Department for Environment Food & Rural Affairs

DARWIN INITIATIVE

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Darwin Initiative
Final Report

Darwin project information

Project Reference	19-029
Project Title	Bugs on the brink- Laying the foundations for invertebrate conservation on St Helena
Host country(ies)	UK and St Helena
Contract Holder Institution	Buglife – The Invertebrates Conservation Trust
Partner Institution(s)	St Helena National Trust, St Helena Government, Centre for Ecology and Hydrology (Edinburgh)
Darwin Grant Value	£199,478
Funder (DFID/Defra)	Defra
Start/End dates of Project	1 April 2012 – 31 March 2016
Project Leader Name	Vicky Kindemba
Project Website	http://www.nationaltrust.org.sh/shnt-conservation-programmes/natural-heritage/bugs-on-the-brink-our-invertebrates/ www.buglife.org.uk/bugs-brink
Report Author(s) and date	Vicky Kindemba and Alice Farr with input from Liza Fowler, David Pryce, Alan Gray and the steering group May 2016

1 Project Rationale

The project was located on the island of St Helena, a UK Overseas Territory, situated at 15°S and 5°W in the South Atlantic Ocean between Africa and South America, and this project was designed to encompass the invertebrate conservation on the whole island.

The endemic biodiversity of St Helena is severely threatened by the combined effects of habitat degradation and invasive alien species. Most of St Helena's endemic, terrestrial animals are invertebrates – over 460 species. They form the richest, globally endemic invertebrate fauna of any UK Overseas Territory. Historically, conservation effort on St Helena has focused on the recovery of a small number of critically endangered species (Wirebird and higher plants) and the restoration of habitat fragments. Although invertebrates are a critical component of the island's ecosystem, St Helena lacked the resources, capacity, knowledge and tools to integrate invertebrate needs - at all levels of conservation effort. Most of the

invertebrate survey work carried out prior to the start of this project has been undertaken by visiting specialists, with limited skills transfer to St Helena. There are few means of identifying invertebrates on St Helena, with neither manuals, keys nor a specimen reference collection. All these described issues were identified by project partners from St Helena.

The project aimed to halt declines in endemic invertebrates and integrate their needs within practical and strategic conservation efforts on St Helena. The project was designed to increase knowledge and understanding as well as skills and capacity on island, in order to address these issues and improve awareness about, and attitudes towards, invertebrates throughout St Helena society. Leading to an increased appreciation, and so protection, of the special place invertebrates have in the island's biodiversity and maintaining the island's ecosystem (e.g. pollination, pest control, food for Wirebirds).

2 Project Achievements

2.1 Outcome

Outcome:	To halt the loss of St Helena's endemic invertebrates, by mainstreaming their needs within practical and strategic conservation management, ensuring legal protection and fostering increased awareness and understanding across wider society'.			Comments (if necessary)
	Baseline	Change by 2016	Source of evidence	
Indicator 0.1 Invertebrate conservation capacity increased on St Helena	Little if any invertebrate conservation capacity on island.	Invertebrate coordinator in post for 3 years; 4 courses of 10 training weeks with 41 conservation training opportunities; extensive invertebrate resources established for ID and conservation.	Annex 2 (Output 2), Section 2.3 (Output 2) of the report See evidence folders 2a-e.	Verification far surpassed
Indicator 0.2 Target invertebrate habitats being appropriately managed and restored.	No targeted work or plans for invertebrate habitats on island with little consideration for their management and	Government work now targeting habitat management, invertebrate strategy facilitating this in the long term. Biosecurity team tackling invasive invertebrate impacts. Protected	Annex 2, (Output 1) Section 2.3 (Output 1) of the report See evidence folders 1a-c and 3a-c.	

	restoration.	Area development plans integrating invertebrate needs. Two new invertebrate projects around habitats and their management.		
Indicator 0.3 Improved protection for endangered invertebrate species.	No legal protection for endangered invertebrate species.	285 endemic invertebrates are on the Environmental Protection Ordinance providing them with legal protection. 16 invertebrates have been red listed. The other endemics will be listed by 2020 by the new IUCN Mid Atlantic Island Invertebrates Specialist Group.	Annex 2, (Output 1) Section 2.3 (Output 1) of the report See evidence folders 1d,e.	
Indicator 0.4 Public engaged in invertebrate conservation through education and awareness programme	A lack of public engagement with invertebrate conservation and no education or awareness programme.	Education officer in post; 77 education events with 1720 opportunities for children to learn. 39 teachers trained on invertebrate education. 100% islanders exposed invertebrate media and events.	Annex 2, (Output 4) Section 2.3 (Output 4) of the report See evidence folders 4a-c.	

2.2 Impact: achievement of positive impact on biodiversity and poverty alleviation

Impact statement from logframe: 'Improve the conservation status of St Helena's endemic invertebrates, protecting them from the threats of habitat degradation and loss'.

It is very early to reassess conservation status of specific species and conclude an improvement as many have only just been red listed or are in the process, however there are changes that demonstrates endemic invertebrate's protection from habitat degradation and loss.

Indicator 1: Threatened invertebrate species on Prosperous Bay Plain, Millennium Forest, Peak Dale and High Peak with maintained presence. Verification: Nature Conservation Division (NCD) annual monitoring report; IUCN status

There are 285 endemic species on the Environmental Protection Ordinance (EPO), this piece of legislation will directly protect these threatened species from the degradation and loss of their habitat by influencing planning decisions as well as wider work, for the EPO see evidence folder 1e. To give global conservation status a list of 16 endemic invertebrates have been Red Listed and published by IUCN and a target for red listing all of St Helena's invertebrate endemics is within the strategic plan for the IUCN Invertebrate Conservation Sub-Committee (ICSC) via the Mid Atlantic Island Invertebrate Specialist Group evidence folder 1d.

A monitoring system to assess population numbers is currently being developed by the new Darwin project DPLUS040 'Securing the future for St Helena's endemic invertebrates'. The new invertebrate strategy has a number of commitments to long term monitoring, including Action 1.4: For all prioritised habitat work monitor progress, through survey, analyse and communication, with Sub-action 1.4.1: Develop and set up monitoring programme for prioritised sites, defining protocols and methodology. This will facilitate a future improvement in understanding the conservation status of endemic invertebrates, see evidence folder 1a.

Indicator 2: Prosperous Bay Plain, Millennium Forest, Peak Dale and High Peak being appropriately managed and restored. Verification: NCD habitat assessments.

The Protected Area development plans all consider invertebrate needs and have key species needs when appropriate, for example see the Prosperous Bay Plain draft plan showing that invertebrates have been included throughout the plan so will be better protected in these areas see evidence folder 3c and in the Invertebrate Strategy there is a goal to increase and improve habitat that includes objectives around delivery of restoration plans and wider restoration actions, see evidence folder 1a.

2.3 Outputs

Output 1:	Invertebrate conservation requirements quantified and incorporated within environmental management framework and legal protections.		
	Baseline	Change recorded by 2016	Source of evidence
Indicator 1.1 Invertebrate conservation included as a core activity within Nature Conservation Division	Invertebrate conservation was not a core activity in Environment Management Division (previously CND)	The terrestrial conservation team in the Peaks, as a result of project training and advice, have altered the way they manage habitats. The Invertebrate Conservation Strategy was provisionally adopted on the 21st April 2016 by the Environment & Natural Resources Committee as key piece of work for the government. Biosecurity team applying monitoring and protocols. Two new projects that have invertebrates as a	Annex 2, Output 1a. Evidence folder 1a

		key focus DPLUS029 & DPLUS040	
Indicator 1.2 Invertebrate species data collated and integrated with the St Helena Environmental Information System (SHEIS), by year 1.	There was no comprehensive invertebrate dataset available	The two publically accessible databases are available through South Atlantic Environment Research Institute (SAERI) : 1. A list of all currently known terrestrial invertebrate records from the island of St Helena (approx. 10,000 records). 2. A list of the terrestrial invertebrates recorded from the island of St Helena; (approx. 3,000 species).	Annex 2, Output 1b of the report, Evidence folder 1b Search on 'invertebrate' http://www.south-atlantic-research.org/metadata-catalogue
Indicator 1.3 New Protected Areas Network provides protection to endangered invertebrates, by year 3.	Protected Area network was not integrating invertebrates and their needs	7 Protected Area development plans were commented on and IUCN Key Biodiversity Areas assessment for St Helena used the project's invertebrate data	Annex 2, Output 1c of the report, Evidence folder 1c
Indicator 1.4 List of endemic invertebrates assessed for status using IUCN criteria, by year 3.	7 marine invertebrates were red listed prior to the project and no focused specialist group.	16 Red Listed species published by IUCN to-date. The rest of St Helena endemics are a target for the ICSC via the new Mid Atlantic Island Invertebrate Specialist Group (established by the project)	Annex 2, Output 1d of the report, Evidence folder 1d http://www.iucnredlist.org/search http://www.iucn.org/about/work/programmes/species/who_we_are/ssc_specialist_groups_and_red_list_authorities_directory/invertebrates/
Indicator 1.5 Invertebrates protected under endangered species legislation.	No invertebrates protected through legislation	285 invertebrate species listed on the new Environmental Protection Ordinance providing them with legal protection.	Annex 2, Output 1e of the report, Evidence folder 1e
OUTPUT 2	A training programme delivered to increase local capacity and skills in invertebrate conservation.		
Indicator 2.1	No invertebrate	Over four courses 41	Annex 2, Output 2a

6 conservation staff trained in invertebrate biodiversity conservation and habitat management techniques, years 1-3.	training and limited existing skills and knowledge	individuals have been trained and 70 days (10 weeks) of training has been achieved.	of the report, Evidence folder 2a
Indicator 2.2 Invertebrate co-ordinator trained in conservation best-practice by year 2.	Invertebrate coordinator development needs	Roger Key went out in 2013 for a month to train the trainers, training both David Pryce (the Invertebrate Coordinator) and Liza Fowler (the Education Officer and also a Saint).	Annex 2, Output 2b of the report, Evidence folder 2b
Indicator 2.3 Invertebrate reference collection supporting training in identification, established in year 1.	No reference collection on island	A reference collection in an entomological storage cabinet is present within the Museum of St Helena. Guidance on maintenance developed and museum staff trained.	Annex 2, Output 2c of the report, Evidence folder 2c
Indicator 2.4 Introductory invertebrate guides and keys produced to facilitate outdoor learning, by year 3.	No existing guides or keys	New invertebrate guide 6 chapters completed and 7 test keys that have been developed to the following key groups of invertebrates.	Annex 2, Output 2d of the report, Evidence folder 2d http://www.nationaltrust.org.sh/shnt-conservation-programmes/natural-heritage/bugs-on-the-brink-our-invertebrates/invertebrate-guide/
Indicator 2.5 Online invertebrate website providing technical information and images, by year 3.	No online information on invertebrates	Range of invertebrate information online including the key project outputs, habitats and invertebrate fauna and all education materials	Annex 2, Output 2e of the report, Evidence folder 2e http://www.nationaltrust.org.sh/shnt-conservation-programmes/natural-heritage/bugs-on-the-brink-our-invertebrates/
OUTPUT 3	Ecosystem restoration on St Helena informed by and incorporating invertebrate requirements.		

Indicator 3.1 A study to understand and quantify the role of invertebrates in the successful restoration of native ecosystems, years 1-3.	No research to understand the role of invertebrate in habitat restoration	Pan trapping in the Millennium Forest, Crown Waste, Piccolo Gumwoods and Jamestown (Cole's Bunker). 40 samples were collected over a period of 10 days. Initial results given an insight into the importance for pollinators for restoration.	Annex 2, Output 3a of the report, Evidence folder 3a
Indicator 3.2 5 conservation staff trained in methods for assessing plant fitness and regeneration by year 1.	No previous training on plant fitness and regeneration	Restoration knowledge training workshop was given to 6 government officers on methods for assessing plant fitness and regeneration was given in 2014 by Dr Alan Gray	Annex 2, Output 3b of the report, Evidence folder 3b
Indicator 3.3 Invertebrate conservation best practice included in all Ecosystem Restoration Plans by year 2, and informing NCD and SHNT work programmes	No invertebrate conservation best practice included in restoration plans	The project commented on 'Conservation actions for invertebrates in protected areas' to inform EMD and SHNT work programmes. 7 protected area development area plans commented on and Invertebrate Strategy through Goal 1 has clear restoration plan objectives	Annex 2, Output 3c of the report, Evidence folder 3c
OUTPUT 4	A programme of education and awareness raising about invertebrates and their ecosystem services, to increase public support and engagement.		
Indicator 4.1 All island schools providing indoor and outdoor opportunities for learning about invertebrates, years 1-3.	No invertebrate learning opportunities provided in St Helena schools	During the course of the project a total of 77 school and educational events were run providing 1720 opportunities to learn for children, working with all 4 schools on island	Annex 2, Output 4a of the report, Evidence folder 4a Education booklets http://www.nationaltrust.org.sh/invertebrate-education/

Indicator 4.2 12 teachers trained in use of education pack and loan box, year 2.		A total of 39 Teachers were trained in the use of the loan box and equipment. The loan box consists of pooters, sweep nets, hand lens, pots, microscopes, wormeries, bug tanks and forceps	Annex 2, Output 4b of the report, Evidence folder 4b Loan box http://www.nationaltrust.org.sh/invertebrate-education/
Indicator 4.3 More than 75% of islanders exposed to invertebrate conservation issues and positive attitudes to invertebrates instilled.	Very limited awareness of invertebrates and their importance	The main newspapers comprise the Independent, produced by Saint FM, and The Sentinel and they have printed 20 articles produced by us and they have also covered many of our events. The Sentinel has a circulation of 3100 and the Independent a circulation 2800; and the St Helena population is approximately 4000.	Annex 2, Output 4c of the report, Evidence folder 4c

3 Project Partnerships

The project has been led by Buglife, in partnership with the St Helena National Trust (SHNT), St Helena Government (SHG) Environmental Management Division (EMD) and the Centre for Ecology and Hydrology (CEH) as well as independent expert Dr Roger Key. These partners have been involved in the project from the outset and helped to design the project as well as its delivery. In addition assistance from other organisations on specialist subjects have been secured during the lifetime of the project, for example Mark Stanley-Price from the IUCN Conservation Planning Committee supported the Invertebrate Strategy development.

This partnership was managed through a variety of methods. The project framework was initially set out in a Memorandum of Understanding between Buglife and all project partners (MOU is available in the evidence file). This provided an agreed framework for delivery and managed partnership working. In addition to this each partnership has an individual management framework through a contract between Buglife and the partner organisation. This included financial information and anticipated work plan to ensure delivery of the project outputs. Outputs were agreed jointly and there was regular contact to update on progress.

To facilitate joint working and knowledge/skill sharing on the project quarterly steering group meetings were held. The Steering Group has been central to the project for expert advice, decision making and monitoring of progress. Members of this group have been:

Mike Jervois/ Liza White/ Ben Sansom/ Shayla Ellick - EMD

Rebecca Cairns Wicks - St Helena Ecology Expert/Operations Manager SHNT

Jeremy Harris/ Chris Hillman – Director, SHNT

Roger Key – Invertebrate Specialist (Independent)

Alan Gray – CEH

David Pryce – Invertebrate Coordinator

Liza Fowler – Education Officer

Alice Farr/Richard Smith – Project Manager, Buglife

Vicky Kindemba - Conservation Delivery Manager and final Project Manager, Buglife

The principle purpose of these meetings was to update all project partners on the work progress, relating this to project outcomes and overall project delivery. This also provided a forum for decision making and monitoring of the project. An example of steering group agenda and minutes is included in evidence file 'Partnership'. In total 15 steering group meetings were held during the lifetime of the project.

The project partnership was stemmed from St Helena partners, with the St Helena National Trust and the St Helena Government originally identifying the need to conserve the unique but threatened invertebrate fauna of the island, and so they looked for outside expertise to support this work. Buglife who had extensive expertise in invertebrate conservation, together with independent invertebrate expert Roger Key who has UK Overseas Territories experience; as well as the Centre for Ecology and Hydrology having worked in a number of Overseas Territories experience and with habitat restoration knowledge. All project partners were involved in the initial development of the project and fed into its structure and content. Once the project was active the same partners formed the steering group which provided a decision making forum. Through the steering group, partners were all involved in decision making and were kept fully up to date with the project's progress. All project partners have been central to project decisions through steering group meetings, via email and 'one to one' discussions when relevant.

Achievements of the partnership include the fact that it has remained a strong and consistent partnership, despite personnel changes, providing continuity and solidly underpinning project work. There are a number of Darwin Plus projects on St Helena and the steering group has proved to be invaluable in integrating these projects to complement each other and improving communication between the projects. There have been a number of challenges for the project, for example the Environmental Management Directorate (EMD) of SHG was to have one of the 'Invertebrate Coordinator' roles based with them and the post was recruited for, but unfortunately this officer resigned a few months into the role. Through the steering group it was agreed that it would too difficult and detrimental to the project to replace them in EMD, and so it was agreed among the partners to extend the Invertebrate Coordinator role based within SHNT as this would use existing expertise and avoid delays but still provide SHG with the required support. As a result links between the organisations were maintained, resource maintained and outcomes achieved without a negative impact on SHG or the project.

The partners are already keeping in touch, for example Buglife are a partner and sit on the steering group for the St Helena National Trust Darwin Plus project DPLUS040 Securing the future for St Helena's endemic invertebrates, as well as the St Helena Government project on DPLUS029 Securing St Helena's rare cloud forest trees and associated invertebrates; and are supporting the Spiky Yellow Woodlouse work and species conservation plan delivery. All the partners are signed up to the delivery of the St Helena Invertebrate Strategy and so will continue to collaborate on its delivery. The Mid Atlantic Island Invertebrate Specialist Group (MAIISG) contains representatives from Buglife, CEH, SHNT and Roger Key and this group will use St Helena as an

exemplar for other islands and UK territories as well as supporting future invertebrate conservation on the island. St Helena will be used as a case study at the Island Biology Conference in the Azores in July when MAIISG will convene.

4 Contribution to Darwin Initiative Programme Outputs

4.1 Project support to the Conventions (CBD, CMS and/or CITES)

CBD Article 7 (Identification and Monitoring) Project indicator 1a, 1b, 1c, 1d, 1e, 3a, 3c

This project has established a baseline dataset as well as the collation of invertebrate records for St Helena is available through SAERI. Sixteen endemic invertebrates have been red listed and 90 are in process, this will help to prioritise future conservation work; as well as the development of the MAIISG to help continue the red listing work. This information is being used to underpin the development of protected areas of habitat and protected species on St Helena and by the IUCN to develop KBAs for St Helena (CBD 7a and project output 1).

The project has fed invertebrate requirements into protected area development plans which are strategic documents and the St Helena Invertebrate Strategy contains actions around invertebrate monitoring and red listing. (CBD 7 a, b, c and d, project output 3).

CBD Article 8 (In situ Conservation) Project indicator 1e, 2a, 2b, 2c, 2d, 2e, 3b, 4a, 4b

St Helena has recently established a system of protected areas. This project has fed directly into the protected area development plans to ensure invertebrate needs are reflected and prevent further species extinctions (CBD 8 a, b, f, h and k).

The collection of species data has provided a definitive species list of the island and geographical information on where the species are located. This can help to inform species specific management in the protected areas (CBD 8 a, b and f). Prior to this it was not known where the most threatened invertebrate species were so it was difficult to target management work. This data is will be available through SAERI.

The EPO will protect the habitat of and prevent damage to 285 endemic invertebrates on island, the most threatened species (CBD 8k).

CBD Article 12 (Research and Training) Project indicator 2a, 2c, 2d, 2e, 3b, 4a, 4b and 4c

The project trained 41 individuals as part of output 2 including both government and NGO nature conservation staff as well as biosecurity staff to ensure full integration of invertebrate conservation across organisations on island. A reference collection has been established this will be used to provide training and will be further developed by project DPLUS040. Other training resources developed include a St Helena Invertebrate Guide, keys as well as general reference materials such as photos etc.

CEH has trained 6 SHG conservation staff in techniques to assess plant fitness and the use of common garden trails to support long term habitat restoration work. A series of reference materials have been produced to support this work, including ‘A quick guide to plant population fitness’ and ‘Restoration plant fitness protocols’. Part of the CEH work was to research the role of invertebrates in the restoration of native ecosystems

and initial results have been outlined. Common garden experiments and genetic work has shown distinct population differences in morphology, molecular diversity and/or physiology in key endemic plant species, meaning that restoration work needs to be targeted at the population level for these species to secure the maximum amount of diversity and to deliver more robust restoration projects.

CBD Article 13 (Public Education and Awareness) Project indicator 4a, 4b, 4c

To help ensure future conservation efforts are improved a total of 1732 opportunities to learn for children have been provided by the project through 77 education events at all 4 schools on St Helena (output 4). An education loan box has been established to enable teachers can continue to run invertebrate educational sessions. A total of 39 teachers have been trained on how to use the loan box.

A freely to accessibly invertebrate reference collection is available in the St Helena Museum. An invertebrate guide for St Helena to enable technical information to be more easily available, is accessible electronically via the SHNT website.

On island and international media work has also been successful with numerous newspaper articles, features in newsletter and radio interviews; as well as adult outreach events.

Aichi Targets

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society. (target 1). The underlying cause of biodiversity loss on St Helena is a lack of resources, skill and knowledge. This project is addressing this by increasing technical resources and providing training on island to carry out invertebrate conservation work and to help conservation continue post project a five year 'Invertebrate Strategy' has been developed and has been adopted by the government (output 1, 2, 3). Policy has been influenced through the Environment Protection Ordinance (EPO) and the Protected Area Development plans. Society has been influenced through education to children and media and outreach to adults (output 4).

Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use (targets 5, 7 and 9). Species and habitat data gathered by the project has been fed into protected areas development plans to help refine and focus these plans (output 1 and 3). It has also been the basis for protected species legislation through the EPO which will protect invertebrates from development pressure (output 1). Work with the biosecurity team to mitigate and reduce the introduction of invasive invertebrate species, will reduce impacts on native invertebrate fauna.

Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity (target 12). The training and resources provided by the project have influenced the techniques used in restoration work in order to accommodate invertebrate needs. Species data collected by the project is assisting SHG in targeting habitat restoration and management, reducing the pressure on vulnerable invertebrate species; and is informing future conservation efforts through the Protected Area Development Plans and IUCN KBA assessment (output 1). CEH

work on plant fitness training and implementation is improving the quality of habitat restoration by maintaining genetic diversity through plant populations (output 3).

Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building (target 19). The invertebrate strategy development was a participatory planning exercise engaging a wide range of stakeholder in a two day workshop. Capacity to carry out invertebrate conservation on island has been significantly improved by the project through training. The number of people on island able to carry out invertebrate conservation has been significantly increased and two specialists have been retained on island post the project, and to ensure this capacity is sustained a suite of resources have been developed to underpin it (output 1, 2 and 3).

4.2 Project support to poverty alleviation

4.2.1 Programme indicators

- Did the project lead to greater representation of local poor in management structures of biodiversity?

Not applicable to this project.

- Were any management plans for biodiversity developed?

Yes, a five year strategy for invertebrate conservation on St Helena was developed

- Were these formally accepted?

The Invertebrate Conservation Strategy was provisionally adopted on the 21st April 2016 (a finalised version to present for final adoption in a month) by the Environment & Natural Resources Committee as key piece of work for the government; the committee congratulated all involved on the quality of the strategy.

- Were they participatory in nature or were they 'top-down'? How well represented are the local poor and women, in any proposed management structures?

The 2 day workshop to develop the strategy was participatory, stakeholders from a wide range of sectors on the island were invited including schools, local councillors, government representative etc; and the workshop included a range of interactive sessions to gather thoughts and ideas. It was run simultaneously in St Helena and in the UK, with 7 people in the UK and 15 on island. Nine of the 22 participants at the workshop were women, 7 of these were in St Helena; and the workshop leads in both St Helena and the UK were women. No record was made of local low income participation as this was not a key focus of the project and it is not DFID funded.

- Were there any positive gains in HH income as a result of this project?

Not applicable to this project.

- How many HH saw an increase in their HH income?

Not applicable to this project.

- How much did their HH income increase (e.g. x% above baseline, x% above national average)? How was this measured?

Not applicable to this project.

4.3 Transfer of knowledge

Did the project result in any formal qualifications?

i. How many people achieved formal qualifications?

No one achieved a formal qualification

ii. Were they from developing countries or developed countries?
Not applicable
iii. What gender were they?
Not applicable

The project has transferred knowledge to practitioners for practical conservation challenges by training. Training has been given to all conservation staff on island, as well as biosecurity and pesticide sprayers, see evidence folder 2a. Knowledge has been transferred through resources e.g.: invertebrate dataset on SAERI, invertebrate keys - website, ID guide – website, non-native species list and documents –website, invertebrate strategy –website and reference collection – St Helena Museum.

For policy makers the project directly engaged in the development and indirectly commented on drafts for the EPO and Protected Area Development Plans, leading to the integration of invertebrate conservation needs. Non-native species work has been engaged with through direct working with the government team to look at ways of improving working.

Knowledge exchange has occurred local teachers through teacher training on the loan box, as well as training via practical events has occurred with 39 teachers on island. 1732 opportunities to learn of approximately 1 hour long have transferred invertebrate knowledge to children on island.

There has been a wide range of public articles 22 on island about the project as well as public events engaging 179 people, increasing understanding of invertebrates more broadly.

Knowledge has been transferred about the project on international platforms through IUCN Species Leaders Abu Dhabi September 2016 meeting, when the St Helena Strategy development was discussed as a case study at the Invertebrate Conservation Sub-Committee Meeting. The outputs of the project were presented at a JNCC workshop on UKOTs data and an Imperial College workshop on UKOTs knowledge gaps. The development of MAIISG is allowing knowledge exchange with international experts. At a conference on UK Overseas Territories the Director of SHNT presented on invertebrates as well as an article in the proceedings on the project. There were also a number of articles in UK newsletters, newspapers as well as internet videos, a section in a book etc. increasing awareness of St Helena's invertebrates and their importance.

4.4 Capacity building

i. Did any staff from developing country partners see an increase in their status nationally, regionally or internationally? For example, have they been invited to participate in any national expert committees, expert panels, have they had a promotion at work?

Liza Fowler who was employed as the Education Officer and who is originally from the island 'a Saint', who has a keen interest in invertebrates and who taken hundreds photos of the island's invertebrates many of which are being used in the new Invertebrate Guide. She has been trained and developed by the project and as a result has also been supporting the wider work of the St Helena National Trust by undertaking invertebrate surveys and has now been employed as a Project Officer on DPLUS040.

David Pryce the Invertebrate Coordinator on the project is now the Project Manager for DPLUS040 and is also the Red List Coordinator for MAIISG.

ii. What gender were they? Female – Liza Fowler and Male – David Pyrce

With very limited invertebrate conservation work prior to the project and so the project has help to fully integrate invertebrates within many aspects of the St Helena's implementation of the conventions see 4.1.

The project has provided extensive training to all conservation staff on island, both within the St Helena Government and St Helena National Trust and has increase their knowledge and understanding of invertebrates; and so their capacity to delivery invertebrate conservation on island.

The project has resulted in the development of Liza Fowler, the project's Education Officer on to provide another invertebrate conservation expert and David Pryce the Invertebrate Coordinator has been retained on island to deliver the new Darwin project on invertebrates DPLUS040 and so specialist invertebrate expertise has increased, again increasing invertebrate conservation capacity on island.

The development of St Helena's Invertebrate Strategy means that partnership working as well as integration of invertebrate within existing work on island, this will provide an increase in invertebrate conservation capacity over the next five years.

4.5 Sustainability and Legacy

The Invertebrate Strategy will be sustained past the end of the project, it has been adopted by the government and will be led by the Terrestrial Conservation Officer; and will drive and integrate invertebrate conservation on island over the next five years, working with a wide range of partners. The EPO and the 285 species protected by this piece of legislation will prevent damage and degradation to threatened invertebrate endemics; and once finalised the development plans will highlight and protect invertebrate conservation needs within Protected Areas.

The resources created by the project will endure through websites and physical equipment e.g. e.g.: invertebrate dataset on SAERI (website), invertebrate keys (website), ID guide (website), non-native species list and documents (website), invertebrate strategy (website), education booklets (website), the loan box (St Helena National Trust) and the reference collection (St Helena Museum).

IUCN MAIISG established through the project will continue to provide networks and form relationships with invertebrate experts across the world.

The new project Darwin project on monitoring DPLUS040, which resulted from this project and will continue to collect data and raise the profile of invertebrates on island.

David Pryce (the Invertebrate Coordinator) and Liza Fowler (the Education Officer and also a Saint); these two individuals have delivered the project to a very high standard and have been retained on island, both individuals will be working on the new invertebrate project 'Securing the future for St Helena's endemic invertebrates' and so these skills will be retained.

All the materials will be retained by SHNT and many of these will be used in the new project for example: the vehicle will be used by the new project, also computers as well as the loan box for educational works. The reference collection will be managed and maintained by St Helena museum and new specimens will be provided by the new project. The web-based resources will be retained on SHNT website.

5 Lessons learned

The management for the project worked well and has been demonstrated through the success of the project despite significant challenges. In particular the role of steering group which regularly brought together the key partners, complementing the day to day project delivery which was the responsibility of on island partners; with other partners bringing a more international perspective and expertise to the project. Capacity within the on island partners was an issue and this sometimes impacted on the project, and so partners had to be flexible and dynamic to quickly react to and allow for these resource issues, and UK partners especially Buglife as the lead organisation providing support.

The invertebrate expertise established by the project to allow delivery on island was exactly right for the project, allowing tailoring of specialist knowledge to the island from Invertebrate Coordinator and invertebrate enthusiast with good outreach skills for the Education Officer. Having the specialist expertise of Roger Key to provide initial training and continued support particularly for the ID guide has been essential to the project. The marrying of skills in invertebrate conservation, habitat restoration with St Helena expertise and delivery made for a highly successful project.

The potential problems had been correctly identified and sufficient resources were provided. The inclusion of the restoration element within the project framework may be wasn't the best fit for the project and felt like a disjointed component of the project but it did provide some interesting expertise and another angle to the work.

The length of time to create an invertebrate identification guide was underestimated, however due to the commitment and generosity of Roger Key and in kind contribution has meant this element of the project will be completed.

5.1 Monitoring and evaluation

There were changes throughout the project however these did not substantially impact upon the log frame. These changes were necessary to enable the project to deliver required outcomes to time and budget. They were discussed with the project steering group and changes were approved by Darwin as per the change request process.

The changes are as follows:

1. Contribution to shade netting for the Darwin Initiative Spiky Yellow Woodlouse Project.
2. There were delays in setting up the project which required a carry over of funds from 2012-13 financial year to the 2013-14. There were no changes to the outputs.
3. In 2013-14 there was a change of project lead which resulted in a minor delay to the project and funds were carried forward. Again this did not impact on the outputs of the log frame just the timings.
4. In 2014 the government based invertebrate coordinator resigned. As this point in time SHG felt that they could not effectively recruit a replacement post and the role was transferred to the SHNT. The contract of local invertebrate coordinator was extended to enable them to take over the duties of the government based coordinator. This change in staffing prevented delay to the project as at the time EMD was finding it difficult to recruit new staff members, and it also enabled a

small amount of money to be used to increase on island project communications, improve the the project website and produce leaflets.

Yes the M&E system was very effective. All project partners were represented on the steering group and this enabled them to be up to date with the progress of the project and be closely involved in all key decisions. There was continual review of progress against the log frame and its measurable indicators to ensure they were fit for purpose.

Progress of a project is monitored by Buglife. There is a budget tracker system to ensure that monies are spent within budget and on time. Progress is monitored through a 'traffic light system' to flag up any difficulties, with the Buglife Senior Management Team, as early as possible.

The Red Listing work carried out by the project was externally reviewed by the IUCN. Part of the Red Listing included conservation aims for each species reviewed. These were agreed by the project steering group before being reviewed by IUCN specialists. This review was useful for the project as it ensure that the project was providing practical and implementable conservation aims.

5.2 Actions taken in response to annual report reviews

Within the feedback for 2014-15 annual report a question was raised over the projects liaison with the airport and the discussion of its impacts on conservation; and a longer term communications strategy.

During airport construction the invertebrate coordinator worked closely with Halcrow and Basil Read (airport construction companies) to mitigate the impacts of the development on invertebrates and the wider wildlife of Prosperous Bay Plain. This included a number of site surveys and recommendations for mitigation strategies.

A key threat to the island's invertebrates from the airport is the introduction of non-native species and as a result the project has worked closely with the Government's biosecurity team to ensure that the tools and knowledge are available to minimise the threat of invasive species arriving through increased air travel to the island. For example a monitoring system using sticky traps and small 'insect hotels' in breeze blocks was established working with the team, and will be checked monthly to see what has colonised them; and protocol for non-native invertebrate species has been established. See protocol and monitored species in Evidence folders Output 1a Biosecurity and a list of non-native species plus a document on their ecology and impact both are regularly utilised by the Biosecurity team.

The Invertebrate Strategy includes a long term communication strategy to ensure that awareness raising of invertebrates continues post project. The draft Invertebrate Strategy contains the following goal '*Raise the profile of St Helena's invertebrate fauna locally and on the global conservation scene, to attract local and global support for conservation action, facilitate research interest and resources; and thereby enabling islanders to share their experiences and to profit from experiences of others'*. This is broken down into a prioritised action plan that includes development of further environmental education programmes, completion of peer reviewed articles, continuation of Red Listing and promotion of flagship species.

6 Darwin identity

Promotion of Darwin's identity was a priority of the project. All external publications include reference to Darwin and all publications where possible have included the Darwin Initiative logo and named, this can be seen in the evidence folder; this includes posters, web content, leaflets, press releases etc.

As the main funder for this project the Darwin Initiative is recognised as a distinct entity and has a clear identity. The Initiative is promoted equally alongside Buglife and the project partners.

Understanding of the Darwin Initiative is high in St Helena as there are a number of projects that are funded by the initiative. The Initiative enables a considerably higher level of conservation work to take place that would otherwise be possible and as a result all conservation workers on the island are familiar with the Darwin identity and have a positive view of it. Local residents that have engaged with the Bugs on the Brink project through outreach events will have an understanding of the Darwin Initiative as reference to them is made on outreach materials.

Social media is not widely used in St Helena and so was not appropriate for use on island as partners were not active on social media. Buglife has twitter and facebook and this was used through out the project for wider media work and we follow the Darwin Initiative on Twitter.

7 Finance and administration

7.1 Project expenditure

Project spend (indicative) since last annual report	2015/16 Grant (£)	2015/16 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			20%	Invertebrate coordinator costs paid in advance see change request and SHNT Director costs provided in kind, see change request March 15
Consultancy costs			0%	As expected
Overhead Costs			14%	Increase due to invertebrate coordinator contract extension increasing SHNT overheads, see change request change March 15
Travel and subsistence			14%	A slightly higher travel cost in UK due to running invertebrate strategy workshop
Operating Costs			15%	Lower field work costs due to end of project
Capital items (see below)			0%	As expected
Others (see below)			242%	To cover ID guide design cost see change request Jan & March 15

TOTAL	**22204.67**	**22163.20**		

Staff employed (Name and position)	**Cost (£)**
David Pryce	
Liza Fowler	
Buglife Officer (Alice Farr/Vicky Kindemba)	
TOTAL	**11022.49**

Capital items – description	**Capital items – cost (£)**
No Capital Items bought in this period	0.00
TOTAL	0.00

Other items – description	**Other items – cost (£)**
Invertebrate Guide design	
TOTAL	2500

Additional funds or in-kind contributions secured

Source of funding for project lifetime	**Total (£)**
Consultancy in kind time on ID guide 7 months full time work @ £300 per day	
Buglife, Project manager extra time on project 20 days @ £350	
Buglife in kind equipment	
Rebecca Cairns-Wick time on steering group and EMD rep @£250 x 2 people, once per quarter for 3 years	
TOTAL	**£55,700**

Source of funding for additional work after project lifetime	**Total (£)**

TOTAL	

7.2 Value for Money

When developing the invertebrate strategy a two day workshop was held. And a number of experts attended the workshops free of charge. Expert support was accessed through the IUCN Conservation Planning group and the Invertebrate Conservation Sub-Committee via MAIISG; and so high quality technical support was provided for free. Also the workshop was run in two countries simultaneously, St Helena and the UK, using Skype. This avoided international travel, but still enabled thorough preparation and consultation to ensure a high quality strategy was delivered.

Where possible the project has ensured that materials purchased were of the desired quality and at the lowest price. However choice is limited on St Helena and goods will often need to be shipped. The Project purchased some invertebrate survey equipment to ensure that once the project had finished EMD were able to monitor invertebrates when necessary. To ensure that survey equipment was of sufficient quality the project sourced these from reputable companies based in the UK. The goods were then shipped to St Helena. This was organised by the Project Manager as it kept delivery costs low and reduced fees for international payments and bank transfers.

Annex 1 Project's logframe, including indicators, means of verification and assumptions.

Note: Insert your full logframe. If your logframe was changed since your Stage 2 application and was approved by a Change Request the newest approved version should be inserted here, otherwise insert the Stage 2 logframe.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.			
Sub-Goal: To improve the conservation status of St Helena's endemic invertebrates, protecting them from the threats of habitat degradation and loss.	Threatened invertebrate species on Prosperous Bay Plain, Millennium Forest, Peak Dale and High Peak with maintained presence. Prosperous Bay Plain, Millennium Forest, Peak Dale and High Peak being appropriately managed and restored.	Nature Conservation Division (NCD) annual monitoring report; IUCN status NCD habitat assessments.	
Purpose To halt the loss of St Helena's endemic invertebrates, by mainstreaming their needs within practical and strategic conservation management, ensuring legal protection and fostering increased awareness and understanding across wider society.	Invertebrate conservation capacity increased on St Helena Target invertebrate habitats being appropriately managed and restored. Improved protection for endangered invertebrate species. Public engaged in invertebrate conservation through education and awareness programme	New invertebrate coordinator in post; 6 conservation staff trained; NCD and SHNT work plans include invertebrate activities; invertebrate conservation best practice included in all Ecosystem Restoration and Protected Area plans Threatened species red-listed under IUCN criteria; list of threatened invertebrates included on Endangered Species Ordinance; Protected Areas management plans include invertebrate requirements. Education officer in post; outreach and classroom sessions.	St Helena Government (SHG) enacts commitments to establish new Nature Conservation Division and network of Protected Areas. SHG maintains current funding levels for conservation.

Output 1 Invertebrate conservation requirements quantified and incorporated within environmental management framework and legal protections.	1a) Invertebrate conservation included as a core activity within Nature Conservation Division 1b) Invertebrate species data collated and integrated with the St Helena Environmental Information System (SHEIS), by year 1. 1c) New Protected Areas Network provides protection to endangered invertebrates, by year 3. 1d) List of endemic invertebrates assessed for status using IUCN criteria, by year 3. 1e) Invertebrates protected under endangered species legislation.	NCD work plan includes invertebrate conservation activities; 6 conservation staff trained. SHEIS database includes 60% of existing invertebrate data. Invertebrate species mapping included as supporting information in the management plans for all proposed Protected Areas. Specialist group set up; list of potential red list species online and submitted for expert review. List of threatened invertebrates included on Endangered Species Ordinance by year 3.	SHG maintains commitment to include invertebrate conservation in new Nature Conservation Division. International museums with St Helena material permit access to collections. IUCN specialist group supported by other Overseas Territories.
Output 2 A training programme delivered to increase local capacity and skills in invertebrate conservation.	2a) 6 conservation staff trained in invertebrate biodiversity conservation and habitat management techniques, years 1-3. 2b) Invertebrate co-ordinator trained in conservation best-practice by year 2. 2c) Invertebrate reference collection supporting training in identification, established in year 1. 2d) Introductory invertebrate guides and keys produced to facilitate outdoor learning, by year 3. 2e) Online invertebrate website providing technical information and images, by year 3.	Report on training sessions and evaluation by invertebrate co-ordinator. Multi-level assessment by invertebrate specialist. Collection set up; identification skills assessment of NCD staff by co-ordinator. Fold-out guides produced and available on island. Website for invertebrate fauna online.	Existing levels of conservation staff retention continue within new NCD structure.

Output 3 Ecosystem restoration on St Helena informed by and incorporating invertebrate requirements.	3a) A study to understand and quantify the role of invertebrates in the successful restoration of native ecosystems, years 1-3. 3b) 5 conservation staff trained in methods for assessing plant fitness and regeneration by year 1. 3c) Invertebrate conservation best practice included in all Ecosystem Restoration Plans by year 2, and informing NCD and SHNT work programmes.	Annual reports on endemic forest regeneration and roles of associated invertebrate assemblages, in 3 target habitats. Handbooks on research protocols; training evaluated by Centre for Ecology and Hydrology. Publication of analyses in peer-reviewed articles. New editions of Ecosystem Restoration Plans for target habitats; NCD and SHNT work programmes include invertebrate conservation activities.	External support can be accessed for invertebrate species identification.
Output 4 A programme of education and awareness raising about invertebrates and their ecosystem services, to increase public support and engagement.	4a) All island schools providing indoor and outdoor opportunities for learning about invertebrates, years 1-3. 4b) 12 teachers trained in use of education pack and loan box, year 2. 4c) More than 75% of islanders exposed to invertebrate conservation issues and positive attitudes to invertebrates instilled.	New modules in environmental education pack; quarterly 'bug clubs'; annual outdoor events. Training session evaluation. Monthly local media coverage; tri-annual public outreach events. Project information disseminated internationally through printed, broadcast and web-based media.	Curriculum retains biodiversity/natural sciences strand.

Annex 2 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements in the last Financial Year 2015-16	Actions required/planned for next period
Goal/Impact: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.		Completion of the project has meant that a number of CBD objectives have been contributed to. These are detailed earlier in the report (see section 4). Meeting this goal has enabled on the ground conservation action, planning and legislation to take place. This is a direct result of increased resources, time and understanding of the needs of rare and endangered endemic invertebrates.	Do not fill not applicable
Purpose/Outcome To halt the loss of St Helena's endemic invertebrates, by mainstreaming their needs within practical and strategic conservation management, ensuring legal protection and fostering increased awareness and understanding across wider society.	Invertebrate conservation capacity increased on St Helena Target invertebrate habitats being appropriately managed and restored. Improved protection for endangered invertebrate species. Public engaged in invertebrate conservation through education and awareness programme	Invertebrate capacity on island has increased. Conservation workers have been trained, management plans influenced and management practices changed to benefit invertebrates. Rare and endangered invertebrates are being Red Listed through the IUCN and 285 are also listed on protected species ordinance which came into force in February 2016. The project has a high profile on island and all four schools have been engaged in educational	Do not fill not applicable

		activities and extensive publicity.	
Outputs 1. **Invertebrate conservation requirements quantified and incorporated within environmental management framework and legal protections.**	1a. Invertebrate conservation included as a core activity within Nature Conservation Division 1b. Invertebrate species data collated and integrated with the St Helena Environmental Information System (SHEIS), by year 1. 1c. New Protected Areas Network provides protection to endangered invertebrates, by year 3. 1d. List of endemic invertebrates assessed for status using IUCN criteria, by year 3. 1e. Invertebrates protected under endangered species legislation.	Progress for this output has been good and activities carried out have achieved the output, see detail below.	
Activity 1.1 - Incorporating invertebrate conservation as a core conservation activity within Nature Conservation Division (NCD).		The terrestrial conservation team in the Peaks have developed more invertebrate friendly habitat, for example eliminating the practice of removing dead fronds from tree ferns. As a result of project training and advice have altered the way they are managing habitats. An invertebrate strategy was developed by a wider range of stakeholders on and off island and this document is to facilitate a much wider and effective integration of invertebrate needs in conservation work across the island and into environmental management frameworks. The project has worked closely with the Government's biosecurity team as one of the key threats to invertebrates on island is from non-native species and often invasive invertebrate species. The island is	

	at a key point in relation to this issue as the airport is soon to be active, and the so the project has ensured that all the tools such as monitoring system, baseline data and non-native species protocol are available to mitigate further damage. Seven of the St Helena Government 'Nature Conservation Area' development plans were commented during the lifetime of the project and invertebrate needs integrated. The project has also resulted in two new projects that have invertebrates as a key focus these are DPLUS029 Securing St Helena's rare cloud forest trees and associated invertebrates (government led) and DPLUS040 Securing the future for St Helena's endemic invertebrates (government as a key partner).
Activity 1.2 - Collating existing invertebrate data and integrating them with the St Helena Environmental Information System, producing mapping for Protected Areas Network.	An extensive piece of work was undertaken by the project's Invertebrate Coordinator to collate all the existing invertebrate data and integrated into the South Atlantic Environment Research Institute (SAERI) their IMS-GIS (Information Management System, Geographic Information system) data centre a comprehensive and standardised information system across the UK Overseas Territories in the South Atlantic; providing an integrated information network where data can be easily discovered and accessed. The two datasets that are available are: a baseline species list and all species records.
Activity 1.3 - Assessing conservation status of endemic invertebrates under IUCN criteria and placing threatened species on Endangered Species Ordinance.	Sixteen of the endemic species have been Red Listed and were published last year by the IUCN. A new IUCN species specialist group has been established as a result of this project, and the group is the Mid Atlantic Island Invertebrate Specialist Group (MAIISG) was adopted by IUCN in May 2015. This group will continue to take forward Red Listing. A key achievement of the project is the influencing of the development of Environmental Protection Ordinance 2016 (EPO) which has just come into legislation, February 2016, and is now active. The EPO has 285 endemic invertebrate species listed within it that are now protected under this piece of endangered species legislation.

Output 2. **A training programme delivered to increase local capacity and skills in invertebrate conservation.**	2a. 6 conservation staff trained in invertebrate biodiversity conservation and habitat management techniques, years 1-3. 2b. Local Invertebrate coordinator trained in conservation best-practice by year 2. 2c.Invertebrate reference collection supporting training in identification, established in year 1. 2d. Introductory invertebrate guides and keys produced to facilitate outdoor learning, by year 3. 2e. Online invertebrate website providing technical information and images, by year 3.	Activities have led to output being achieved, see detail below.
Activity 2.1 - Training in invertebrate biodiversity conservation and habitat management for invertebrate coordinator and conservation staff.		Over four courses 41 individuals (although some people attended more than one course) have been trained and 70 days (10 weeks) of training has been achieved.
Activity 2.2 Local Invertebrate coordinator trained in conservation best-practice by year 2.		Roger Key went out in 2013 for a month to train the trainers, training both David Pryce (the Invertebrate Coordinator) and Liza Fowler (the Education Officer and also a Saint); these two individuals have delivered the project to a very high standard and have been retained on island. David and Liza are still based on St Helena and are now working on the other Darwin invertebrate project.
Activity 2.3 - Building invertebrate specimen reference collection.		A reference collection in an entomological storage cabinet was established on island and is present within the Museum of St Helena in a controlled environment room. Training has been given to museum

		to facilitate staff maintenance of the collection
Activity 2.4 - Producing introductory guides and keys for invertebrates.		There are a suite of resources now available to further develop identification skills on island, this includes the new invertebrate guide and a number of invertebrate family keys.
Activity 2.5 - Designing and creating website for invertebrate information.		The website holds a range of invertebrate information including the key project outputs, background provided includes an overview of the project its outcomes, habitats and invertebrate fauna.
Output 3. **Ecosystem restoration on St Helena informed by and incorporating invertebrate requirements.**	3a. A study to understand and quantify the role of invertebrates in the successful restoration of native ecosystems, years 1-3. 3b. 5 conservation staff trained in methods for assessing plant fitness and regeneration by year 1. 3c. Invertebrate conservation best practice included in all Ecosystem Restoration Plans by year 2, and informing NCD and SHNT work programmes.	Activities have led to output being achieved, see detail below.
Activity 3.1 - Understanding and quantifying the role of invertebrates in the restoration of native ecosystems, based on a field study of regeneration in endemic trees.		Pan trapping in the Millennium Forest, Crown Waste, Piccolo Gumwoods and Jamestown (Cole's Bunker) were established to start to understand pollinators in native and restored habitats and their interactions with endemic plants present in native ecosystems. The field study initial results suggest that the pollinator biomass found in the restored habitat of Millennium Forest (MF) is much greater than in the other habitats and lowest biomass is in Jamestown. The results will continue to be analysed.
Activity 3.2 - Restoration ecology training: 5 conservation staff trained in methods for assessing plant fitness and regeneration & production of research protocols.		Restoration training workshop on methods for assessing plant fitness and regeneration was given in 2014 by Dr Alan Gray. As plant fitness is key in facilitating effective restoration work and so two guides were produced: 'A quick guide to plant population fitness' and 'Restoration plant fitness protocols'

Activity 3.3 - Preparing new editions of Ecosystem Restoration Plans for target habitats.		The project commented on 'Conservation actions for invertebrates in protected areas' to inform EMD and SHNT work programmes. St Helena Government 'Nature Conservation Area' development plans were developed during the project lifetime for all the protected area; and the project worked in direct collaboration with Government Officers leading this work, to integrate invertebrate needs into the plans. The Invertebrate Strategy through Goal 1 has clear restoration plan objectives, which are the responsibility of St Helena Government and the St Helena National Trust.
Activity 3.4 - Disseminating and publishing study outputs.		The outputs have been dissemination by a paper on 'Hybrid plants preserve unique genetic variation in the St Helena endemic trees Commidendrum rotundifolium DC Roxb. and C. spurium (G.Forst.) DC' is in press. The guide and protocol to plant population fitness, the summary results on the existing garden experiment and the summary of the pollinator study and have been disseminated to partners on island and are available online via the project website.
Output 4. A programme of education and awareness raising about invertebrates and their ecosystem services, to increase public support and engagement.	4a. All island schools providing indoor and outdoor opportunities for learning about invertebrates, years 1-3. 4b. 12 teachers trained in use of education pack and loan box, year 2. 4c. More than 75% of islanders exposed to invertebrate conservation issues and positive attitudes to invertebrates instilled.	Activities have led to output being achieved, see detail below.
Activity 4.1 - Providing all island schools with indoor and outdoor opportunities for invertebrate learning.		A comprehensive series of educational sessions were given to all four schools on St Helena, encompassing a wide range of activities on invertebrates; these were run with children from Nursery and Reception level through to Secondary School. • In **2013** 26 events and activities which provided children with 347 learning opportunities

	• In **2014** 12 events and activities which provided children with 478 learning opportunities • *Note: the education officer was on maternity level for part of 2014* • In **2015** 36 events and activities which provided children with 842 learning opportunities • In **2016** 3 events and activities which provided children with 53 learning opportunities
Activity 4.2 - Training teachers in use of education pack and loan box.	A total of 39 teachers were trained over the course of the project. Much of the training on the use of equipment was done while conducing mini-beast hunts with the teachers where sweep nets, pooters etc. were used.
Activity 4.3 - Awareness raising through the media and outreach events and disseminating project results.	Raising awareness through the media has been well received with approximately 100% of islanders being exposed to the project through newspaper articles and radio interviews. The main newspapers comprise the Independent, produced by Saint FM, and The Sentinel, produced by South Atlantic Media Services Ltd. (SAMS), have printed 20 articles produced by us and they have also covered many of our events. The Sentinel has a circulation of 3100 and the Independent a circulation 2800; and the St Helena population is approximately 4000. There have also been articles in the newsletters of the Environmental Management Directorate and the St Helena National Trust, as well as the St Helena Ambassador which is the Government newspaper.

Annex 3 Standard Measures

Code	Description	Total	Nationality	Gender	Theme	Language	Comments
Training Measures							
1a	Number of people to submit PhD thesis	0					
1b	Number of PhD qualifications obtained	0					
2	Number of Masters qualifications obtained	0					
3	Number of other qualifications obtained	0					
4a	Number of undergraduate students receiving training	0					
4b	Number of training weeks provided to undergraduate students	0					
4c	Number of postgraduate students receiving training (not 1-3 above)	0					
4d	Number of training weeks for postgraduate students	0					
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification(e.g., not categories 1-4 above)	0					
6a	Number of people receiving other forms of short-term education/training (e.g., not categories 1-5 above)	80	Saints and UK	49 Males 31 Females	Invertebrate professional capacity building; teacher training	English	
6b	Number of training weeks not leading to formal qualification	10.5	Saints and UK	49 Males 31 Females	Invertebrate professional capacity	English	

Code	Description	Total	Nationality	Gender	Theme	Language	Comments
					building; teacher training		
7	Number of types of training materials produced for use by host country(s) (describe training materials)	5			Loan box, ref collection guide, fitness plant population guide, invertebrate guide and keys	English	

Research Measures		Total	Nationality	Gender	Theme	Language	Comments
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (ies)	1	UK, St Helena	Mixed	Invertebrate strategy	English	Participatory process
10	Number of formal documents produced to assist work related to species identification, classification and recording.	13					6 invertebrate guide chapters, 7 keys
11a	Number of papers published or accepted for publication in peer reviewed journals	0					
11b	Number of papers published or accepted for	0					Location?

	publication elsewhere						
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	2				English	
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	0					
13a	Number of species reference collections established and handed over to host country(s)	1					
13b	Number of species reference collections enhanced and handed over to host country(s)	0					

Dissemination Measures		**Total**	**Nationality**	**Gender**	**Theme**	**Language**	**Comments**
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	1			Invertebrate strategy workshop	English	
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	4			JNCC workshop, UKOTs conf, IUCN species conf, Imperial workshop	English	

Physical Measures	**Total**	**Comments**

20	Estimated value (£s) of physical assets handed over to host country(s)	£22,608	Field equipment and vehicle
21	Number of permanent educational, training, research facilities or organisation established	1	Invertebrate reference collection
22	Number of permanent field plots established	0	Please describe

Financial Measures		**Total**	**Nationality**	**Gender**	**Theme**	**Language**	**Comments**
23	Value of additional resources raised from other sources (e.g., in addition to Darwin funding) for project work	£55,700	Saint and UK	Mixed			In Kind

Code No.	**Description**	**Year 1 Total 2012-13**	**Year 2 Total 2013-14**	**Year 3 Total 2014-15**	**Year 4 Total 2015-16**	**Total to date**	**Number planned for reporting period**	**Total planned during the project**
Established codes								
5	Number of people to receive at least one year of training (which does not fall into categories 1-4 above)	0	1	0	0	1	1	2
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above)		38	0	0	38	0	25
6B	Number of training weeks to be provided	8	2	2		12	2	24

7	Number of (i.e. different types - not volume - of material produced) training materials to be produced for use by host country		2	2	1	5	2	5
8	Number of weeks to be spent by UK project staff on project work in the host country	8		4		12	4	6
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country		2	6	0	8	6	4
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording		2	1		3	1	2
11A	Number of papers to be published in peer reviewed journals			1 (in press)	1	1	1 (in press)	2
11B	Number of papers to be submitted to peer reviewed journals (additionally to published)				2	0	0	2
12B	Number of computer based databases to be **enhanced** and handed over to host country		1			1	1	1
13A	Number of species reference collections to be **established** and handed over to host country(ies)			1		1	0	1
14B	Number of conferences/seminars/ workshops **attended** at which							

	findings from Darwin project work will be presented/ disseminated.		1	1	2	4	1	4
15A	Number of national press releases in host country(ies)	2	2	2	3	9	2	9
15C	Number of national press releases in UK		1	1	1	3	1	3
16A	Number of newsletters to be produced		2	2	2	6	2	6
16B	Estimated circulation of each newsletter in the host country(ies)			500		500	n/a	20
16C	Estimated circulation of each newsletter in the UK		1,500	8000		9500	n/a	30
17A	Number of dissemination networks to be **established**			1		1	1	1
17B	Number of dissemination networks to be **enhanced/ extended**			0	1	1	0	1
18B	Number of national TV programmes/features in UK				1	1	0	1
19A	Number of national radio interviews/features in host county(ies)	1	1	2	1	5	2	6
19B	Number of national radio interviews/features in UK				1	1	0	1
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)					£22,608		£22,608
21	Number of permanent educational/training/research facilities or **organisations** to be established and then continued after Darwin funding has ceased			1		1	1	1

22	Number of permanent field plots to be established during the project and continued after Darwin funding has ceased				12	12	0	12
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project work					£55,700	0	£55,700

Annex 4 Aichi Targets

	Aichi Target	Tick if applicable to your project
1	People are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	✔
2	Biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	
3	Incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	
4	Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	
5	The rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	✔
6	All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	
7	Areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	✔
8	Pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.	
9	Invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	✔
10	The multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	
11	At least 17 per cent of terrestrial and inland water, and 10 per cent of	

	coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	
12	The extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	✔
13	The genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	
14	Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	
15	Ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	
16	The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.	
17	Each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.	
18	The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.	
19	Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	✔
20	The mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by	

	Parties.	

Annex 5 Publications

Mark (*) all publications and other material that you have included with this report

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available
Guide to the invertebrates of St Helena	Identification guide	2016 Roger Key, David Pryce	Male	British	Nature Bureau	SHNT website and website once publ (design currently b finalised)
St Helena endemic invertebrate education materials	Education materials	2015 Liza Fowler	Female	St Helenian	SNHT	SHNT website
Hybrid plants preserve unique genetic variation in the St Helena endemic trees	Journal article	2015 Alan Gray, Annika Telford, Stephen Cavers, Antonia Eastwood, Andrew Darlow, Vanessa Thomas, and Phil Lambdon	Male	British	Expected to be Conservation Genetics	TBC once publish
Bugs on the Brink	Short film	2014, Alice Farr,	Female	British	Buglife	www.buglife.org.u
IUCN Red Listing	Red Listing	2014 Liza White and David Pryce	Male and Female	British	IUCN	www.iucnredlist.or
A Bugs Home - Habitats of St Helena	Leaflet on key areas of St Helena for invertebrates	Project	Male	British	Bugs on the Brink project	SHNT website St Helena – in prin outlets
Bugs of the Peaks -key Invertebrates of St Helena	Leaflet on key invertebrates species on St Helena	The project	Male	British	Bugs on the Brink	SHNT website St Helena – in prin outlets

Bugs on the Brink – project background	Leaflet about the Bugs on the Brink project	The project	Male	British	Bugs on the Brink	SHNT website St Helena – in prin outlets
Buglife's project website	Webpages	Buglife	Male and Female	British	Buglife	www.**buglife**.org.u **brink**
SHNT project website	Webpages	The Project	Male	British	SHNT	www.nationaltrust conservation.../bu brink-our-invertebr