App2 734

Submit by 13 January 2006

DARWIN INITIATIVE APPLICATION FOR GRANT ROUND 14 COMPETITION:STAGE 2

Please read the Guidance Notes before completing this form. Applications will be considered on the basis of information submitted on this form and you should give a full answer to each question. Please do not cross-refer to information in separate documents except where invited on this form. The space provided indicates the level of detail required. Please do not reduce the font size below 11pt or alter the paragraph spacing. Keep within word limits.

1. Name and address of organisation

Name:	**Address:**
Dr Carl Jones	Durrell Wildlife Conservation Trust, Les Augres Manor, Trinity, Jersey JE3 5BP

2. Project title (not exceeding 10 words)

Restoring island biodiversity: the reintroduction of endemic Mauritian reptile communities.

3. Project dates, duration and total Darwin Initiative Grant requested

Proposed start date: June 2006		**Duration of project:** 3 years		**End date:** May 2009	
Darwin funding requested	**Total**	**2006/07**	**2007/08**	**2008/09**	**2009/2010**
	£181 995	**£63 215**	**£ 50 788**	**£ 60 251**	**£7 741**

4. Define the purpose of the project in line with the logical framework

Anthropogenic related extinction and fragmentation of the unique Mauritian reptile fauna has caused the loss of important ecological associations, which once underpinned the stability of the now impoverished ecosystem. The re-establishment of vulnerable reptile species to offshore islands will enhance their future survival and rebuild reptile communities whilst restoring lost trophic links in establishing functioning ecosystems. Training Mauritian individuals to undertake the re-establishment and monitoring of reptile communities, and creating an effective management protocol with host partners, will secure the long term output of this project to sustain naturally operating ecosystems in the ongoing and high profile restoration of native Mauritian communities.

5. Principals in project. Please provide a one page CV for each of these named individuals

Details	**Project Leader**	**Other UK personnel (working more than 50% of their time on project)**	**Main project partner or co-ordinator in host country**
Surname	Jones	Cole	Tatayah
Forename (s)	Carl	Nicholas	Rabindra V
Post held	International Conservation Fellow	Honorary Research Associate	Fauna Manager
Institution	Durrell Wildlife Conservation Trust	University of Bristol	Mauritian Wildlife Foundation
Department	Conservation	Biological Sciences	Fauna

6. Has your organisation received funding under the Darwin Initiative before? If so, give details

Durrell Wildlife - Devising Solutions To Bushmeat Exploitation In the Sanaga-Cross Region, W. Africa, Project Number 162/10/004, 2001- 2004.

Institute of Zoology – Building Capacity for Conservation of a Critically Endangered Flagship Species, Project Number 162/12/004, 2003-2007.

7. IF YOU ANSWERED NO TO QUESTION 6 describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department)

Aims (50 words)
Activities (50 words)
Achievements (50 words)

8. Please list the UK (where there are partners in addition to the applicant organisation) and host country partners that will be involved in their project and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. What steps have been taken to ensure the benefits of the project will continue despite any staff changes in these organisations? Please provide written evidence of partnerships.

Dr Nicholas Cole, University of Bristol has expert knowledge of the ecology and conservation of the Mauritian reptiles. His previous research contributes to the foundation of this project. He has also been instrumental in project development and will be responsible for its management and scientific research.

The International Zoo Vet. Group have been veterinary advisors to the conservation work in Mauritius for 15 years. Veterinarians from the International Zoo Vet Group have specialist reptile knowledge. They have visited Round Island and Ile aux Aigrettes and have experience with the focal reptile species, and have drawn up protocols for health screening and health monitoring. They will screen cohorts of animals for translocation and develop a health audit and follow the progress of the translocated animals to assess their health and condition.

The Mauritian Wildlife Foundation is the largest conservation non-Government organisation in the Mascarene Islands and has a two decade history of successfully managing islands and restoring critically endangered species. The Mauritian Wildlife Foundation have been the main implementers in the reptile conservation projects together with the National Parks and Conservation Service. The Mauritian Wildlife Foundation have experienced field staff who work on the islands and will continue the monitoring of the reptile populations. The Mauritius Wildlife Foundation maintain a field station and a permanent presence on Ile aux Aigrettes and Round Island. The role of the organisation will be the long-term management and research on the translocated reptile populations.

The National Parks and Conservation Service is the Mauritian Government agency with jurisdiction for the islands. National Parks and Conservation Service staff will be involved in all stages of the reptile restoration work. The Mauritian Wildlife Foundation and National Parks and Conservation Service jointly supported by a Memorandum of Agreement, manage the islands of conservation value.

The main partners in this proposed study the Durrell Wildlife Conservation Trust, and the Mauritian Wildlife Foundation have experienced staff who can replace the named staff should there be any personnel changes. The Durrell Wildlife Conservation Trust have herpetological and conservation departments with several staff with project management experience. The Mauritian Wildlife Foundation have a Fauna Department with staff with small island and herpetological skills.

9. What other consultation or co-operation will take place or has taken place already with other stakeholders such as local communities? Please include details of any contact with the government not already provided.

The Durrell Wildlife Conservation Trust together with its partner organisation the Mauritian Wildlife Foundation have held a Memorandum of Agreement with the Ministry of Agriculture, and more recently with the National Parks and Conservation Service, Government of Mauritius for the last two decades that facilitates co-operation on joint conservation projects, including the restoration of reptile communities. This work has been developed after joint fieldwork and discussions between the Durrell Wildlife Conservation Trust, the National Parks and Conservation Service, and the Mauritian Wildlife Foundation spanning two decades. The reptile work has been developed after joint field work with herpetologists, geneticists, paelontologists and ecologists from several institutions including Dr Nick Arnold and Dr Jeremy Austin (The Natural History Museum, London), Anthony Cheke (Ecologist and Mascarene Ecological Historian), Prof. Steven Harris (University of Bristol), Dr Gordon Rodda (US Geological Survey, Guam BrowTree Snake Project), Dr Thomas Fritts (President, Charles Darwin Foundation), Dr Gerald Kuchling (University of Perth), Dr Julian Pender-Hume (The Natural History Museum and University of Portsmouth) and others in related and supporting fields of research. All of these named researchers have visited Round Island, Ile aux Aigrettes and many of the other islands around Mauritius and support the aims of this project. Field work on the reptiles to confirm past and present distributions, community biology, population genetics and ecology have been conducted by three Ph.D. studies on the *Nactus* Night Geckos, *Phelsuma* Day Geckos and *Gongylomorphus* Skinks and six related M.Sc. studies, and several B.Sc. Honours projects by Mauritian students.

PROJECT DETAILS

10. Is this a new initiative or a development of existing work (funded through any source)? Are you aware of any other individuals/organisations carrying out similar work, or of any completed or existing Darwin Initiative projects relevant to your work? If so, please give details explaining similarities and differences and showing how results of your work will be additional to any similar work and what attempts have/will be made to co-operate with and learn lessons from such work for mutual benefits.

The re-establishment of reptile communities within Mauritius is a new initiative that builds upon over 30 years of offshore island conservation management by the Durrell Wildlife Conservation Trust (DWCT) together with the Mauritian Wildlife Foundation (MWF) and National Parks and Conservation Service, Mauritius (NPCS). This project also builds upon recent scientific publications and research on the ecology, taxonomy, genetic viability and conservation of Mauritian reptiles. No other individuals/organisations are carrying out similar work. Nor are there any completed or existing Darwin Initiative projects directly relevant to the proposed project.

The works links in with a successfully completed Darwin Initiative project, 'Information system for biodiversity and conservation management in Mauritius (Ref 8064)',where local capacity in the setting up and management of databases was developed. A second Darwin grant 'Rediscovering the neglected insects of Mauritius - building in-country capacity (Ref 12-005)' will helping the assessment of invertebrates on host and receptor islets, and interpret any changes that may occur subsequently.

11. How will the project assist the host country in its implementation of the Convention on Biological Diversity? Please make reference to the relevant article(s) of the CBD thematic programmes and/or cross-cutting themes (see Annex C for list and worked example) and rank the relevance of the project to these by indicating percentages. Is any liaison proposed with the CBD national focal point in the host country? Further information about the CBD can be found on the Darwin website or CBD website.

By re-establishing lost populations of endangered endemic reptile species to high profile islands within Mauritius and the training of individuals from the host country in the management of endangered species on islands at the International Training Centre of the DWCT, Jersey, in conjunction with continuous training in the field throughout the project will support the Government's implementation of Articles 5 (5%), 6 (10%), 7 (10%), 8 (25%), 8h (5%), 12 (15%), 13 (5%) of the CBD, with particular emphasis on an ecosystems approach (25%) theme. The project will be conducted in collaboration with the Ministry of Environment, the CBD national focal point in Mauritius.
Round Island has been identified as one of the most important islands to form Mauritius' Islets National Park. Mauritius has declared the island a closed Nature Reserve in order to protect its unique biodiversity (including the reptiles). The Third Country Report (CBD) is presently at last draft stage, where the urgency of reptile fauna conservation is highlighted.

12. How does this project meet a clearly identifiable biodiversity need or priority defined by the host country? Please indicate how this work will fit in with National Biodiversity Strategies or Environmental Action Plans, if applicable.

The government institution, NPCS, states that there is a need "to ensure sustainable management and restoration of native terrestrial Mauritian fauna and flora so as to retain its genetic biodiversity for future generations through *in-situ* and *ex-situ* conservation, ecosystem restoration, public awareness, promotion of eco-tourism and implementation of international biodiversity agreements". Whilst the host country's National Biodiversity Strategy and Action Plan has a high priority for the implementation of such needs, there are limited resources available to meet these obligations. This project meets these needs by giving *in-situ* conservation expertise and training, the resources to restore a major endemic terrestrial vertebrate group, and enhance biodiversity and sustain functioning ecosystems. The high profile nature of this work will be greatly beneficial to public awareness and promote eco-tourism to the island nature reserve Ile aux Aigrettes.

13. If relevant, please explain how the work will contribute to sustainable livelihoods in the host country.

Initially the establishment of the large vulnerable Telfair's skink to the nature reserve Ile aux Aigrettes will enhance the interests of the public and tourists to the current eco-tours conducted by Mauritian guides, thus contributing to the sustainability of their livelihoods (direct 6 guides, 1 shop attendant, 1 cleaner, 2 boatmen, 2 watchmen, 1 manager, and indirectly taxi drivers, tour guides, bus drivers, hotel staff etc). However, this project will initiate further restoration of other islands in recreating pre-human-colonised ecosystems, which will be a strong selling point for the country's increasing trade in eco-tourism.

14. What will be the impact of the work, and how will this be achieved? Please include details of how the results of the project will be disseminated and put into effect to achieve this impact.

This project will initiate the recovery of island reptile faunas, thereby enhancing restoration projects initiated 30 years ago with the goal to re-establish lost reptile communities. The impact of this work will: enhance the future survival of vulnerable reptile species; initiate the recovery of lost food web interactions, contributing to the restoration of functioning ecosystems; enhance native biodiversity within a major global biodiversity hotspot; strengthen the capacity of individuals involved with island restoration by *in-situ* training and DWCT courses to continue the restoration and monitoring of reptile communities; and increase public awareness of biodiversity issues. This will be achieved by the high profile re-establishment of reptile species to islands including the eco-tourism nature reserve, Ile aux Aigrettes. The monitoring and study of the translocated reptile populations will be become part of the research programme of MWF and research will be conducted by Mauritian and visiting students. Progress and results will be disseminated in national radio and TV broadcasts,

newspapers, school visits, leaflets, posters, websites and scientific publications.

15. How will the work leave a lasting legacy in the host country or region?

Additional populations of endangered endemic reptiles. Strengthening the capacity of individuals from the host country to restore reptile communities, and thus island ecosystems, will ensure that translocated reptile populations will be continually monitored and that protocols will be followed for the continued success of the project. The translocations in themselves will have a lasting legacy as they will act as the foundation for further restoration of reptile communities in rebuilding trophic links to restore naturally functioning ecosystems in Mauritius. Furthermore, the legacy of this project will be open to the scrutiny of both public and scientific audiences through ecotourism and research on the accessible nature reserve, Ile aux Aigrettes, respectively.

16. Please give details of a clear exit strategy and state what steps have been taken to identify and address potential problems in achieving impact and legacy.

The translocated reptile populations will be managed by the Mauritian Wildlife Foundation, under the auspices of the National Parks and Conservation Service, Mauritius. This will be as part of the long-term management of the respective islands and their biota. The MWF have the long-term lease of Ile aux Aigrettes and have been offered, and are negotiating, the lease of Ile aux Fouquet. Gunner's Quoin is managed by the NPCS as part of the Islets National Park. Ilot Chat is a rarely visited small islet with no need for any long-term management. Before the end of this project the host partners will be trained in the techniques required to successfully translocate and monitor island reptiles, and will be able to work to an effective management protocol devised and agreed upon by all partners involved in the project for the continuation of the restoration process after 2009. The Ministry of Agro-Industry and Fisheries has granted government support for the restoration of reptile communities to ensure that this project and future protocols have the continued input of both host partners in achieving the impact and legacy. Once the reptiles are established on their host islands there will be no need for any further involvement from the Darwin Project and the host organisations will continue the monitoring of the project.

17. How will the project be advertised as a Darwin project and in what ways will the Darwin name and logo be used?

The Darwin name will be acknowledged in ALL publications resulting from this work. All pamphlets and posters distributed throughout Mauritius will brandish the Darwin logo. The Darwin Initiative will be acknowledged in information on the project provided during eco-tours and education conducted on the nature reserve Ile aux Aigrettes. Any individual involved with the project that is interviewed for a newspaper article or news/radio broadcast will acknowledge the Darwin Initiative.

18. Will the project include training and development? Please indicate who the trainees will be and criteria for selection and that the level and content of training will be. How many will be involved, and from which countries? How will you measure the effectiveness of the training and will those trained then be able to train others? Where appropriate give the length and dates (if known) of any training course. How will trainee outcomes be monitored after the end of the training?

Four Mauritian individuals, two from both MWF and NPCS with prior island restoration experience will be trained. These individuals will assist in all stages of the project and will be trained in translocation and monitoring techniques, two of which will also be sent on the 12 day Island Species-Led Action (ISLA) course in 2006 (or 2007), run by DWCT at Jersey. The trained individuals will assist the UK partner in training 20 other mostly Mauritian employees of the host partners in the biology of their reptiles as well as monitoring, capture and handling techniques in the field during island trips or on a specially devised field course on Ile aux Aigrettes during year two. The effectiveness of the training will be monitored throughout the project, and from field reports handed to the UK partner and annual reports to the host partners.

LOGICAL FRAMEWORK

19. Please enter the details of your project onto the matrix using the note at Annex B of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: **To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve** • **the conservation of biological diversity,** • **the sustainable use of its components, and** • **the fair and equitable sharing of benefits arising out of the utilisation of genetic resources**			
Purpose The re-establishment of sustainable reptile communities in Mauritius to secure future reptile populations and restore functional island ecosystems.	Establishment of translocated reptile populations by yr 3. Evidence of benefits to recipient island ecosystems by yr 3. Effective management protocols for long term sustainability of biodiversity by yr 3.	Field survey reports and publications from all partners. Report of recommendations and working plan for future translocations.	The continued support of both host partners. Government continues to subsidise transport for island trips and stewardship of the islands remains in the hands of the Mauritian Wildlife Foundation.
Outputs 1. The establishment of: Telfair's skinks on Gunners Quoin and Ile aux Aigrettes; Bojer's skinks on Ile aux Fouquet; night geckos on Ilot Chat.	Survival and growth of individuals from translocated populations by yr1 and yr2. Evidence for recruitment of juvenile reptiles into the founder population by yr3. Trained individuals capable of conducting surveys alone by yr3.	Report of collated data from seasonal field survey reports on each recipient island.	Unforeseen anthropogenic-related and stochastic events, such as intentional release of mammalian predators, arson or lightening fire; oceanic surges and high-class cyclones do not hinder establishment success.
2. Impact assessment of translocations.	Changes in populations of resident native and non-native vertebrates by yrs2-3. Evidence of seasonal impact upon island ecosystem by yrs2-3.	Report on resident vertebrate population changes. Report on dietary analysis and seasonal shifts.	
3. Continued monitoring of established populations by host partners.	Individuals from both host partners trained by yr 2 to conduct reptile surveys.	Surveys conducted and field reports received.	Trained individuals continue to asses reptile populations and disseminate their knowledge to colleagues.
4. Lessons learned and protocols disseminated for further reptile translocations.	Future procedures agreed upon with host organisations. Progress and management plan produced and distributed before the end of yr3.	Records of meetings, feedback on report of progress and management plan. Copies sent to Darwin Initiative.	N/A
5. Greater awareness of the unique Mauritian biodiversity.	Incorporation of the project within the ecotours and education by yr1. News broadcasts and newspaper articles by yr1-2. Scientific journal papers prepared by yr3.	Copies of posters, pamphlets, articles and publications sent to Darwin Initiative.	Ecotours continue to run on Ile aux Aigrettes and that broadcasts and articles are high profile.
Activities The translocation of reptiles.	**Activity Milestones** Oct 06: Collection, health screening and pit tagging of larger reptiles completed and release onto recipient islands underway.		**Assumptions** Continued logistical support from host partners and National Coast Guard.
Monitoring of reptile populations in donor and translocated populations.	Nov 06/07/08; Mar 07/08/09; July 07/08: Seasonal monitoring of all translocated populations, distribution, fitness, health, recruitment, mortality and comparisons of niche utilisation with donor populations.		

Monitoring the impact of translocated populations on native and non-native species.	Sept 06: Baseline population estimates collected on resident terrestrial vertebrates and repeated seasonally: Nov 06/07; Mar 07/08; July 07/08. Seasonal dietary analyses of translocated reptiles to determine the impact on recipient islands.	
Continual training of individuals from host organisations in the methods used.	Protocols of monitoring procedures agreed upon by July 06 Training at Jersey in 2006/2007. All seasonal monitoring trips accompanied by at least one individual from each organisation, such that training may be conducted in the field	Trained individuals are interested, enjoy the work and remain within host organisation.
Publicity.	High publicity release of Telfair's skinks on Ile aux Aigrettes in Oct 06 inviting government representatives. Posters disseminated to schools by the end of yr1 and newspaper articles released at the end of each year.	Public, tourist and government interest is sustained.

20. Provide a project implementation timetable that shows the key milestones in project activities.

Project implementation timetable		
Date	**Financial year**	**Key milestones**
July 2006 September 2006 October 2006 November 2006 March 2007	Apr-Mar 2006/7	Monitoring protocols agreed upon and trainees selected Baseline population estimates collected for resident terrestrial vertebrates on recipient islands Two trainees complete the ISLA course at Jersey or elsewhere. Telfair's skinks collected from Round Island, health screened, PIT tagged and released onto Gunners Quoin and Ile aux Aigrettes Government representatives invited to the release of skinks onto Ile aux Aigrettes and covered by national news Durrell's night gecko collected from Round Island and the lesser night gecko collected from Ilot Vacoas released onto Ilot Chat The first cohort of Bojer's skinks collected from Ilot Vacoas released onto Ile aux Fouquets Translocated populations monitored (distribution, fitness, health, recruitment, habitat and diet surveyed) and resident vertebrates monitored Translocated and resident vertebrates monitored Report released to host partners on progress. Newsletter released, article in national newspaper, posters disseminated to schools and public buildings Formal meeting with both host partners and trainees
July 2007 October 2007 November 2007 December 2007 February 2008 March 2008	Apr-Mar 2007/8	Translocated and resident vertebrates monitored The second cohort of Bojer's skinks released Trainees monitor translocated and resident vertebrates themselves and monitored by the UK partner Trainee field reports assessed and effectiveness evaluated Trainees assist in field course for host partners that have not yet assisted on the project in techniques used Trainees monitor translocated and resident vertebrates themselves and monitored by the UK partner Report released to host partners on progress. Newsletter released, article in national newspaper, posters disseminated to schools and public buildings Formal meeting with both host partners and trainees

July 2008 October 2008 November 2008 January 2009 February 2009 March 2009	Apr-Mar 2008/9	Trainees monitor translocated and resident vertebrates themselves and monitored by the UK partner Trainees release third cohort of Bojer's skinks Trainees monitor the translocated populations and report to the UK partner Protocols written for future translocations and report on project with trainees input disseminated to host partners Meeting with host partners on protocol to obtain feedback Trainees monitor the translocated populations and report to the UK partner
April 2009	Apr-Mar 2009/2010	Final protocol published and two peer reviewed articles prepared for submission

21. Set out the project's measurable outputs using the separate list of output measures.

PROJECT OUTPUTS		
Year/Month	**Standard output number (see standard output list)**	**Description (include numbers of people involved, publications produced, days/weeks etc.)**
2006/September	3	Two Mauritian trainees will have completed the 12 day ISLA course run by the DWCT at Jersey
2006/October	5	Biodiversity awareness made by publicising the release of skinks onto Ile aux Aigrettes in the presence of government representatives and national news, which will involve at least 30 people from both host partners in addition to tour guides and trainees Project details incorporated into current ecotourism and education on Ile aux Aigrettes involving tour guides and staff of MWF, which will be ongoing
2008/February	3	Trained individuals competent with reptile survey and translocation techniques and can teach colleagues for continued monitoring. This will involve all 4 trainees for 2-3 weeks every 4 months joined at various times by 20 other employees
2008/March	5	Awareness, through the publication of articles, newsletters, pamphlets and posters, including school visits for one week at the end of the 1st and 2nd year by the UK partner and trainees
2009/January	2 & 5	Impact assessment disseminated to all partners, and results prepared for scientific publication, involving trained and UK individuals for 4 weeks
2009/March	1 & 5	Establishment and recruitment of reptiles on recipient islands confirmed. Results disseminated to all partners and prepared for scientific publication involving trained and UK individuals for 4 weeks
2009/April	4	Effective management protocols for future procedures produced by trained and UK individuals over two weeks. Protocols agreed upon with 6 individuals from host partners, over 3 days and published

PROJECT BASED MONITORING AND EVALUATION

22. Describe, referring to the Indicators in the Logical Framework, how the progress of the project will be monitored and evaluated, including towards delivery of its outputs and in terms of achieving its overall purpose. This should be

during the lifetime of the project and at its conclusion. Please include information on how host country partners will be included in the monitoring and evaluation.

The evaluation of field reports produced after each island visit by the UK partner and individuals being trained will allow progress to be monitored and assessed concerning: the establishment of translocated reptiles on recipient islands; their impacts on resident vertebrates; and their role within the ecosystem. The ability of trained individuals to conduct their own reptile surveys by the end of the second year, and their ability to train colleagues in basic field techniques, will be assessed by the UK partner. Annual reports on progress will also be submitted to the host partners and an official meeting with all partners will be conducted to discuss progress, the effectiveness of training, and to address any problems or concerns. The effectiveness of incorporating this project within the current eco-tours on Ile aux Aigrettes, and raising biodiversity awareness, will be assessed by the UK partner, tour guides and invited written comments from tourists and Mauritian nationals that visit the island, including feedback from schools. This project will achieve its purpose by continuous monitoring and feedback in supplying evidence for the persistence of translocated reptile populations and their integration into each island ecosystem, whilst creating greater biodiversity awareness, and strengthening the capacity of the host partners to continue the restoration of ecosystems and sustainable biodiversity through reptile translocation.