

Darwin Initiative – Final Report

(To be completed with reference to the Reporting Guidance Notes for Project Leaders (<u>http://darwin.defra.gov.uk/resources/</u>) it is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Darwin project information

Project Reference	18-017
Project Title	Developing knowledge to eradicate house mice from UK OT islands
Host country(ies)	Tristan da Cunha, Falklands and South Georgia
Contract Holder Institution	Royal Society for the Protection of Birds (RSPB)
Partner Institution(s)	Conservation Department Tristan da Cunha (CD-TDC), Falklands Conservation (FC), The Government of South Georgia and the South Sandwich Islands (GSGSSI)
Darwin Grant Value	£253,636
Start/End dates of Project	01/04/2010 to 31/12/2013
Project Leader Name	Dr Richard Cuthbert (RSPB)
Project Website	
Report Author(s) and date	Dr Richard Cuthbert (RSPB) 31 March 2014

1 Project Rationale

The islands of Tristan da Cunha, the Falklands and South Georgia, all of which are located in the South Atlantic Ocean, are some of the most important sites for biodiversity within the United Kingdom Overseas Territories (UKOTs), supporting globally significant populations of seabirds, endemic plants, invertebrates and land birds. Several species of very high conservation concern are threatened by invasive species and, in particular, predation by introduced house mice. On the Gough Island World Heritage Site (Tristan da Cunha), predation by house mice on chicks of the Tristan albatross and Atlantic petrel is unsustainable for these populations, and is almost certainly causing rapid population declines of the endemic Gough bunting. Consequently, both the Gough bunting and Tristan albatross are classified as Critically Endangered by the IUCN. Mice on Gough Island are also likely to be causing ecosystem-wide impacts through predation of invertebrates and plants, and alteration of nutrient cycles. Research suggests that the impact of mice is likely to be most severe where they are the sole introduced rodent species. As a result, two other islands within the UKOTs are of real concern: mice are the sole species of rodent on Steeple Jason Island (Falklands) and on some areas of South Georgia. This project will build knowledge towards the eradication of mice from Gough Island, and will determine whether mice on Steeple Jason and South Georgia are having similar biodiversity impacts as on Gough as well as contributing towards their eradication from South Georgia.

2 Project Achievements

2.1 Purpose/Outcome

The overall purpose of this Darwin Project was to:

"Investigate the impact of mice on Steeple Jason in the Falkland Islands, produce draft operational plans for the eradication of mice from Steeple Jason and Gough Island, refine operational planning for mouse eradication on South Georgia, and create the capacity to undertake mouse eradication operations on all three islands."

The project has had substantial success in meeting the purpose as defined above, with progress made in understanding the impacts of mice and in work to aid in their eradication.

Means of verification (as defined in the log frame) include the following:

- Revised operational plan for the eradication of mice from Gough Island written and circulated to stakeholders
- Key remaining areas of uncertainty for a mouse eradication on Gough Island identified (the ability of an aerial operation to lay bait on the island's steep cliffs) and steps taken to address these are completed (an aerial trial and measurement of the bait remaining on cliffs when spread via a helicopter and bait bucket was undertaken on Gough Island in September 2013)
- Feasibility assessment for the eradication of mice from Steeple Jason, written, reviewed and published
- Two scientific reports on the ecology of mice and results of bait uptake trials to aid operational planning produced and published for South Georgia and Steeple Jason Island
- Information from the above South Georgia report incorporated in the operational planning for the 2013 South Georgia eradication operation
- Six scientific papers for submission to peer reviewed journals are published (2 papers), in review (2 papers) and in preparation for submission (2 papers)
- Training opportunities on rodent research and bait trials, and on operational practise (bait loading procedures) shared with personnel from the Conservation Department Tristan da Cunha (Gough Island helicopter trials), Falklands Conservation (Steeple Jason mouse research and bait trials), The Government of South Georgia and the South Sandwich Islands (South Georgia mouse research and bait trials)

See Annex 1 and Annex 5 for further details on the means of verification.

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

The higher goal of this project was to work for "The restoration of Gough Island, Steeple Jason Island and South Georgia's biodiversity and ecosystem function to a favourable conservation status that is not negatively impacted by introduced House Mice".

The project has contributed to work towards this larger goal, through developing detailed operational procedures for the eradication of the two mice affected areas of South Georgia that was undertaken in 2013, working to develop a feasibility assessment for the eradication of mice from Steeple Jason Island, and developing a revised operational plan and field-testing eradication procedures on Gough Island.

The success status of the 2013 eradication operation on South Georgia is still pending, as such operations allow a two year period before determining if rodents were eradicated and consequently the outcome will be unknown until 2015. If, as is hoped, this operation did successfully remove House Mice from the Nunez Peninsula and Cape Rosa, then this project will have played a direct role in restoring the conservation status of these two areas that have been negatively impacted by mice for 100 years or more.

The means of verification (report to funding agencies on the successful eradication of House Mice) will be met in 2015 if the South Georgia eradication operation proves to have been successful. The second means of verification (revised IUCN Red List assessments) will be a longer term goal and cannot be reported at present.

This grant commenced in October 2010 and poverty alleviation was not a goal within the project.

2.3 Outputs

The project set five main outputs. As indicated in the log frame these were to:

1 (a) Develop a Draft Operational Plan for eradication of mice from Gough Island and (b) key remaining areas of uncertainty identified and steps taken to address these

2 (a) Research on conservation impacts of mice on Steeple Jason, (b) mouse bait acceptance trials, non-target species trials and mice ecology research undertaken on Steeple Jason and (c) feasibility Assessment and Draft Operational Plan of mice eradication produced for Steeple Jason

3. Mouse bait acceptance trials and mice ecology research undertaken on South Georgia

4. Knowledge, capacity and awareness of conservation threat of mice and invasive species increased in Tristan, Falklands and South Georgia and within UK

5. Steps taken to ensure the sustainability of research and action directed at eradicating invasive species on UKOTs beyond end of project.

The project achieved almost all of its outputs. Changes produced as a result of the work undertaken during the project and supporting indicators include:

- Operational Plan produced for Gough Island (Annex 5 Supporting Document 1) which was also revised and updated (Annex 5 Supporting Document 10).
- The key area of uncertainty for a mouse eradication on Gough Island was identified as the ability to spread bait on the large areas of steep cliffs on the island. The project designed and executed a research plan to tackle this question and will submit a scientific paper to the journal Conservation Evidence to disseminate this knowledge (Annex 5 – scientific paper in preparation for submission). Knowledge on the biosecurity issues facing Gough Island and other islands in the Tristan da Cunha group has also been increased (Annex 5 – Supporting Document 9).
- Knowledge on the impact of House Mice on Steeple Jason island has been increased and it has been verified that mice are a predator of ground nesting birds (Annex 5 – Supporting Document 3) and are likely to have population impacts on storm-petrels (Annex 5 – Supporting Document 11).
- Mouse bait acceptance trials on Steeple Jason were completed and the results published (Annex 5 – Supporting Document 6 and 8), and knowledge on the potential non-target impacts of an operation on the island has been increased (Annex 5 – Supporting Document 6).
- A Feasibility Assessment for Steeple Jason Island was undertaken and published (Annex 5 Supporting Document 7).
- Mouse bait acceptance trials and knowledge on the ecology of mice on South Georgia was undertaken and the results have been published in scientific reports and (Annex 5 – Supporting Document 5). Knowledge has also been increased on breeding seabirds present on South Georgia (Annex 5 – Supporting Document 4).

- Knowledge of the role of invasive species has been increased in the three partnering Overseas Territories through the production of an invasive species game for school children (Annex 5 – Supporting Document 2), and capacity has increased with partners through their involvement in the South Georgia fieldwork, Steeple Jason fieldwork and helicopter baiting trials on Gough Island.
- Knowledge gained from this project has been produced and published with key partners in the UKOTs and disseminated within conservation journals and with relevant experts.

The main challenge encountered during the project was the planning for the helicopter baiting trial on Gough Island, with conflicting advice on the benefits of such a trial coming from expert organisations (e.g. the New Zealand Department of Conservation Island Eradication Advisory Group (IEAG)) and other eradication experts. In the end the RSPB and partners decided that there was more to be gained in attempting such a trial than not undertaking it all and plans were put in place. Due to logistical constraints involving a new ship that visits Gough Island (managed by the South African Government) and a new helicopter company operating on this ship, the original plans to undertake this trial in 2012 were deferred to 2013 to make sure the trial was in the second year of operation by the new ship and helicopter company on the island. Further complications for this part of the project were the logistics involved (including purchasing a bait bucket from New Zealand and non-toxic bait from the USA and arranging delivery to Cape Town), the limited pool of eradication experts and eradication helicopter pilots that we wanted to be involved with the trial (for the latter there was one world expert pilot -Peter Garden – who is in high demand by many eradication operations), and the need to combine the helicopter baiting with rope-access experts who could safely evaluate the baiting success on the island's cliffs. The helicopter baiting trial was successfully undertaken in September 2013 and the results have been highly informative for the final stages of operational planning.

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

This project contributed towards the Convention on Biological Diversity (CBD) and specifically towards assisting the three host UK Overseas Territories towards Article 8 In-situ Conservation and the sub-objectives within this article to "control spread of alien species" and to "restore degraded ecosystems and recovery of threatened species". Please note that of the three host Territories, the CBD has currently only been extended to Tristan da Cunha, but we understand that the Governments of both South Georgia and the Falkland Islands are considering extension. If, as is hoped, the 2013 South Georgia eradication was successful for the two mice affected areas of this island (Cape Rosa and the Nunez Peninsula) then the project will have directly contributed towards these sub-objectives of Article 8, and will have put South Georgia in a more robust position should it decide to request extension of the CBD.

Should future mice eradications be successfully undertaken on Steeple Jason Island and Gough Island, then the project will have contributed further to Article 8 of the CBD and furthermore for Gough Island the project will assist the UK in meeting its obligations under the Convention on Migratory Species (Agreement for the Conservation of Albatrosses and Petrels - ACAP), as mice are threatening ACAP listed bird species with extinction on Gough Island.

There are no specific CBD or CMS contact points in the partner Territories. However, the project kept in regular contact with JNCC's ACAP coordinator who was responsible for reporting for the UKOTs.

Although not one of the listed Conventions, it is also worth noting that Gough Island is a World Heritage Site, recognised for its globally significant seabird colonies and endemic species. The impact of introduced House Mice is slowly eroding these values, and so this project is an important step towards protecting World Heritage.

4 Project Partnerships

The RSPB initiated this project in response to requests from host country partners (specifically from the Tristan da Cunha Conservation Department) to assist with planning and working towards mouse eradications on affected islands. Due to similar technical and research issues being required for mouse eradications in all three UKOTs the idea of combining three different islands and UKOTs in to one project was agreed as a valuable partnership that could combine expertise and knowledge. Evidence of the success of this approach is demonstrated by the following activities:

- Methods for bait trials originally undertaken on Gough Island (with support from the Overseas Territories Environment Program) were transferred and applied to South Georgia (March 2012) and Steeple Jason (August 2012)
- Staff from all three partners and the RSPB were involved in the fieldwork on South Georgia (RSPB and GSGSSI staff), Steeple Jason (FC staff) and Gough Island (RSPB and CD-TDC staff)
- Two of the RSPB team who participated in the project's South Georgia fieldwork subsequently worked with FC on the Steeple Jason fieldwork, transferring fieldwork skills and knowledge
- Two of the RSPB's South Georgia fieldwork team in 2012 were involved in the SGHT eradication operation on South Georgia in 2013
- The lead helicopter pilot from the SGHT South Georgia operation was involved in the helicopter baiting trials on Gough Island in 2013

The main challenge with the partnerships has been the geographic distance between the RSPB and all three partners that has limited the number of face to face meetings. Despite these geographic constraints, all partners maintained regular contact with the RSPB by phone/email/Skype and working together and in person during the project's fieldwork components.

The three main project partners are very likely to remain in close contact with the RSPB through partnerships formed in this project and with previous and ongoing work. Maintaining contact between the three partners is challenging, particularly with the relatively high staff turnover in one of the partners (FC) and again the geographic isolation of Tristan da Cunha Conservation Department from the other project partners. However, efforts are being made to increase cross UKOT partnerships, with lessons learned and potentially equipment from the SGHT eradication being shared between territories and with visits of partner organisations to other territories. This occurred most recently (in mid 2013) when Trevor Glass, the Head of the Tristan da Cunha Conservation.

5 Contribution to Darwin Initiative Programme Outputs

5.1 Technical and Scientific achievements and co-operation

The project has produced six published technical and scientific reports and a further six scientific papers that are, or will be, published in peer-reviewed journals including two papers that are published, two papers in review, and two papers in preparation that will shortly be submitted. These technical reports and scientific papers have furthered knowledge on the impact of invasive House Mice on island ecosystems and an understanding of the ecology of House Mice on islands, reported the presence of an unknown seabird species breeding on South Georgia, detailed the results of bait uptake trials that are of direct relevance for operational planning for the removal of mice including the issue of spreading bait on steep cliffs, and resulted in technical planning documents for assessing the feasibility of removing mice and the operational planning required to successfully complete this.

A full list of the project's reports and publications is included in Annex 5 as well as in the supplementary materials supplied with this final report.

5.2 Transfer of knowledge

The primary means of transferring the knowledge gained from this project is through the technical reports and scientific papers described above. Papers have been published in open access journals or else are freely available from the RSPB and all technical reports are also free of charge and available from the RSPB. Personnel from the project have attended a limited number of meetings and conferences. However, the conservation world's eradication community is relatively small, and knowledge gained from this project has been shared with practitioners through personal connections and relevant meetings. The involvement of a number of key eradication experts in the project (e.g. from the IEAG) will further ensure that knowledge gained by the project will be effectively transferred.

5.3 Capacity building

The project has helped increase capacity within all three partner organisations through participation in fieldwork, operational planning and technical expertise. Evidence of this is demonstrated by the fact that the project manager and RSPB led the fieldwork on South Georgia and the personnel on this fieldwork subsequently worked for and with another partner (Falklands Conservation) and independently led the bait trials and non-targets fieldwork on Steeple Jason. Capacity has consequently been enhanced within both GSGSSI and FC to undertake further trials and fieldwork at other sites on South Georgia and in the Falkland Islands. Similarly direct involvement with the project took place for staff from Tristan da Cunha CD who were involved in the baiting trials on Gough Island, which included training in helicopter safety and bait loading. If, and when, an operation is undertaken on Gough Island then this training will be utilised with personnel from Tristan able to participate directly in the operation.

The main way that capacity of the host countries has been increased is through training and direct involvement with the project, as described above.

5.4 Sustainability and Legacy

The main legacy of this project will be, if successful, the eradication of mice from two areas of South Georgia and the increased knowledge and capacity to undertake such projects in other UK Overseas Territories including Tristan da Cunha and the Falkland Islands. The project has not had a direct impact on policy within the host countries or at an international level.

While we cannot control the movement of staff on to new jobs and opportunities, it is likely that some of the key staff trained by this project will remain working with the partner organisations or within the conservation field. The project handed over few physical assets or resources, and most of the legacy of this project is increased knowledge and technical expertise.

6 Lessons learned

We consider that the project has generally been very successful, achieving its main project purpose and the majority of outputs and activities. The management structure for the project was always going to be a challenge given the geographic distances between the project partners and limited opportunities for visits. Despite this challenge, the project and partners have successfully completed the project's key outputs.

We are confident that the right expertise were involved and utilized on the project, with relevant and experienced practitioners involved in fieldwork activities, producing Operational Plans and Feasibility Assessments, and writing scientific reports and papers. The global number of eradication practitioners is relatively small and the project succeeded in obtaining the time and input of some of the leading practitioners in the field. These personnel include Nick Torr (eradication consultant with extensive experience of working in New Zealand and South Georgia), Chris Golding (eradication practitioner with New Zealand Department of Conservation (DoC) and member of the DoC's Island Eradication Advisory Group (IEAG)), Derek Brown (eradication consultant with extensive experience of working in New Zealand and the Falklands), Keith Broome (Chair of the IEAG with worldwide experience) and Peter Garden (the world's most experienced eradication helicopter pilot).

6

The project has come in under budget which suggests that sufficient financial resources were available for tackling the original project questions. Resources in terms of time and personnel were also sufficient to complete the project's purpose.

The project was in our opinion generally well planned, with the original questions and issues identified in the proposal remaining valid throughout the project. Change requests to the Darwin Initiative were generally in connection to the timing of activities. The one exception to this was the plan for the Gough Island helicopter bait trial that was in the original application, withdrawn (based on advice from the IEAG) in our first Darwin change request, and then reinstated in our second Darwin change request (see details below in section 6.1).

6.1 Monitoring and evaluation

The only major changes to the project design were the no cost extension of nine months to allow the completion of the Gough Island helicopter baiting trial in 2013 and the decision to undertake this trial. The project was originally scheduled to run for three years and finish on the 31 March 2013. However, due to constraints on a new supply ship and helicopter company in 2012 (see section 2.3 for more detail) the original plans to undertake this trial on Gough Island in September 2012 were postponed until September 2013.

The second major change in the project was to submit a change request to the Darwin Initiative withdrawing plans for the helicopter trial and then to submit a second change request reinstating this original project activity in to our plans. As outlined earlier we felt that there was more to be gained from attempting this trial than from not undertaking it, and despite initial advice from the IEAG to apply these funds to other activities the chair of the IEAG (Keith Broome) was on Gough Island and involved in the design and running of this trial. Lessons learned from this trial are of key relevance for fine-tuning the Gough Operational Plan and will also be of relevance to other cold temperate/sub-Antarctic islands with steep cliff areas and similar vegetation.

The monitoring and evaluation system was practical and helpful, and feedback from annual Darwin reports was valuable.

Internal project management meetings and discussions with partners were undertaken regularly during the project, although they were not undertaken on a fixed schedule as originally envisaged.

6.2 Actions taken in response to annual report reviews

Feedback from annual reports was positive, with no need to respond in detail or amend the project.

7 Darwin identity

The Darwin Initiative and its logo has been acknowledged and used in all materials (South Atlantic Mouse Game) and published reports (e.g. RSPB research reports), and the funding support from the Darwin Initiative has also been acknowledged in all published scientific papers and where possible in press articles.

The support from the Darwin Initiative was seen in the three UKOTs partner territories as a clear and distinct project, and not as part of a larger program.

Knowledge of the Darwin Initiative and its role in the three UKOT territories where this project was based is probably restricted to the partner organisations and other conservation organisations in the regions, and it is unlikely that there is a much wider public knowledge of the Darwin Initiative.

7

8 Finance and administration

8.1 Project expenditure

Project spend since last annual report	2013/14 Grant (£)	2013/14 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				(New budget breakdown
Consultancy costs				not specified during
Overhead Costs				Project change request
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL				

Staff employed (Name and position)	Cost (£)
Richard Cuthbert (Principal Research Biologist, RSPB)	
Clare Stringer (Head of UK Overseas Territories Unit, RSPB)	
Juliet Vickery (Head of International Research Section, RSPB)	
Guy Anderson (Principal Research Manager, RSPB)	
Anita McClune (RSPB)	
TOTAL	£10,090

Capital items – description	Capital items – cost (£)
Helicopter bait bucket, attachment fittings and accessories – from Heli Otage Ltd	
TOTAL	£21,019.74

Other items – description	Other items – cost (£)
Eradication trial – subcontract to Peter Garden Heli Ltd, for pilot time	
Eradication trial – subcontract to Keith Broome (DOC, NZ), for expert time	
Eradication trial – subcontracts to Tristan da Cunha Government for fieldworkers	
Audit costs	
TOTAL	£28,426.84

8.2 Additional funds or in-kind contributions secured

Source of funding for project lifetime	Total (£)
RSPB (in-kind staff time, overheads, equipment)	
OTEP (funded rope access workers on Gough Island)	
University of Cape Town (in-kind staff time and overheads)	
Falklands Conservation (in-kind staff time and overheads)	
Gov't of South Georgia and South Sandwich Islands (in-kind staff time and overheads)	
South African National Antarctic Programme (in-kind logistic support on shi and Gough base)	
Titan Helicopters (in-kind helicopter charter time)	
TOTAL	£114,732

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

8.3 Value for Money

We consider the project was of good value for money and this is demonstrated by the large degree of co-funding that was found to support the project.

Annex 1 Report of progress and achievements against final project logframe for the life of the project

Note: For projects that commenced after 2012 the terminology used for the logframe was changed to reflect DFID's terminology.

Project summary	Measurable Indicators	Progress and Achievements in the last Financial Year [2013-2014]	Actions required/planned for next period
Goal/Impact: The restoration of Gough Island, Steeple Jason Island and South Georgia's biodiversity and ecosystem function to a favourable conservation status that is not negatively impacted by introduced House Mice		If the 2013 South Georgia Eradication Operation was successful then this project will have directly contributed towards restoring the conservation status of this UKOT. Work undertaken during this project on Gough Island and Steeple Jason Island will in the long-term contribute towards this goal.	Do not fill not applicable
Purpose/Outcome To investigate the impact of mice on Steeple Jason in the Falkland Islands, produce draft operational plans for the eradication of mice from Steeple Jason and Gough Island, refine operational planning for mouse eradication on South Georgia, and create the capacity to undertake mouse eradication operations on all three islands.	 P(1) Knowledge on the impact of mice on Steeple Jason enhanced, and next steps in conservation action initiated by end of project P(2) Produce or contribute to the operational planning for mouse eradication from all three islands P(3) Staff on all three OTs have participated in operational planning and/or training by end of project 	 P(1) The project has succeeded in increasing knowledge on the impact of mice on Steeple Jason, and has undertaken further steps for conservation actions on this island including bait trial and a Feasibility Assessment. P(2) The project has directly contributed to operational planning for the South Georgia eradication in 2013, has produced a draft and updated Operational Plan for Gough Island, and Feasibility Assessment for Steeple Jason. P(3) Staff on all three OTs have participated in fieldwork, baiting trials and operational planning. 	Do not fill not applicable
Output 1 . 1a. Draft Operational Plan for eradication of mice from Gough Island	1a. Key stakeholders agree and sign off draft Operational Plan for Gough Island published by Year 2	A draft Operational Plan for Gough Island project and endorsed by key stakeholders.	was produced during the first year of the
1b. Key remaining areas of uncertainty identified and steps taken to address these	1b. Report produced by Year 1 and work plan developed to address remaining steps in years 2 & 3	This Operational Plan identified the key re- Island and the project subsequently tackle in the fourth year of the project.	maining areas of uncertainty for Gough d these through the helicopter baiting trial

Project summary	Measurable Indicators	Progress and Achievements in the last Financial Year [2013-2014]	Actions required/planned for next period
Activity 1.1 Employ two experienced eradication operators to visit and produce draft Operational Plan with project manager for Gough Island		Completed, two eradication experts visited Gough Island in 2010 to work with and produce Operational Plan. Two further eradication experts visited Gough Island in 2013 and produced an updated Operational Plan.	
Activity 1.2 Operational managers identify key remaining steps that need to be addressed prior to an operation		Completed, key steps identified (baiting cliff areas on Gough Island)	
Activity 1.3 Produce and disseminate operational plar	1	Completed (operational plan version 1 writ plan version 2 written and produced in 201	tten and published in 2011, operational 3)
Activity 1.4 Produce report identifying key outstanding issues and develop work plans to address these		A formal report was not produced for this activity, however key outstanding issues were identified and work plans were developed and achieved to address these issues during the life of the project.	
Output 2. 2a. Research on conservation impacts of mice on Steeple Jason 2b. Mouse bait acceptance trials, non- target species trials and mice ecology research undertaken on Steeple Jason 2c. Feasibility Assessment and Draft Operational Plan of mice eradication produced for Steeple Jason	2a&b. Published report and/or scientific papers produced in Years 2 & 3 2c Feasibility study published by Year 3, key stakeholders agree and sign off draft Operational Plan for Steeple Jason published by Year 3	 Two scientific reports published, one scientific paper published and one furth scientific paper in review. Feasibility study for Steeple Jason produced and published. A draft Operational Plan was not produced during the project, as it was decide the island's owners and managers (the Wildlife Conservation Society) were the appropriate conservation NGO to lead on this. 	
Activity 2.1. Develop and agree research plans for Steeple Jason with Falklands Conservation and Wildlife Conservation Society		Completed, consultation with both NGOs over research plans	
Activity 2.2. Recruit field biologists to work alongside partners, and train partners in methods studies on mice ecology, bait acceptance trials and mice impacts on high risk bird species		Completed (staff from RSPB and FC involved)	
Activity 2.3. Organise permits, logistical support and equipment for field research		Completed	

Project summary	Measurable Indicators	Progress and Achievements in the last Financial Year [2013-2014]	Actions required/planned for next period
Activity 2.4.			
Carry out one summer and one winter fiel	d season of research on Steeple Jason	Completed in January 2011 (summer field	work) and August 2013 (winter fieldwork)
Activity 2.5.			
Produce and disseminate research report	s from fieldwork	Completed, two research reports produced and two scientific papers written	
Activity 2.6.			
Incorporate research findings into Fea	asibility Assessment and produce Draft	Completed and information included within	n Feasibility Assessment.
Operational Plan for mice eradication on s	Steeple Jason	Draft Operational Plan not produced for re	asons described above (Output 2)
Output 3.	3a. Published report and/or scientific		
Mouse bait acceptance trials and mice	papers produced in Years 2 & 3	Completed, published scientific report, one	e research paper in review and one further
Georgia	3b Results of trials included in to operational planning for eradication on South Georgia	The next the scientific new entry on the	and with the Qawth Qaennia Ularitans
		Trust (SGHT) at the earliest opportunity, and informed SGHT's eradication planning	
	-	for the 2013 operation.	
Activity 3.1.			
Develop and agree research plans with partners in South Georgia Government and with South Georgia Heritage Trust		Completed through correspondence with GSGSSI and SGHT	
Activity 3.2.			
Recruit field biologists to work alongs acceptance trials	ide partners on mice ecology and bait	Completed with RSPB hired staff and GSGSSI staff	
Activity 3.3.			
Organise permits, logistical support and e	quipment for field research	Completed	
Activity 3.4.			
Carry out fieldwork on South Georgia		Completed in February to March 2012	
Activity 3.5.			
Produce and disseminate research reports from fieldwork		Completed, scientific research report writte	en and published
Activity 3.6.			
Incorporate research findings into Operational Plan for mice eradication on South Georgia		Complete through sharing report with SGF for planning.	HT and acknowledge from SGHT on value

Project summary	Measurable Indicators	Progress and Achievements in the last Financial Year [2013-2014]	Actions required/planned for next period
Output 4. Knowledge, capacity and awareness of conservation threat of mice and invasive species increased in Tristan, Falklands and South Georgia and within UK	 4a. Practical training in helicopter safety and bait loading given to 4 personnel from Tristan da Cunha 4b. Remote network and bi-monthly meetings/reports circulated among project partners during operational planning for Gough trial 	Complete Not undertaken on a formal basis	
	 4c. Educational game and materials produced Year 1 4d. >6 print and/or radio articles produced in OT and UK press Years 2 & 3 	Completed	
Activity 4.1 Organise training for personnel from Tristan Conservation Department on helicopter safety and bait loading		Completed, during helicopter baiting trials on Gough Island in 2013	
Activity 4.2 Carry out training		Completed in September 2013	
Activity 4.3. Establish remote networks for bi-monthly updates between the project partners to collaborate on project planning		Not completed. Regular updates between all project partners has been undertaken through email/phone but not on a fixed or formal timetable.	
Activity 4.4. Produce educational materials and mouse game for use by UKOT children and visitors, disseminate materials to OTs		Completed and distributed to schools at Tristan da Cunha and in the Falkland Islands	
Output 5. Steps taken to ensure the sustainability of research and action directed at eradicating invasive species on UKOTs beyond end of project	 5a. Funding proposals submitted to support eradication programme after end of project 5b. Conservation strategies promoted to other conservation networks within UKOTs, BirdLife partners and other oceanic islands by end Yr 3 	Not undertaken by the RSPB or other main eradication have been submitted by SGHT Completed through publication of reports a	n partners, although proposals for mice in partnership with RSPB. and papers, and one workshop.
Activity 5.1			

Project summary	Measurable Indicators	Progress and Achievements in the last Financial Year [2013-2014]	Actions required/planned for next period	
Write and submit funding proposals for supporting full eradication		Completed for South Georgia with SGHT taking lead and RSPB as a partner on their application to the Darwin Intiative.		
		Not undertaken for other islands in the project		
Activity 5.2.				
Disseminate results of study and trials at workshops/conferences/meetings		Completed through publication of scientific reports and papers. Dissemination thorugh workshops/conferences/meetings have been relatively limited, although the project manager contributed knowledge of this project to a workshop for conservation actions (including proposed eradications) for New Island in the Falkland Islands.		

Annex 2 Project's full logframe, including indicators, means of verification and assumptions

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 Endengered Species (CITES) and the Convention on the Convention of Migratery Species (CMS), as well as related to rests				
set by countries rich in biodivers	sity but constrained in resources.		colos (omo), as well as related targets	
Sub-Goal: The restoration of Gough Island, Steeple Jason Island and South Georgia's biodiversity and ecosystem function to a favourable conservation status that is not negatively impacted by introduced House Mice	SG(1) Gough Island, Steeple Jason and areas of South Georgia declared free of House Mice SG(2) Step towards improvement in IUCN threat status of endangered and critically endangered bird species through removal of key terrestrial threat process	Reports to funding agencies document successful eradication of House Mice according to standard criteria for determining success. Revised IUCN Red List assessment document		
Purpose To investigate the impact of mice on Steeple Jason in the Falkland Islands, produce draft operational plans for the eradication of mice from Steeple Jason and Gough Island, refine operational planning for mouse eradication on South Georgia, and create the capacity to undertake mouse eradication operations on all three islands.	P(1) Knowledge on the impact of mice on Steeple Jason enhanced, and next steps in conservation action initiated by end of project P(2) Produce or contribute to the operational planning for mouse eradication from all three islands P(3) Staff on all three OTs have participated in operational planning and/or training by end of project	Scientific reports/papers on impacts of mice produced, Feasibility Assessment produced for Steeple Jason island, Draft Operational Plan for eradication of mice from Gough Island and Steeple Jason produced and favourably reviewed by New Zealand's Island Eradication Advisory Group (IEAG), results of research incorporated in to operational plan for South Georgia Review of Impacts and scientific papers submitted to journals and accepted by peer review, feasibility studies for mice eradication produced and submitted for review Training reports and activity manuals/handbooks produced	Major new eradication projects in similar environments do not indicate fundamental obstacles for eradicating house mice No other major new terrestrial conservation threats arise on Gough Island, Steeple Jason or South Georgia Continued local and international support for participation of OT personnel in eradication training programme Staff are available to participate in training	

Outputs 1a. Draft Operational Plan for eradication of mice from Gough Island 1b. Key remaining areas of uncertainty identified and steps taken to address these	 1a. Key stakeholders agree and sign off draft Operational Plan for Gough Island published by Year 2 1b. Report produced by Year 1 and work plan developed to address remaining steps in years 2 & 3 	 Draft Operational Plan for Gough distributed and favourably reviewed by ISSG and eradication experts Report circulated to relevant experts and remaining steps approved 	Favourable outcome from bait acceptance trials and captive husbandry trials of non- target species on Gough Island Expert opinion continues to view mouse eradication as technically feasible Availability of experienced operational managers to visit Gough Island
 2a. Research on conservation impacts of mice on Steeple Jason 2b. Mouse bait acceptance trials, non-target species trials and mice ecology research undertaken on Steeple Jason 2c. Feasibility Assessment and Draft Operational Plan of mice eradication produced for Steeple Jason 	 2a&b. Published report and/or scientific papers produced in Years 2 & 3 2c Feasibility study published by Year 3, key stakeholders agree and sign off draft Operational Plan for Steeple Jason published by Year 3 	2a&b. Report circulated to relevant experts and peer-reviewed papers published2c. Feasibility Study and Draft Operational Plan favourably reviewed by IEAG and eradication experts	Suitable personnel recruited/involved to undertake research on Steeple Jason Berths and logistical support available for research programme Continued support from island owner (WCS) for research and plans Research on conservation impacts of mice justifies eradication operation Favourable outcome from bait acceptance and non-target trials on Steeple Jason
3. Mouse bait acceptance trials and mice ecology research undertaken on South Georgia	 3a. Published report and/or scientific papers produced in Years 2 & 3 3b Results of trials included in to operational planning for eradication on South Georgia 	3a. Report circulated to relevant experts and peer-reviewed papers published3b. South Georgia operational plan	Suitable personnel recruited/involved to undertake research on South Georgia Berths and logistical support available for research programme Successful progress on initial stages of South Georgia eradication programme (for rats in 2011 and 2012)
4. Knowledge, capacity and awareness of conservation threat of mice and invasive species increased in Tristan, Falklands and South Georgia and within UK	 4a. Practical training in helicopter safety and bait loading given to 4 personnel from Tristan da Cunha 4b. Remote network and bi-monthly meetings/reports circulated among project partners during operational planning for Gough trial 4c. Educational game and materials produced Year 1 4d. >6 print and/or radio articles 	 4a. Training reports and photographs published on project partners and RSPB websites 4b. Reports, written exchanges and dates of video-conferencing produced and published on project websites 4c.Circulation numbers and educational material published on project website 	NZ organisations continue to support project and allow participation in eradication operation for training Interest from local and national press in project's progress is maintained

	produced in OT and UK press Years 2 & 3	4d. Catalogue of published articles and press	
5. Steps taken to ensure the sustainability of research and action directed at eradicating invasive species on UKOTs beyond end of project	 5a. Funding proposals submitted to support eradication programme after end of project 5b. Conservation strategies promoted to other conservation networks within UKOTs, BirdLife partners and other oceanic islands by end Yr 3 	5a copies of funding proposals 5b Reports taken to meetings, talks given	

Activities (details in work plan) (n.b. Activities 1.1 to 1.6 support Output 1, Activities 2.1 to 2.2 support Output 2, etc) 1.1 Employ two experienced eradication operators to visit and produce draft Operational Plan with project manager for Gough Island 1.2 Operational managers identify key remaining steps that need to be addressed prior to an operation 1.3 Produce and disseminate operational plan 1.4 Produce report identifying key outstanding issues and develop work plans to address these 2.1 Develop and agree research plans for Steeple Jason with Falklands Conservation and Wildlife Conservation Society 2.2 Recruit field biologists to work alongside partners, and train partners in methods studies on mice ecology, bait acceptance trials and mice impacts on high risk bird species 2.3 Organise permits, logistical support and equipment for field research 2.4 Carry out one summer and one winter field season of research on Steeple Jason 2.5 Produce and disseminate research reports from fieldwork 2.6 Incorporate research findings into Feasibility Assessment and produce Draft Operational Plan for mice eradication on Steeple Jason 3.1 Develop and agree research plans with partners in South Georgia Government and with South Georgia Heritage Trust 3.2 Recruit field biologists to work alongside partners on mice ecology and bait acceptance trials 3.3 Organise permits, logistical support and equipment for field research 3.4 Carry out fieldwork on South Georgia 3.5 Produce and disseminate research reports from fieldwork 3.6 Incorporate research findings into Operational Plan for mice eradication on South Georgia 4.1 Organise training for personnel from Tristan Conservation Department on helicopter safety and bait loading 4.2 Carry out training 4.3 Establish remote networks for bi-monthly updates between the project partners to collaborate on project planning

- 4.4 Produce educational materials and mouse game for use by UKOT children and visitors, disseminate materials to OTs
- 5.1 Write and submit funding proposals for supporting full eradication
- 5.2 Disseminate results of study and trials at workshops/conferences/meetings

Annex 3 Project contribution to Articles under the CBD

Project Contribution to Articles under the Convention on Biological Diversity

Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use	0%	Develop national strategies that integrate conservation and sustainable use.
7. Identification and Monitoring	0%	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that have adverse effects; maintain and organise relevant data.
8. In-situ Conservation	80%	Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
9. Ex-situ Conservation	0%	Adopt ex-situ measures to conserve and research components of biological diversity, preferably in country of origin; facilitate recovery of threatened species; regulate and manage collection of biological resources.
10. Sustainable Use of Components of Biological Diversity	0%	Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
11. Incentive Measures	0%	Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
12. Research and Training	0%	Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).
13. Public Education and Awareness	5%	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
14. Impact Assessment and Minimizing Adverse Impacts	0%	Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards; examine mechanisms for re-dress of international damage.
15. Access to Genetic Resources	0%	Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair and equitable way of results and benefits.

Article No./Title	Project %	Article Description
16. Access to and Transfer of Technology	0%	Countries shall ensure access to technologies relevant to conservation and sustainable use of biodiversity under fair and most favourable terms to the source countries (subject to patents and intellectual property rights) and ensure the private sector facilitates such assess and joint development of technologies.
17. Exchange of Information	10%	Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
19. Bio-safety Protocol	0%	Countries shall take legislative, administrative or policy measures to provide for the effective participation in biotechnological research activities and to ensure all practicable measures to promote and advance priority access on a fair and equitable basis, especially where they provide the genetic resources for such research.
Other Contribution	5%	Smaller contributions (e.g. of 5%) or less should be summed and included here.
Total %	100%	Check % = total 100

Annex 4 Standard Measures

Code	Description	Totals (plus additional detail as required)
Training	g 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(i.e. not categories 1-4 above)	0
6a	Number of people receiving other forms of short-term education/training (i.e. not categories 1-5 above)	16
6b	Number of training weeks not leading to formal qualification	20
7	Number of types of training materials produced for use by host country(s)	0
Resear	ch Measures	·
8	Number of weeks spent by UK project staff on project work in host country(s)	22
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	3
10	Number of formal documents produced to assist work related to species identification, classification and recording.	0
11a	Number of papers published or accepted for publication in peer reviewed journals	3 published (1 in review, 3 to be submitted)
11b	Number of papers published or accepted for publication elsewhere	2
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	0
12b	Number of computer-based databases enhanced (containing species/genetic	0

Code	Description	Totals (plus additional detail as required)
	information) and handed over to host country	
13a	Number of species reference collections established and handed over to host country(s)	0
13b	Number of species reference collections enhanced and handed over to host country(s)	0
Dissem	nation Measures	
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	0
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	1
15a	Number of national press releases or publicity articles in host country(s)	0
15b	Number of local press releases or publicity articles in host country(s)	0
15c	Number of national press releases or publicity articles in UK	0
15d	Number of local press releases or publicity articles in UK	0
16a	Number of issues of newsletters produced in the host country(s)	0
16b	Estimated circulation of each newsletter in the host country(s)	0
16c	Estimated circulation of each newsletter in the UK	0
17a	Number of dissemination networks established	0
17b	Number of dissemination networks enhanced or extended	0
18a	Number of national TV programmes/features in host country(s)	0
18b	Number of national TV programme/features in the UK	0
18c	Number of local TV programme/features in host country	0
18d	Number of local TV programme features in the UK	0
19a	Number of national radio interviews/features in host country(s)	0
19b	Number of national radio interviews/features in the UK	0
19c	Number of local radio interviews/features in host country (s)	0
19d	Number of local radio interviews/features in the	0

Code	Description	Totals (plus additional detail as required)
	UK	
Physica	al Measures	
20	Estimated value (£s) of physical assets handed over to host country(s)	£3860
21	Number of permanent educational/training/research facilities or organisation established	0
22	Number of permanent field plots established	0
23	Value of additional resources raised for project (See Section 8.2 above)	
Other M	easures used by the project and not currently i	ncluding in DI standard measures

Annex 5 Publications

Superscript numbers refer to the supplementary supporting documents included with this report (1 = Appendix 1 etc).

Type *	Detail	Publishers	Available from	Cost
				£
Published Report ¹	Torr, N., Golding, C. & Cuthbert R.J (2011). Gough Island Draft Operational Plan Version 1.0 April_2011	RSPB	RSPB	£0
Awareness materials ²	South Atlantic mouse game	RSPB	RSPB	£0
RSPB report ³	M. Bolton & A. Stanbury (2011) Assessing the impact of House mice (<i>Mus</i> <i>musculus</i>) on the native fauna of Steeple Jason, Falkland Islands.	RSPB	RSPB	£0
Newsletter	M. Bolton, A. Stanbury & R. Cuthbert (2011). Assessing the impacts of house mice on Steeple Jason.	Wildlife Conservation in the Falkland Islands, issue 16: 4-5.	Falklands Conservation and authors	£0
Scientific paper ⁴	Black, A., Parker, G., Rexer- Huber, K., Sommer, E. & Cuthbert, R.J. (2012). Kerguelen petrel (<i>Lugensa</i> <i>brevirostris</i>): A new breeding species for South Georgia.	Published in journal Antarctic Science	RSPB, GSGSSI, Antarctic Science	£0
Published Research Report ⁵	Cuthbert, R.J., Black, A., Rexer-Huber, K., Parker, G. & Sommer, E. (2012). Field trials for the eradication of House Mice from South Georgia.	RSPB Research Report No. 48. Royal Society for the Protection of Birds, Sandy, Bedfordshire, UK. ISBN 978-1- 905601-35-6	RSPB	£0
Published Research Report ⁶	Rexer-Huber, K., Parker, G.C., Reeves, M., Stanworth, A. & Cuthbert, R.J. (2012). Baiting trials, winter biology and non- target species: house mice on Steeple Jason August– September 2012.	RSPB Research Report No. 51. Royal Society for the Protection of Birds, Sandy, Bedfordshire, UK. ISBN 978-1- 905601-42-4	RSPB	£0
Published Report ⁷	Brown, D. & Cuthbert R.J. (2013). Feasibility Study Report for the potential eradication of mice from Steeple Jason Island, Falkland Islands. April 2013.	Unpublished report, Royal Society for the Protection of Birds, UK.	RSPB	£0
Newsletter	Cuthbert, R.J. (2012). Mouse trap.	South Georgia Newsletter April 2012	http://www.sgisland.gs/	£0
Newsletter	Rexer-Huber, K. (2012). Mice on Steeple Jason: how many and are they hungry?	FC Newsletter Summer 2012/13	Falklands Conservation	£0
Scientific paper ⁸	Kalinka Rexer-Huber, Graham Parker, & Richard Cuthbert (2013). The abundance, biology and distribution of house mice during the winter months on Steeple Jason island and prospects for their eradication. <i>Polar Biology</i> DOI	Published in journal <i>Polar Biology.</i>	RSPB	£0

	10.1007/s00300-013-1398-1.			
Scientific paper ⁹	Cooper, J. Cuthbert, R.J. & Ryan, P.G. (2013). An overlooked biosecurity concern? Back-loading at islands supporting introduced rodents. <i>Aliens</i> 33: 28-31	Published in journal <i>Aliens.</i>	RSPB	£0
Published Report ¹⁰	Broome, K. & Garden P. (2013). Project Plan for the Eradication of Mice from Gough Island. Version 1.5 September 2013.	RSPB	RSPB	£0
Scientific paper ¹¹	Bolton, M., Stanbury, A., Bayliss, A., & Cuthbert, R.J. (submitted). Impact of introduced House mice (<i>Mus</i> <i>musculus</i>) on burrowing seabirds on Steeple Jason and Grand Jason Islands, Falklands, South Atlantic.	In review with <i>Polar</i> <i>Biology</i>	Pending review	£0
Scientific paper	Cuthbert, R.J., Black, A., Parker, G., Rexer-Huber, K., & Sommer, E. (in prep). Low population density and biology of an island population of House Mice <i>Mus musculus</i> on South Georgia.	To be submitted to Antarctic Science	Pending submission and review	
Scientific paper	Cuthbert, R.J., Wanless, R.M., Angel, A., Burle, M-H., Hilton, G.M., Louw, H., Visser, P., Wilson, J., & Ryan, P.G. (in prep). High rates of predatory behaviour and extreme size in the house mouse <i>Mus</i> <i>musculus</i> on Gough Island are a consequence of enhanced survival and reproduction and high densities of winter- breeding seabirds.	To be submitted to Journal of Applied Ecology	Pending submission and review	
Scientific paper	R.J. Cuthbert, K. Broome, P. Garden, J. Bradley, C. Ferreira, C. Bell, M. Nydegger, D. Davies, B.J. Dilley, B. van der Merwe, T. Glass and P.G. Ryan (in prep). Evaluating the effectiveness of aerial baiting operations for rodent eradications at treating cliff areas on Gough Island, Tristan da Cunha	To be submitted to Conservation Evidence	Pending submission and review	

Annex 6 Darwin Contacts

Ref No	18-017
Project Title	Developing knowledge to eradicate house mice from UK OT islands
Project Leader Details	
Name	Dr Richard J Cuthbert
Role within Darwin Project	Project Manager
Address	During project:
	RSPB Centre for Conservation Science, Conservation Science Department, RSPB, The Lodge, Sandy, Bedfordshire, SG19 2DL
	Current address:
	Wildlife Conservation Society, PO Box 277, Goroka, Eastern Highlands Province, Papua New Guinea
	(To contact the RSPB about this report, please contact Dr Juliet Vickery at the RSPB address above.)
Phone	
Fax/Skype	
Email	
Partner 1	
Name	Trevor Glass
Organisation	Tristan da Cunha Government Conservation Department
Role within Darwin Project	Supporting work on Gough Island
Address	Tristan da Cunha Conservation Department, Edinburgh of the Seven Seas, Tristan da Cunha, South Atlantic Ocean, TDCU 1ZZ
Fax/Skype	
Email	
Partner 2.	
Name	David Doxford (NB that the work in this project was complete before David took up the role: it was managed by his predecessors, James Fenton and Craig Dockrill)
Organisation	Falklands Conservation
Role within Darwin Project	Support and management of work on Steeple Jason
Address	Jubilee Villas Ross Road Stanley FIQQ 1ZZ
Fax/Skype	
Email	

Partner 3.

Name	Jennifer Lee (NB that most of the work in this project was complete before Jen took up the role, and was completed under the guidance of her predecessor, Darren Christie)
Organisation	Government of South Georgia and the South Sandwich Islands
Role within Darwin Project	Coordinating and supporting work on South Georgia
Address	c/- Government House, Stanley, Falkland Islands, FIQQ 1ZZ
Fax/Skype	
Email	