caribbean and South Atlantic Territories with a unique role in supporting policy development in the OTs. Examples include support for the BVI to include environmental indicators in new legislation; advice to Montserrat Government to value and manage its national fishery; support for the TCI to develop a new Environment Strategy and implement national monitoring programmes modelled on the UK 25YEP;
- working link to the London representatives of the OTs though UK Overseas Territories Association (UKOTA).

3. What current funding is delivering in terms of outputs and outcomes for the environment

3.1 JNCC use of funding to support OT biodiversity conservation

3.1.1 JNCC's response to this section refers to funding it receives to undertake work in the OTs. JNCC focuses on maximising the use of available funds to support OT projects, capacity building, training and data acquisition.

3.1.2 In recent years, JNCC's work in the OTs has been supported primarily by UK Government funding sources as follows:

- *Defra core Grant in Aid to JNCC:* approximately £500,000 annual project and staff costs to support engagement with the OTs (See Appendix);

- *Non-core GIA*: £2,500,000 during 2016-2019 for CSSF funded 'Natural Capital in the Caribbean and South Atlantic Overseas Territories' project[12] and work on the International Coral Reef Initiative;

- *Non-core GIA ODA*: supporting work in Montserrat, Pitcairn, St Helena and Tristan da Cunha in 2019/20;

- *Darwin Plus project***:** DPLUS065 Mapping the coastal habitats of the Falklands and South Georgia; DPLUS087 Mapping for evidence-based policy, recovery and environmental resilience (partner led); DPLUS094 Developing Marine Spatial Planning tools for Turks and Caicos (partner led);

- *Former OTEP programme***:** Various projects including CITES workshops and training;

- *Defra, FCO and OTs Governments*: Support for JNCC officer based in the Falklands to work 50% on the Agreement on Albatrosses and Petrels and 50% on general OT projects.

[12] https://jncc.gov.uk/our-work/natural-capital-in-the-overseas-territories/

3.1.3 Principal outputs and outcomes from the JNCC work programme over the last three years can be grouped into seven categories as follows, with technical reports, and reports on activities, available on the JNCC website: http://jncc.defra.gov.uk/page-4079.

i. *Support for Multilateral Agreements* – JNCC has conducted capacity building in the territories to improve CITES implementation and enforcement. JNCC has an officer based full-time in the Falkland Islands who is responsible for co-ordinating on the provision of conservation advice on albatrosses and petrels to the South Atlantic Overseas Territories and UK governments.

ii. *Environmental mainstreaming* - JNCC has developed and managed an environmental mainstreaming process (applied as Green Economy projects in the British Virgin Islands, Anguilla and Turks and Caicos Islands) to help the OTs identify their environmental priorities. These projects were funded by the FCO, Defra and JNCC.
Link: http://jncc.defra.gov.uk/page-6436

iii. *Technical workshops* - JNCC has routinely coordinated regional and cross-Territory workshops to bring together practitioners and technical experts to share experiences and build capacity in priority areas of focus.
Link: http://jncc.defra.gov.uk/page-7004

iv. *Territory to Territory Partnerships* - JNCC Overseas Territories programme facilitates a number of partnerships across the UK's Overseas Territories, including links between the Falkland Islands and Caribbean OTs, and links between the British Virgin Islands and Turks and Caicos Islands in particular. These partnerships build OT capacity to share 'island-to-island' solutions and transfer knowledge and capacity with and outside their own regions.
Link: http://jncc.defra.gov.uk/page-7338

v. *UK Government 25 Year Environment Plan* – JNCC is working with Defra to develop a framework for reporting on the areal extent and condition of Protected Areas within the UK's Overseas Territories, with an emphasis on the role of Earth Observation (EO) data and the development of marine condition assessment within and outside Marine Protected Areas. This consultative process is leading towards wider use by the OTs of the 25YEP indicator-based approach to support consistent national monitoring and international reporting on behalf of OT and UK Governments;

vi. *Natural capital assessments* - JNCC embarked on the 'Natural Capital in the Caribbean and South Atlantic Overseas Territories' project, funded by the Conflict, Stability and Security Fund (CSSF), in late 2016. The project pioneered the use of natural capital assessments in several of the UK's Caribbean and South Atlantic Overseas Territories and built an understanding of the underlying value of biodiversity for economic security and disaster resilience. It is also enhancing, through 25YEP related work, capacity to monitor environmental change and integrate environmental evidence into economic policy making and infrastructure planning.
Link: https://jncc.gov.uk/our-work/natural-capital-in-the-overseas-territories/

vii. *Data acquisition and analysis* – JNCC has supported purchase and analysis of satellite and other data for long term use by all inhabited Territories in the Caribbean and South Atlantic, including for use in building disaster resilience and fisheries management. As a result, the Territories now have access to a large set of satellite data for use in environmental monitoring, spatial planning and disaster preparedness along with (through training programmes) enhanced human capacity to make use of the data.

Link satellite data:
http://jncc.defra.gov.uk/PDF/OT_NCA_SUP_CBN_03_BVI_ANG_VulnMapping_May2018.pdf

Link Montserrat fisheries:
http://jncc.defra.gov.uk/pdf/ot_nca_sup_cbn_07_mst_data-int-strategy-draft.pdf

3.2 Impact of JNCC programme on biodiversity conservation in the OTs

3.2.1 JNCC's Overseas Territories programme focuses on building capacity in the Overseas Territories to maximise their ability to address their own environmental issues and reduce their dependence on outside assistance. To contribute to this enhanced capacity, JNCC is promoting the key role of biodiversity in the context of sustainable economic growth, food security, water security, livelihoods, climate change adaptation and mitigation and disaster risk reduction. The impact of this work is summarised as:

i. Ongoing cycles of consultation over extended periods **to assist the OTs to identify their own environmental priorities, build institutional capacity to address these and develop policy and planning initiatives to integrate environmental considerations into decision making.**

Examples: Environmental Mainstreaming - http://jncc.defra.gov.uk/page-6436

Examples: Natural capital workshops - http://jncc.defra.gov.uk/pdf/OT_NCA_SAT_01_SAERI_SANCA-Workshops_Feb17.pdf

ii. The **acquisition of new data of long-term strategic value to the OTs**, including socio-economic data and large amounts of high-resolution satellite data for use in environmental monitoring, building disaster resilience, monitoring the condition of Protected Areas, species status monitoring, economic and spatial planning

Examples: Disaster resilience work/reports - http://jncc.defra.gov.uk/PDF/OT_NCA_SUP_CBN_03_BVI_ANG_VulnMapping_May2018.pdf

iii. A long-term commitment to **real, substantial, capacity building** through delivering a series of regional and on-island workshops and continuous training to island residents on: data management and GIS; marine protected areas; sustainable fishing; seabird monitoring and action planning; coral monitoring and action planning; biosecurity; natural capital assessments and accounting; sustainable wildlife trade; and implementation of multilateral environmental agreements. The training

complements the data acquisition ensuring on-island ability to manage and analyse data.

Example: Technical Workshops - http://jncc.defra.gov.uk/page-7004

iv. Development of effective, long term partnerships to **ensure funds and technical effort are targeted at OT priorities,** this achieved through on-island consultations, regional workshops and ongoing technical support which transcend individual, time limited projects.

Examples: Territory to Territory partnerships - http://jncc.defra.gov.uk/page-7338

v. A focus on **the use of GIS and Earth Observation technologies** in which JNCC and UK partners have world class expertise, the emphasis being on skill sharing and transfer, **facilitating access to free-to-download satellite data, purchasing satellite data sets for multiple use by the OTs, and developing the IT systems to store, manage and analyse data**.

Example: Mapping Falklands and South Georgia Coastal Margins for Spatial Planning - http://www.darwininitiative.org.uk/project/DPLUS065/

vi. **Demonstrating the functional and economic value of the natural environment in reducing disaster vulnerability** in the Caribbean OTs CSSF funded work to map areas of OTs vulnerable to natural hazards and identified the value of natural capital, including biodiversity, in mitigating impacts.

Example: *An assessment of the value of natural capital in the protective service against coastal and inland flooding in the UK Overseas Territory of the British Virgin Islands* - http://jncc.defra.gov.uk/pdf/ot_nca_sup_sat_16_BVI_%20nca_mar19.pdf

vii. **Adding value to UK Government investment in other agencies including** a) Working with the **UK Space Agency** to develop a protocol for activating the Disasters Charter to support immediate post-hurricane response strategies in the Caribbean OTs and b) **UK Hydrographic Office** to maximise the value of seabed survey work in the Caribbean to the OTs.

viii. **Demonstrating the economic value of the natural environment for the OTs** to inform policy making and planning to identify opportunities for economic development based on better management of existing natural assets or active interventions to maintain these values. Natural capital assessments and, in some cases, natural capital accounting have been conducted for Anguilla, British Virgin Islands, Turks and Caicos Islands, Montserrat, St Helena, Falkland Islands, Tristan da Cunha, Ascension. **JNCC has promoted a natural capital approach as a framework with processes to make a wide range of socio-economic and scientific data policy-relevant.**

Example: 'Natural Capital Accounting for the UK Overseas Territories: a Guide'. - http://jncc.defra.gov.uk/pdf/UKOTNaturalCapitalGuidance.pdf

3.3 Barriers to tackling the biodiversity challenges in the OTs

3.3.1 The Overseas Territories are all different and biodiversity conservation programmes are implemented in different biogeographic, geological, cultural and political settings. JNCC has no comment on barriers that may exist for the uninhabited Territories. In respect of the barriers limiting the ability of the inhabited Territories to benefit from spending on biodiversity and other environmental issues, JNCC's OT experience clearly indicates the following significant limitations:

i. *Capacity limitations associated with the relatively small populations* of the islands (Figure 1) many of which have populations similar to small towns in the UK (Stamford, Lincolnshire, on the chart illustrates the comparison). This imposes limitations on the skills base on which OT Governments and NGOs can draw.

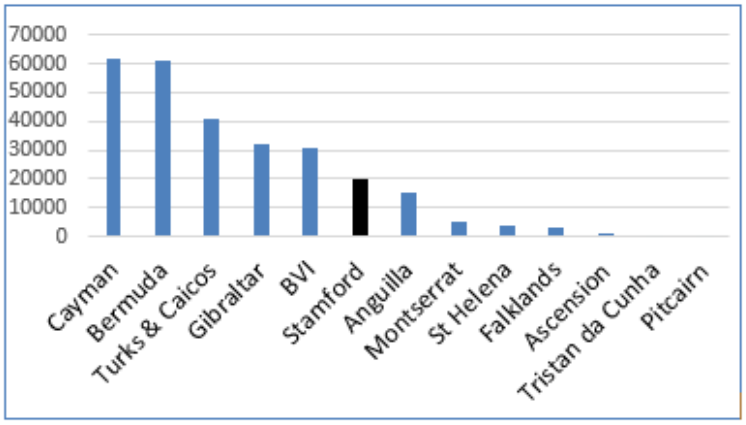

Figure 1. Population size (Y axis) of UKOTs (compared with Stamford, UK)

ii. *A lack of ability by the OTs to maximise use of existing data from prior OT projects* implemented by outside agencies because of limited access to data and outputs from diverse work programmes held in diverse, often overseas, locations. This reduces OT ability to obtain maximum benefit from data and products already acquired and compromises the value for money to be expected from UK Government supported projects;

iii. *Data management limitations* in the OTs, as large amounts of new data emerge from satellite, drone and marine surveys. Such data are being acquired at a pace which continues to outstrip the ability of the OTs to store, collate and analyse newly acquired data;

iv. *Lack of awareness of the importance of biodiversity*, its importance in underpinning the economies of the OTs and its contribution to disaster resilience. This drawback is not limited to the OT but common within society as a whole, although in small island settings it is easier to demonstrate the links between livelihoods and biodiversity.

3.4. Scope for improvement in terms of general use of funds (see also section 4 for comments on individual funding streams)

3.4.1 The human capacity, failure to link outputs from OT projects, and data management limitations make it apparent that data and products coming from UK Government OT investment through Darwin Plus and CSSF (including the ODA elements of these programmes) are frequently under-utilised by the OTs because of the combined technical and human capacity limitations.

3.4.2 These interrelated barriers to effective use of funds, and maximising the biodiversity benefits of UK Government investment, require:

i. *More comprehensive training and capacity building programmes across all sectors of OT society* to maximise the transfer of knowledge and the required skills from UK institutions (government, academic and private sector) into the OTs. Current training is too often linked to short term, highly focussed projects, and leaves a limited legacy. A more strategic environmental education programme across the inhabited OTs would build understanding of the role of biodiversity in society and transfer skills and knowledge (scientific, economic, technological) to government and private sectors;

ii. *Supporting programmes of work that maximise the value of existing data* by increasing funding for projects that explicitly draw on previous work and work in progress to develop procedures or use technology (including GIS and other IT systems) to maximise the value of data from diverse projects in policy making and planning. JNCC is adopting an approach which helps the OTs 'Discover – Access – Store – Collate – Analyse – Use' existing data to best effect;

iii. *Building strategic data/information management capacity* in the inhabited Caribbean and South Atlantic Territories, but also relevant to the uninhabited OTs of Pitcairn and BIOT. This would include on-island capacity supplemented by off-island, cloud-based storage. This approach will ensure that: a) OT governments have sufficient minimum capacity to store and manage data; b) off-island (cloud) storage will provide significantly greater (in effect unlimited) additional storage capacity and also security, protecting data from disaster, fire or other loss/damage; c) through cloud-based storage, provide access for authorised UK and international academic and other users to a significant research resource to maximise the value of the large data sets being accumulated for the Territories;

iv. *Supporting a 'natural capital approach'* (which now underpins much biodiversity work) to policy making and planning in the OTs. This approach can help to demonstrate that biodiversity has much more than intrinsic value, makes the economic and disaster resilience values explicit, and shows how a variety of socio-economic data can be used to value the natural environment and track changes in these values.

4 The best administrative arrangements to deliver value for money and improved outcomes

4.1 JNCC's Overseas Territories programme

4.1.1 JNCC's Overseas Territories programme is funded by UK Government through the sources outlined in Section 3.2. The CSSF and Darwin Plus funding programmes, with ODA eligible components within both, offer complementary opportunities to address strategic objectives within and across the Territories and individual Territory priorities at the project level. The following section outlines the positive aspects of the main funding schemes that JNCC have experience with, along with suggested scope for improvement.

4.2 Conflict, Stability and Security Fund

4.2.1 CSSF offers strategic opportunities for four-year cycles of funding with multimillion-pound projects – Blue Belt, JNCC's Natural Capital and UK OTs Coral Reef Initiative projects are primary examples.

4.2.2 CSSF funding is available only to government bodies but, through these agencies and Departments, can be used specifically to address strategic issues identified by HMG and the OTs with significant funding and over significant time scales.

4.2.3 Given many calls on this fund for a wide range of serious political and security problems around the world any environmental component that could support the OTs needs to be explicitly linked to security and stability issues within the OTs.

4.2.4 In the Territories, small islands dependent on their natural environments for livelihoods and coastal zone protection, CSSF relevant issues are economic security and disaster resilience with ecosystem goods and services, and biodiversity underpinning both.

<u>Scope for Improvement</u>

i. A clearly defined environment element of the CSSF programme, targeted at supporting and enhancing biodiversity, and ecosystems goods and services, relevant to economic security and disaster resilience;

ii. Ensure that in future there is closer linkage between OT CSSF projects. JNCC has noted, and received comments from the Territory Governments, that such linkages could be improved.

4.3 Darwin Plus: Overseas Territories Environment and Climate Fund

4.3.1 The fund is open and competitive, giving OT and international organisations the opportunity to bid for funding exclusively to support biodiversity and related OT projects.

4.3.2 Although the Darwin Plus programme identifies strategic themes that it wishes to support these are very broad and in practice permit a wide variety of funding bids. This in itself is not a drawback but neither does it allow the fund to address priority issues in a strategic and predicable fashion.

4.3.3 The ability of OT based organisations to prepare bids is very variable, as is their ability to satisfy the capacity to manage project finances or technical implementation criteria. Non-OT bodies, in particular UK-based institutions, enjoy a significant competitive advantage through their ability to write bids, to produce financial accounts and to deploy staff to manage projects.

4.3.4 The net result of this differential capacity is that project success is potentially skewed towards non-OT organisations rather than OT-based project leaders. Significant amounts of funding allocated to support the OTs are absorbed by high overheads associated with UK or international organisations rather than supporting local project managers.

4.3.5 The Darwin Plus Advisory Panel (DPAG) relies upon a Letter of Support system which commonly fails to allow the DPAG to effectively identify the extent to which OTs have been consulted in advance of project proposals, and to what extent proposals address OT priorities as opposed to those of the non-OT organisations making proposals.

Scope for Improvement

Administrative reform of the Darwin Plus fund should:

i. Implement a more rigorous process to ensure non-OT based organisations seeking funding clearly demonstrate that proposals have support from relevant OTs and that projects will meet OT priorities, including proof of detailed engagement with the OTs rather than use of a standard Letter of Support.

ii. In the immediate future, review the use of Letters of Support for the 9th Round. Darwin Plus Round 8 is a new two-stage process, but in implementing a new process the Stage 1 applications do not require any Letter of Support or other clear evidence of consultation between non-OT bodies putting forward proposals and the Territories involved. This should be remedied before Round 9.

iii. Implement changes to the evaluation process to favour projects that provide clear proof that a significant proportion of the funding secured will be used to support local implementation and management. This could be achieved by requiring that a minimum level of funds be transferred to partner OT organisations (e.g. setting the minimum at 25% of the total project costs). An exception would be projects undertaken in OTs without populations, or those where populations are very small.

iv. The current process allows proposals for less than £100,000 to submit a shortened form of application. Darwin Plus should also establish a separate, even lower tier of funding, for smaller projects and exclusively reserved for OT managed projects.

4.4 Official Development Assistance

4.4.1. Darwin Plus, the CSSF and other funding streams within government use ODA funding to support OT work programmes in the four eligible OTs of Montserrat, St Helena, Tristan da Cunha and Pitcairn.

4.4.2. The link between ecosystem goods and services, and biodiversity, on the one hand, and economic prosperity and disaster resilience on the other are quite clear. The use of ODA funding for support or maintenance provides an important benefit to the eligible OTs and provides an opportunity to demonstrate the links between effective biodiversity

conservation, and the associated goods and services, and livelihoods in the context of these small islands.

Scope for improvement

i. Darwin Plus should follow the lead of the Main Darwin Initiative programme and require all projects using ODA funding to be explicit as to the societal benefits of the projects, rather than make the assumption that any project implemented in an ODA eligible OT automatically meets the expectations associated with development assistance;

ii. A requirement to make Darwin Plus and CSSF supported projects that use ODA funding to make the benefits to livelihoods on islands explicit, rather than assumed, would have the dual benefits of ensuring value for money and more clearly demonstrating the links between biodiversity conservation in the OTs and economic security and disaster resilience.

5. The capacity in the OTs to deliver funding effectively

Sections 3.3 and 3.4 address Overseas Territory capacity issues.

6. The quantum of spend needed to deliver existing UK Government commitments on biodiversity and conservation in the OTs

6.1 Background

6.1.1 JNCC has significant experience in directly funding OT projects and making effective use of these funds, maximising the benefits to the Territories involved, including the acquisition and analysis of new data, supporting evidence-based policy development and building human capacity and capability in the OTs. JNCC has led and continues to lead projects, and also act as partners in projects led by UK and OT-based organisations.

6.1.2 Through its participation in the Darwin Plus Advisory Group JNCC staff have reviewed projects submitted to the panel through the seven Darwin Plus rounds and had sight of most of the 83 projects submitted to the panel over this period.

6.1.3 Based on this experience and expertise, JNCC offers the following comments on the scale of funding needed and how funding can be deployed to maximum effect:

i. The amount of spend should be proportionate to problem being addressed. Invasive alien species eradication programmes in remote locations are inherently expensive, as are marine surveys. High cost marine surveys in particular should be carefully targeted at collecting data to inform policy making and planning;

ii. Data collected should be sufficient to provide evidence for OT policy and planning objectives and not driven by priorities, research interests and objectives of non-OT organisations implementing projects;

iii. Clear 'pathways to change' should be required from all UK Government supported projects to ensure data collected has a clear benefit to the OTs concerned.

6.1.4 JNCC believes that the data and products coming out of the seven-year period of Darwin Plus investment are under-utilised by the OTs for environmental and economic benefits. This is due to the lack of data management capacity, inadequate access by the OTs to data collected in their own Territory and limited human capacity and expertise. JNCC recommends that a high priority in the future should be an increased focus on supporting projects that add value to the large investment already made in data collection and analysis. This will a valuable use of new funds (in some cases more cost effective than gathering new data) enabling more efficient use of existing data for OT policy making and planning.

6.2 JNCC transformational approach

6.2.1 JNCC is implementing a new, 'transformational' approach to supporting the UK Overseas Territories. JNCC aims to demonstrate the value of biodiversity in underpinning economic security and disaster resilience in the Territories whilst simultaneously reducing Territory dependence on external assistance, addressing the capacity and other issues listed in sections 3.3 and 3.4. This will also help with developing nature-based solutions for sustainable development and climate change adaptation.

6.2.2 JNCC is well placed to implement a suite of transformational projects, building on recent CSSF and ODA supported work programmes, that would, over a 4-year period, significantly enhance the ability of the OTs to manage their environments and integrate biodiversity conservation into policy and planning. This would be based on JNCC's:

- Unparalleled and proven ability to work across Terrestrial and Marine environments;
- Proven ability to link science to policy outcomes with strategic links to UK and OT Governments;
- Leading role in supporting implementing a natural capital approach in the OTs;
- Exceptionally wide range of skills developed through two decades of UK advisory and science work;
- Proven track record in delivering natural capital, information management and Earth Observation based projects;
- Lead role in assisting the OTs with implementing the UK25YEP.

6.2.3 JNCC is uniquely capable of implementing a 4/5-year transformational six-point programme to:

1. *Build strategic information management capacity* in the Caribbean and South Atlantic inhabited Territories. This would include on-island capacity supplemented by off-island, cloud-based storage. This approach ensures that: a) OT governments have sufficient capacity to store and manage data; b) off-island storage will provide data security protecting data from disaster, fire or other loss/damage; and c) authorised

UK and international academic and other users have access to a research resource to maximise the value of the data to the Territories.

2. *Continue to embed the natural capital concept into Territory policy and planning* to integrate biodiversity conservation and enhancement into policy making by making the economic and disaster resilience values explicit;

3. *Enhance disaster resilience and climate change adaptation strategies in the Caribbean Territories* through a unique partnership that JNCC has constructed with the UK Space Agency and UK Hydrographic Office (currently working together on a British Virgin Islands proof of concept project) to provide access to satellite and other remote sensing data to map, demonstrate and value the role of the natural environment in mitigating storm surge damage and post disaster recovery;

4. *Develop Territory specific Environmental Strategies* designed to integrate data and analytical products, generated by seven years of Darwin Plus projects and three years of CSSF supported programmes, into policy making and planning, extending a model currently in development through a JNCC – Turks and Caicos Island Government partnership, and the International Coral Reef Initiative (ICRI);

5. *Support the development and implementation of national environmental assessments and monitoring programmes* based on the 25YEP concept and model, building on the JNCC led consultations completed in 2019 and demonstration projects in the British Virgin Islands and Turks and Caicos Islands;

6. *A comprehensive training and capacity building programme* integrated with each of the above elements to maximise the transfer of knowledge and skills from UK institutions (government, academic and private sector) into the OTs.

6.2.4 JNCC estimates that such a **transformational programme would require approximately £10 million over a 4/5-year period and bring about a material change in the ability of the participating OTs to manage their own environmental issues.**

7. How funding to support biodiversity and conservation can deliver wider economic and strategic benefits.

7.1 Mainstreaming and continuity

7.1.1 JNCC's long term objective, since becoming involved in supporting UK Government environmental policies in respect of the OTs, and simultaneously helping the Overseas Territories to become less dependent on outside assistance, has been to promote the conservation of biodiversity. Since 2011 JNCC has adapted its approach to ensure that whilst biodiversity conservation remains its priority, the terminology used in promoting this issue to the OTs is aligned to Territories' own priorities and reflects changes in thinking on the role of biodiversity in supporting livelihoods.

7.1.2 The terminology underpinning JNCC's advisory work for UK Government, and its implementation of OT focused projects, has shifted over the last ten years. 'Nature conservation', embedded in the organisation's title, had already shifted to 'biodiversity conservation' before JNCC undertook work for the FCO to encourage OTs to embed environmental management issues into planning and policy making. This work (in the Turks and Caicos Islands, British Virgin Islands, Falkland Islands and Anguilla) was labelled 'Environmental Mainstreaming' in the South Atlantic and transposed to the Caribbean as 'Green Economy' consultations.

7.1.3 Subsequent work was undertaken under 'Environmental Economics', 'Ecosystem goods and services' and 'National Ecosystem Assessments' labels to align discussions and proposed actions to OT priorities associated with economic development and (in the Caribbean) disaster resilience. Relabelling serves to ensure that the underlying message of all of these programmes of work – the need to recognise the wide range of biodiversity values and protect and enhance these values – is recognised in the context of economic development and security, and not dismissed as merely an interesting, perhaps important, but nevertheless a non-essential concern. **The biodiversity 'label' applied to a policy or piece of work does not guarantee attention. Making the societal benefits of biodiversity conservation clear, including the need to restore critical habitats to maximise these benefits, and not merely protect remnants for posterity, is a more effective approach.**

7.2 JNCC led work programmes

7.2.1 Through recent JNCC led work programmes, the organisation has identified three areas where the use of new technologies and new approaches highlights how funding to support biodiversity and conservation can deliver wider economic and strategic benefits.

7.2.2 A natural capital approach to biodiversity conservation as a contribution to economic planning

i. The most recent phases of JNCC's work, and current effort, are directed towards integrating valuations of biodiversity – social and monetary – into policy making and planning alongside traditional economic planning activities. Relabelled, again, as 'natural capital' projects this work programme, funded by CSSF, has pioneered the use of a range of scientific and economic techniques in the OTs to assess the functional and economic significance of biodiversity.

ii. The 'natural capital approach' helps to draw together data from a wide range of socio-economic and scientific sources to undertake '*natural capital assessments'* which define the extent and health of ecosystems, through habitat and species mapping and condition assessments, and identify goods and services that are derived from this biodiversity and also which sectors of society benefit from them.

iii. In pioneering the natural capital approach in the OTs[13], JNCC has also undertaken '*natural capital accounting'* in some cases[14],[15], establishing the monetary value of goods and services associated with OT ecosystems. Natural capital accounts focus attention on key national assets associated with these natural systems and their beneficiaries, the potential risks to these monetary benefits and highlight the need to support and conserve the biodiversity which provides the goods and services.

iv. Taken together, these assessments (identifying goods, services and beneficiaries) and accounting approaches (establishing actual monetary values for these ecosystem benefits) provide powerful tools, and generate convincing evidence, of the value of biodiversity to the small island economies of the Caribbean and South Atlantic. These are also very valuable to inform the development of nature-based solutions and adaption to climate change impacts. The argument for biodiversity conservation is transformed from making a case for 'intrinsic value', and limited protection though protected area programmes, to a case based on economic value and the importance of biodiversity to ensure economic security, food production, water supply and resilience to climate change. Using these arguments and evidence, biodiversity conservation becomes a societal issue and ceases to be a special interest, and in the context of Territories requires 'whole-island' approaches for protection and enhancement of biodiversity.

7.2.3 Habitat and species mapping and assessments as a basis for spatial planning

i. In supporting the OTs' biodiversity conservation efforts, JNCC has, in many cases, provided key support for new or updated habitat mapping in the terrestrial, coastal and nearshore environments. The use of computer-based mapping systems (Geographic Information System – GIS) to display species and habitat distributions, and the ability of these to integrate data from satellites, drones, and the various types of hand-held devices now commonly available not only to scientists but to members of the public, has 'mainstreamed' the habitat map. These new technologies facilitate rapid updates to make the maps a 'living' product and in linking this mapping to a natural capital approach, transform the habitat map from a 'niche' tool of value only to specialists into a significant aid to planning and policy making.

ii. In the context of a natural capital approach, and in many cases as the first stage of a natural capital assessment, JNCC has used and promoted habitat maps as spatial registers of natural assets, and the habitat map becomes an economic as well as an ecological tool. Such maps provide the basis for: identifying and mapping goods and services attributable to these habitats and species; linking their distribution to beneficiaries at national and community levels; mapping the economic (monetary) value of environmental assets; linking the distribution of these assets to human activities to assess risks and vulnerabilities; and supporting development of integrated, 'terrestrial-coastal-nearshore marine' spatial plans.

[13] https://jncc.gov.uk/our-work/natural-capital-in-the-overseas-territories/
[14] http://jncc.defra.gov.uk/pdf/ot_nca_sup_cbn_19_tci_nca_Nov2018.pdf
[15] http://jncc.defra.gov.uk/pdf/ot_nca_sup_sat_19_ang_nca_jun_2019.pdf

iii. The transformation of the habitat map in this way, linking it to goods and services, and economic and spatial planning, demonstrates how biodiversity conservation (protection and enhancement) can deliver economic benefits and resilience to climate change impacts, and makes the case for investment in the tools, and training to use these tools, to integrate environmental data into all aspects of OT policy making.

7.2.4 Biodiversity and disaster mitigation

i. The hurricanes of 2017 had a major impact on the Caribbean Overseas Territories of Anguilla, British Virgin Islands and the Turks and Caicos Islands. The United Nations Economic Commission for Latin America and the Caribbean estimates total damage caused across all three OTs as over US$ 3 billion[16] with approximately two thirds of this attributable to damage ('societal, infrastructure and productive') in the BVI.

ii. JNCC work in Anguilla and the British Virgin Islands has demonstrated the role of the natural environment in mitigating storm surge impacts on property and infrastructure in the coastal zone. The principal environmental features mitigating storm surge are coastal mangrove and nearshore reef systems. JNCC-supported work in both OTs has demonstrated not only the functional significance of these environments in absorbing storm surge energy but also the monetary value of this protection[17],[18].

iii. The case of the British Virgin Islands provides compelling evidence of the value of biodiversity to society, in this case mitigating storm surge impacts. 50% of the GDP of the islands is from tourist revenues ($500 million per year) and approximately 40% of the infrastructure that supports this sector (restaurants, hotels etc) lies at or below 2 metres above sea-level. The average storm surge for a Category 2 hurricane (the most commonly occurring hurricane event in the region) is 2.1 metres and during Hurricane Irma (Category 5) the Turks and Caicos experienced a 3.7 metre surge. With a high concentration of economically important Caribbean OT assets in the coastal zone, significant elements of the island economies are at risk from coastal zone flooding[19].

iv. The JNCC sponsored British Virgin Islands study quantifies the monetary benefits of coastal zone biodiversity – mangrove and nearshore reefs – to the islands' economy, at national and local levels. Community focussed studies are able to identify individual properties - private and community owned – at risk from storm surge, establish the extent to which they are protected by local natural systems, and the value of that protection. This BVI work is currently being extended but initial estimates suggest that the coral reef systems alone (not including mangrove and other terrestrial habitats) provide protection to the minimum value of US$74 million

[16] The United Nations Economic Commission for Latin America and the Caribbean. 'Irma and Maria by numbers'. https://www.cepal.org/en/publications/43446-irma-and-maria-numbers
[17] Anguilla - http://jncc.defra.gov.uk/PDF/OT_NCA_SUP_CBN_03_BVI_ANG_VulnMapping_May2018.pdf
[18] BVI - http://jncc.defra.gov.uk/pdf/ot_nca_sup_sat_16_BVI_%20nca_mar19.pdf
[19] http://jncc.defra.gov.uk/pdf/ot_nca_sup_sat_16_BVI_%20nca_mar19.pdf

per year in terms of avoided costs, with benefits to a wide variety of sectors of society.

v. Natural capital assessment of this kind, which are ongoing to extend and refine assessments and analysis, make a very convincing case not only for the protection of existing biodiversity but for active restoration of terrestrial and coastal habitats to seek natural solutions to the growing threat to economic security and stability of the OTs posed by climate change. Support for biodiversity conservation and enhancement can clearly deliver wider economic, social and strategic benefits in the Overseas Territories.

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Appendix 1: Summary of JNCC engagement with the UK Overseas Territories

Engagement route	Issue	Role
UK Government – Cross departmental	Member of Darwin Plus Advisory Group	JNCC contributes to project evaluations in Darwin Plus rounds; contributes to strategic Darwin Plus planning.
UK Government FCO	Support CSSF programme including Blue Belt	JNCC member of Blue Belt Board
UK Government Defra	Implementing CSSF supported programme	JNCC implementing CSSF and projects with emphasis on: transferring skills and technologies to reduce OT dependence on outside assistance; supporting economic security, disaster resilience and biodiversity conservation
	Implementing ODA projects in St Helena and Montserrat	
	Implementing CSSF/ODA Coral Reef Implementation projects in Montserrat & Pitcairn	
	Secretariat role for OT Biodiversity Group	Defra/FCO/DfID led OT biodiversity group, coordination of OT project work
	25 Year Environment Plan Indicators	Develop indicators on extent and condition of protected areas in the OTs
	International Coral Reef Initiative	Chair and Secretariat role in UK OT Coral Reef Initiative; membership of the UK ICRI delegation and member of the ICRI GCRMN Steering Committee and Ad Hoc post-2020 Committee for the UK
UK Government DfID	JNCC part time secondee advising on application of environmental economics techniques.	Ecosystem service, environmental economics support to DfID including feeding economic advice into OT DfID team
UK Overseas Territories Association	All OT related environmental issues	Briefing UKOTA on OT specific projects to support UK policy, including implementation of the 25 Year Plan and CSSF programmes
All inhabited Overseas Territories through Governor's Offices; Ministers; Permanent Secretaries; Technical Officers	Overseas Territories Training and Research Group	JNCC lead, sharing experience and UK reporting needs across UKOTs, Advice, technical and financial support for biodiversity conservation in the OTs. JNCC supporting species recovery programmes, e.g. Bastard Gumwood in St Helena
	International Coral Reef Initiative	Develop OT Coral Reef Action Plans

	Economic security in relation to environmental management	Implementing natural capital assessments (CSSF, ODA supported) to underpin enhance economic security, disaster resilience and biodiversity conservation
	Disaster Charter activation	Facilitate OT training in activation of Disaster Charter (for Caribbean OTs subject to hurricane risk), developing hurricane response protocols and satellite-based techniques to support immediate hurricane response strategies.
	Earth Observation acquisition, analysis and training	Purchase (under licence agreements that permit data sharing) high resolution satellite data for multiple uses in the OTs – infra-structure planning, habitat mapping, natural capital assessments, disaster risk assessments. Train OT personnel in analytical techniques, building long term OT capacity, including develop an EO Centre of Excellence in the Falkland Islands.
	Disaster resilience	Storm surge and inland flood risk modelling to identify role of the natural environment in mitigating risks. Opportunity mapping to identify habitat restoration options to increase natural environmental resilience to protect human life and infrastructure.
	Capacity building and reduction of dependence on external assistance	In depth training in EO, data management, data handling. Supporting the use of Earth Observation (satellite, drones etc) data for spatial planning, environmental monitoring and decision making
	Use of new technologies for monitoring environmental change (including support for the 25YEP)	Introducing new technology and analysis methods to OT specialists to increase capacity and effectiveness of OT personnel.

	Developing enhanced information management systems	Data storage, management and analysis support and training, including purchase of hardware for on-island storage.
	MEA reporting, e.g. CITES, Ramsar, CBD, CMS	Drafting UK reports to MEAs, including consultations with, and data collation from, those OTs to which MEAs have been extended Providing advice on MEA implementation including acting as CITES Scientific Authority (Fauna) for two OTs.