

Tackling Invasive Non-Native Species in the UK Overseas Territories

Annual Report, 2018 - 2019



UK Conflict Stability
& Security Fund



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Executive summary

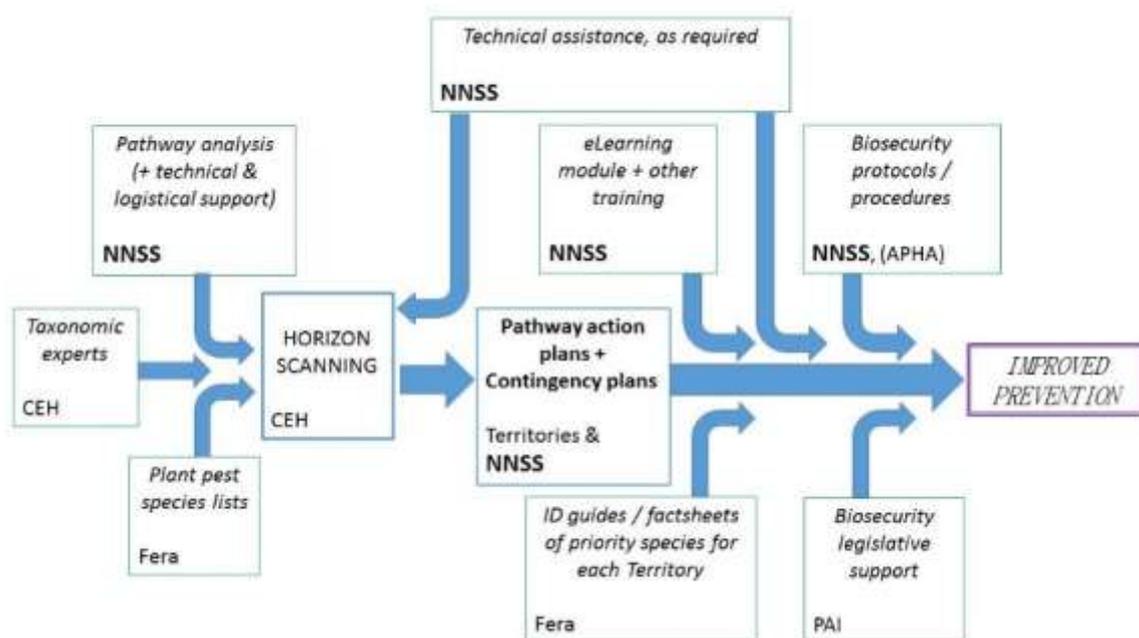
- Invasive non-native species are probably the greatest environmental threat to island biodiversity, as well as to food security and sustainable development in the 16 UK Overseas Territories (UKOTs).
- This 4-year project aims to develop comprehensive biosecurity for the OTs by providing them with access to UK expertise on risk analysis, pathway management, pest identification, horizon scanning, contingency planning, rapid response capability and species management.
- In this reporting year the project has made a big step forward with the delivery of the key activities horizon scanning and model biosecurity legislation, and initiation of pathway action planning:
 - Horizon scanning has been completed for 15 OTs through six consensus workshops. This exercise is now complete as the remaining OT, Cyprus Sovereign Base Areas, received horizon scanning as part of a Darwin Plus project in 2017.
 - Pathway action planning to mitigate the risk of introduction of the prioritised species began with initial workshops held in conjunction with the horizon scanning, and the start of a programme of multi-sector stakeholder workshops and follow-up meetings and visits. To date, visits have been made to Bermuda and St Helena.
 - Model biosecurity legislation has been drafted, and is being adapted for the first OTs: St Helena and Ascension.
 - The on-line elearning module “Better biosecurity” has been completed and is available on-line.
- A training survey was carried out among contacts in the OTs using surveymonkey.com. Response rate was 37% from nine OTs. The main areas of interest were: development of rapid response plans, post-border monitoring and rapid, monitoring invasive invertebrates, entomology: identification and collection, inspecting vessels, and data collection & management.
- A communications plan has been developed, and project visibility and in-territory communications are being promoted, and networking among biosecurity and invasive species workers in the OTs fostered.
- A project webpage has been set up, including a biosecurity toolkit page, to share documents, reports, protocols and guides.
- The NNS is actively collaborating with a number of UK agencies / departments or former agencies, and coordinating work with the CSSF sister projects Blue Belt and Natural Capital Assets.
- Discussions are being held with the Plant Health and Seeds Inspectorate (APHA) with regards future on-the-job training of OT biosecurity officers at the Manchester office.

Background

The 16 UK Overseas Territories (OTs) together account for 94% of the UK's unique biodiversity and as such make a significant contribution to global biodiversity. Being predominantly islands, the OTs are very vulnerable to the introduction of potentially harmful invasive non-native species, recognised as the biggest threat to island biodiversity, as well as to food security and sustainable development. However, most OTs have limited capacity to act and need urgent support to develop measures to reduce the risk of future invasions as well as to manage existing ones.

In 2016 the NNSS secured funding over four years (2016-2020) under the FCO's Conflict, Stability and Security Fund (CSSF) to develop comprehensive biosecurity for the OTs by providing them with access to UK expertise on risk analysis, pathway management, pest identification, horizon scanning, contingency planning, rapid response capability and species management. This report covers the third year of the project. Priorities for action were identified in an initial gap analysis carried out in the first year and project activities are summarised in Figure 1.

Figure 1. Project activities



The main activities undertaken in the previous year were primarily based around preparations for three activities: the horizon scanning exercise, biosecurity legislation drafting support, and an on-line elearning module. In addition, technical assistance was provided to three OTs at their request: British Virgin Islands (BVI) to advise on biosecurity provisions in the recovery period following the wake of hurricanes Maria and Irma; the government of South Georgia & the South Sandwich Islands (SGSSI) to advise on biosecurity procedures to ensure the sustainability of the recently concluded rat eradication programme; and a review of the biosecurity programme for the government of the Falkland Islands.

Full details are given in the OT Biosecurity Project Annual Report 2017 – 2018, pathway analysis report and technical assistance reports which can all be found at <http://www.nonnativespecies.org/downloadDocument.cfm?id=1812>

Horizon scanning

The main activity over the current reporting year was horizon scanning, led by Prof. Helen Roy and her team at the Centre for Ecology and Hydrology (CEH) with NNSS providing oversight/QA, logistical support, and technical input.

The horizon scanning process

The aim of horizon scanning is to predict which new non-native species are likely to arrive and establish (and impact environmentally or socio-economically) in the next 10 years. This prediction on species (and their associated pathways) allows resources to be targeted most cost-effectively at those species and their associated pathways posing most risk and for which risk management is most feasible.

A stepwise approach to horizon scanning for non-native species was adopted, focusing on species not present in the OT in each case but occurring elsewhere in the region or at the sources of the pathways. Preliminary species lists were compiled by selected taxonomic and environmental experts by referring to other lists and databases. Species were scored and ranked on the likelihood of arrival, establishment, and impact on biodiversity / ecosystem services, the economy (agriculture, fisheries, etc) and social / public health. The top priority species for each OT were then identified at a consensus workshop involving global, regional and local experts. Consensus workshops were held as far as possible in the OTs. However, for logistical reasons, the consensus workshop for Ascension Island and Tristan da Cunha were held by teleconference from the workshop in St Helena, November 2018, and that for Pitcairn by skype.



Consensus workshop for the Caribbean OTs, Cayman Islands



Consensus workshop teleconference for Ascension Island.

The final programme of horizon scanning consensus workshops were completed as shown in Table 1.

Table 1. Programme of work for horizon scanning workshops

Date	Location	Territories
May 2018	Cayman Islands	Anguilla, Bermuda, BVI, Cayman Islands, Montserrat, Turks & Caicos Islands
August 2018	Diego Garcia	BIOT
October 2018	Cambridge, UK	BAT, Falklands, SGSSI
November 2018	St Helena	Ascension, St Helena, Tristan da Cunha
January 2019	Gibraltar	Gibraltar
February 2019	UK	Pitcairn

Horizon scanning results

A summary of each workshop can be found on the OT Biosecurity project webpage <http://www.nonnativespecies.org/ots/otsMap.cfm> and lists of the priority species identified for each OT at <http://www.nonnativespecies.org/index.cfm?pageid=634>.

More than 2500 potential invasive non-native species were assessed. A total of 209 species were considered of sufficient threat to biodiversity and ecosystems, human health or economies to be included in at least one of the UK Overseas Territories priority lists. A detailed report is being produced by CEH which will be available on the project website when it is finalised. Almost half only appeared on one OT list and very few species had multiple impacts. Some commonalities were identified:

Mosquitoes: 7 mosquito species prioritised by 10 OTs

- Example: Tiger mosquito *Aedes albopictus* on 8 OTs lists

Marine mussels: 5 species of mussel prioritised by 15 OTs

- Example: Asian green mussel *Perna viridis* on 12 OTs lists

Ants: 12 species of ant prioritised by 9 OTs

- Example: Little fire ant *Wasmannia auropunctata* on 8 OTs lists



Native coconut crabs in BIOT are threatened by the introduction of up to 6 species of invasive non-native fire ants.

Pathway action plans

Pathway action planning was initiated at the horizon scanning workshops or shortly thereafter through follow-up visits and teleconferences, as appropriate, which will continue throughout the fourth and final year of the project.

The template previously developed by the NNSS was used to guide the pathway action planning process. A multi-sector stakeholder workshop held to identify cost-effective actions pre-border, border and post-border to reduce the risk of arrival of species via their associated pathways. Participants flagged the status of current actions for each pathway and noted gaps, actions and priorities. The multi-sector involvement is being found to be the strength of the approach as it is often rare for different sectors to meet and discuss shared interests and concerns for biosecurity. Pathway action planning workshops were completed for BIOT, Cayman Islands, Gibraltar and St Helena following the horizon scanning workshops, for Bermuda in January 2019, and with follow-up for St Helena in March 2019. The workshop programme for the other OTs is as follows:

- Falkland Islands and South Georgia: April 2019
- Cayman Islands follow-up: May 2019
- Turks & Caicos Islands: May 2019
- Anguilla, Montserrat and BVI: June 2019
- Pitcairn: August 2019

Meetings are scheduled with biosecurity officers from Ascension (June 2019) and Tristan (July 2019), and teleconferences and email contact planned for the other OTs over the year.

The 15 OTs now working on pathway action plans, to identify cost-effective actions to reduce the risk of the identified priority species arriving. Work is also being done with CSBAs to support them in the development of pathway actions following their separate horizon scanning exercise. One issue which has become apparent is that front-line biosecurity inspections are often carried out by non-technical or junior officers from customs, pest control, agriculture or environment. This is particular true for the smaller jurisdictions. In the often hectic moment of arriving passengers, cargo or luggage it can be difficult to recall exactly what to look out for in any one pathway. In order to help colleagues, a set of 1-page inspection guides have been produced for a range of pathways, noting where to inspect, what to look out for in terms of the species identified in the horizon scanning, and who to call or what to do if species are found. To date, various versions of these have been produced for Anguilla, BIOT, British Virgin Islands and South Georgia.



Airport visit to discuss pathway action plans, Bermuda

Legislative support

Model biosecurity legislation was drafted by PAI by December 2018, and St Helena and Ascension were accepted as the first OTs for adaptation of the model with work commencing in January 2019 in St Helena. The specialist drafter, under contract to PAI, worked with the Attorney General or Crown Council office to develop territory-specific biosecurity legislation.

Completion of draft legislation has been delayed by the EU-Exit delay. In addition, the in-territory process has proven to take longer than expected due to the time demands on the biosecurity, agricultural and environment offices to review drafts and respond. Learning from St Helena's experience, a guidance document has been developed to guide other OTs entering the process, outlining the expectations and time required. The model legislation was also revised in light of experience, and is currently being annotated and formatted for the website.



Confiscated illegally imported corn snakes, Bermuda

Training

The main training activities are outlined below. In addition, as a result of a 6-day delay departing St Helena after the horizon scanning workshop, training sessions were also run in entomology, invertebrate collecting and curation of the collection for the St Helena National Trust, and the Pest Control Section of the Agriculture and Natural Resources Division.

On-line biosecurity module

The elearning module Better Biosecurity for the OTs is now available on-line at www.nonnativespecies.org/elearning. It takes 15 to 30 minutes to complete the module, and there is a short optional test at the end for which the trainee gets a certificate which can be used to support Continuous Professional Development.

The informal feedback received to date has been very positive, with people reporting that it is simple, easy to use and useful.



Photo credit: Norbert Maczey



Photo credit: Norbert Maczey

St Helena and Falkland Islands biosecurity officers share skills for vehicle inspections, St Helena

Plant Health and Seeds Inspectorate (PHSI)

Training opportunities with PHSI for OT biosecurity officers are being discussed for the 2019 / 2020 year. The training will take the form of an extended exposure visit of up to 3 weeks with OT biosecurity officers working alongside PHSI colleagues at border operations, receiving training in:

- Risk profiling
- Passenger and baggage profiling and screening at an international airport
- Cargo operations at an international airport and seaport: clearance of commercial shipments of cargo (fresh produce, used equipment, personal effects)
- Post office and courier mail screening
- Import risk assessment procedures for biosecurity risk goods
- Post-border biosecurity monitoring (season dependant)
- Compliance, enforcement and auditing
- Data collection and management

The proposed location is with the PHSI team at Manchester Airport. The Manchester PHSI Hub is the best venue to host such training as it comprises diverse points of entry (POE) and points of inspection (POI), including Manchester airport, Doncaster and Sheffield airport and Liverpool port.

The diversity of training that could be provided at the Manchester PHSI Hub is much greater due to the geographical location and the POEs that sit with in the area. As well as the POE the wide range of commodities and particularly produce that enter via these POEs should provide a varied approach to inspection techniques and scenarios that may be faced by OT colleagues when they return to their stations.

Training survey

Capacity has been flagged as an issue for OT biosecurity overall, and in order to address this most effectively, a short (10 question) survey was carried out through surveymonkey.com. The questionnaire was sent to everyone so far involved in the project in the OTs, a total of 67 people, with a response rate of 37.3%. Results are as follows, in summary.

Respondents were from nine OTs, five Atlantic (Ascension, Falklands, St Helena, South Georgia and Tristan), three Caribbean (Anguilla, Bermuda and Montserrat) and Gibraltar. The majority of respondents were involved in invasive species management (19) and this is reflected in the main topic of interest: training in rapid response and post-border monitoring. Development of rapid response plans had the highest level of interest overall, selected by 21 respondents, and post-border monitoring and rapid response also had the highest number of related comments (7). Monitoring invasive invertebrates was third on the list (18) and 15 people were interested in the associated topic of entomology: identification and collection.

The highest topic of interest specifically in the pre-border & border area was inspecting vessels, with 15 respondents expressing interest, while the other topics relating to inspection of various commodities are all at or near the bottom of the list. Data collection & management came second (19) in the list, and training in this area has been previously flagged of interest during visits by biosecurity officers.

With regards specific topics of interest, eight people were interested in animal health and seven in bee health. One person specifically noted wildlife diseases and pathogens.

In terms of how people want to receive training, the results indicate how hard it is for people working in biosecurity or invasive species management to leave their posts for long to do training. A workshop was the preferred option, scored first by 10 people. Online learning was the next preferred option, only scored first by six people but second by nine. Job shadowing, either in the UK or in another OT, came bottom, possibly due to the time required. The ideal time period for training was seen as 1 to 2 weeks, and a UK-based 1-week invasive species management course was preferred by 19 respondents. Some very relevant comments noted the need for assistance on requirements needed before agreeing to formal qualifications in UK, and the advantages to the OTs of distance learning or doing formal courses remotely.

The steering group is looking into how best the priority needs can be met.



Inspecting cut flowers, Bermuda

Project oversight

The project steering group had three teleconferences during the year. Composition of the steering group throughout the second year was as follows:

NNSS (Chair)	Niall Moore
Defra International Biodiversity Policy	Jill Key
International Union for the Conservation of Nature (IUCN)	Paul Ballinger
Royal Society for the Protection of Birds (RSPB)	Kevin Smith
UK Overseas Territories Association (UKOTA)	Jonathan Hall
	Kedell Worboys



Local TV interview, Cayman Islands



Local radio interview, St Helena

Project visibility and communications

The importance of high visibility and good project communications was flagged by the steering group, and a communications plan was developed with the following objectives:

1. Increase awareness of the project in the OTs to engage local support for the project activities and ensure that they are implemented in order to:
 - Increase understanding of the risks of introducing new non-native invasive species
 - Strengthen biosecurity by promoting understanding and compliance
 - Improve management of existing invasive non-native species
2. Raise visibility of the project in the UK to promote support by government and other agencies.

Key audiences, influencers and partners, and channels for dissemination of materials and messages were identified, and a number of actions outlined for project visibility, in-territory communications, and promotion of a network among the OT people involved in the project.

Success is tracked using a simple database of all communications carried done under the project. Over 2018 to 2019 a total of four presentations were made to external audiences to raise project visibility. A total of six OTs (British Indian Ocean Territory (BIOT), Cayman Islands, Falklands Islands, Gibraltar, GSGSSI and St Helena) have been involved in communications in-territory, with five interviews or articles made for the local media in four OTs (Cayman Islands, Falklands Islands, Gibraltar and St Helena), public presentations made in three OTs (BIOT and Falkland islands together with GSGSSI), and a school visit made in one OT (St Helena). A full list of the communications activities is given in Annex 1.

A project website was created as a repository for documents and reports and to share project news: <http://www.nonnativespecies.org/ots/otsMap.cfm>. The website includes a “biosecurity tool kit” page as a platform for sharing protocols, guides and other documents: <http://www.nonnativespecies.org/index.cfm?pageid=639>. The tool kit will grow as the project continues and the following plans are currently available on the tool kit page:

- Fire ant monitoring
- Fire ant rapid response
- Giant African Snail monitoring and rapid response
- Giant African Snail identification
- Hull fouling assessment tool
- A link to St Helena’s biosecurity page which includes emergency response plans for animal diseases and a range of invertebrate and vertebrate pests and weeds, import health standards for a range of risk goods, and a manual of inspection procedures.

To promote the networking aim of the project, an occasional “Email update” was initiated summarising project activities and OT achievements. Two updates have been sent out, the first in January 2019 to 65 people, and the second in early April 2019 to 67 people.



Invertebrate survey for baseline information, Diego Garcia

Collaboration and coordination

Collaboration with UK agencies

The project is actively collaborating with the following UK agencies / Departments / former agencies.

Fera Science Ltd.

Chris Malumphy is involved as a taxonomic expert on invertebrate plant pests in the horizon scanning exercises, listing priority species in anticipation of the workshops and present at the consensus workshops for the South Atlantic cluster, Mid-Atlantic cluster, Gibraltar and Pitcairn.

Fera is drafting a Field Guide to Invasive Alien Plant Pests in the Atlantic UK Overseas Territories to complement the Caribbean field guide produced in the previous year, which is being revised in light of feedback.

Public Health England

Alex Vaux is involved as a taxonomic expert on public health pests in the horizon scanning exercises, listing priority species in anticipation of the workshops.

Defra

Helen Roberts, Equines, Pets and New and Emerging Diseases, Science and Risk adviser with the Exotic Disease Control team, Defra, is involved in the wildlife and animal disease work, scheduled to take place initially in the Falkland Islands in April 2019 and subsequently in other OTs.

Coordination

Project activities are coordinated with those in the CSSF sister projects Blue Belt (led by CEFAS) and Natural Capital Assets (led by the JNCC) through teleconferences and exchange of information. A one-day workshop was held between NNSS, CEFAS, and the Marine Maritime Organisation in January 2019 to discuss outputs and ensure complementarity of activities.



Chris Malumphy of Fera providing entomology training, St Helena

Summary of progress

A series of priorities were agreed at the first meeting of the project steering group in August 2017. Activities relevant to the current reporting year 2018 / 2019 are shown in Table 2 together with progress. Status is recorded as:

Red - not started or serious problems encountered

Amber – about to start or underway

Green – completed or well under way

Table 2. Project activities and progress 2018 – 2019.

Priority	Lead	Progress	Status
1. Project management	NNSS	On-going	Green
2. Horizon Scanning	CEH: delivery of 6 consensus workshops	Completed February 2019 for 15 OTs – Cyprus SBA excluded as horizon scanning has been completed.	Green
3. Pathway action plans	NNSS	Initiated at the horizon scanning workshops, in progress.	Green
4. Biosecurity e-learning	NNSS	Completed January 2019	Green
5. Fera input	Fera: input into horizon scanning	Completed February 2019	Green
	Fera: Development of a Field Guide to INNS in the Atlantic	In progress	Green
6. Legislative support	PAI: Development of model legislation	Model completed December 2018; work with St Helena and Ascension to adapt it.	Green
7. Technical support	NNSS	On-going	Green

Acknowledgements

A big thank you to everyone in the OTs for their active participation in the project, and continuing hard work in reducing the risk of introducing new invasive non-native species to their territories.

Annex 1 Project visibility and communications, 2018 to 2019

Date	Location	Activity	Audience
April 2018	Stanley, Falklands	24 attendees at a public meeting and an article in the local press on the technical support provided to FIG and GSGSSI.	Falkland Islands, GSGSSI
May 2018	Cayman Islands	TV interview on the horizon scanning exercise.	Cayman Islands
August 2018	UK	The NNS participated in the monthly FCO OT Governors meeting on Defra CSSF activities in August 2018.	FCO
August 2018	Diego Garcia	Presentation to US base on horizon scanning.	BIOT
September 2018	London, UK	Presentation on the biosecurity review was also given at the 2018 GSGSSI Annual Stakeholder Meeting in September 2018.	GSGSSI stakeholders
September 2018	Canada	NM presented at the CBD SBSTTA meeting in Montreal.	CBD SBSTTA
November 2018	St Helena	Radio interviews were held with both of the two local radio stations (St FM Community Radio and the South Atlantic Media Services during the workshop for the mid-Atlantic cluster held in St Helena Island.	St Helena
January 2019	UK	Presentation made on the project at the PHSI Annual Technical Meeting	PHSI
January 2019	Gibraltar	HM Government of Gibraltar Press Release No: 48/2019 23rd January 2019. UK-funded 'Horizon Scanning' workshop targets future invasive species in Gibraltar. Three minute interview with the major Gibraltar TV company GBC: https://www.gbc.gi/tv/schedule and an article in the Gibraltar Chronicle http://chronicle.gi/ https://www.yourgibaltartv.com/politics/18393-jan-23-uk-funded-horizon-scanning-workshop-targets-future-invasive-species-in-gibraltar	Gibraltar
March 2019	St Helena	Presentation to Natural Capital Assets final conference Radio interviews SAMS and St FM on CABI workshop and project.	St Helena + global via streaming St Helena