



Darwin Initiative Annual Report

Important note:

To be completed with reference to the Reporting Guidance Notes for Project Leaders: it is expected that this report will be about 10 pages in length, excluding annexes



Submission Deadline: 30 April 2012

1. Darwin Project Information

Project Reference	18018
Project Title	Enabling Montserrat to Save the Critically Endangered mountain chicken
Host Country/ies	Montserrat
UK contract holder institution	Durrell Wildlife Conservation Trust
Host country partner institutions	Department of Environment (DoE), Ministry of Agriculture, Land, Housing and Environment (MALHE), Montserrat
Other partner institutions	Zoological Society of London
Darwin Grant Value	£232,484
Start/end dates of project	1 st July 2010 to 30 th June 2013
Reporting period (eg Apr 2010 – Mar 2011) and number (eg Annual Report 1, 2, 3)	1 st April 2011 to 31 st March 2012 Annual report 2
Project Leader name	Matthew Morton
Project website	www.mountainchicken.org
Report authors, main contributors and date	Sarah-Louise Smith, Matthew Morton, Andrew Terry, 30 th April 2012

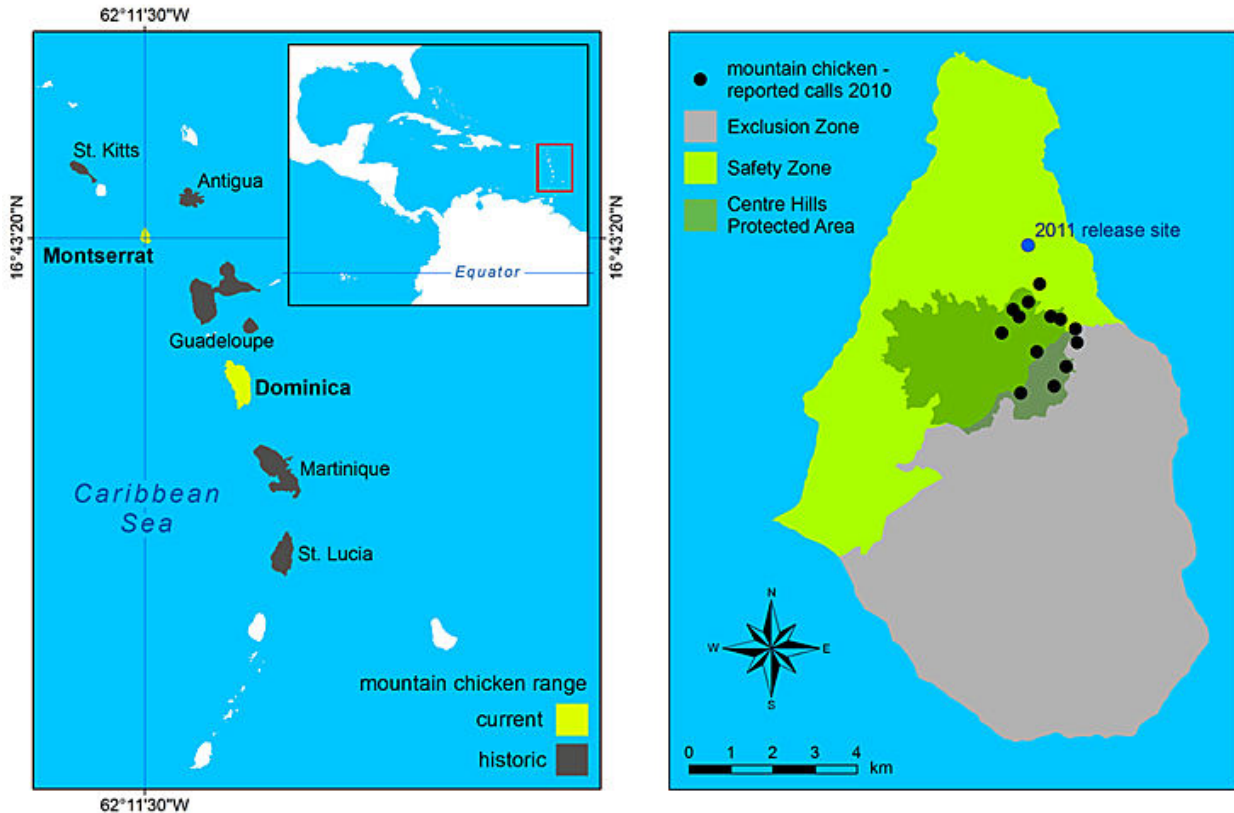
2. Project Background

Once found on seven islands, the mountain chicken frog *Leptodactylus fallax* (Critically Endangered, IUCN) is now restricted to Montserrat and Dominica, where it has declined through historical habitat destruction and hunting. However, the emergence of the disease chytridiomycosis (chytrid), caused by the fungus *Batrachochytrium dendrobatidis*, in 2002 in Dominica resulted in catastrophic declines of 80% within 18 months of being detected. Following this the Mountain Chicken Species Action Plan, (2007, OTEP funded) prioritised biosecurity at the ports of entry in Montserrat to stop chytrid arriving on the island. Despite these efforts, chytrid was discovered on Montserrat in February 2009 by the Department of Environment. In May 2009, 50 uninfected frogs were evacuated to an *ex situ* captive breeding programme at Durrell (Jersey), ZSL (London), and Parken Zoo (Sweden). In July 2009, chytrid arrived in the last healthy mountain chicken population resulting in the deaths of many frogs.

The goal of this project is to enable Montserrat to safeguard the future of the mountain chicken by: (1) establishing the evidence-base on mountain chicken and chytrid ecology in Montserrat; (2) putting in place a long-term restoration plan and steering committee; (3) developing a reintroduction and adaptive management plan and (4) generating pride and understanding among Montserratians in the restoration of this species and communicating essential bio-security management information. It sits within a longer-term Mountain Chicken Restoration Programme (MCRP), a collaboration between the Governments of Montserrat and Dominica, Durrell, ZSL and two additional breeding institutions, Parken Zoo (Sweden) and North of England Zoological Society (NEZS, Chester Zoo, UK).

When the project was first planned, the goal was to initiate a series of trial releases of frogs to an isolated area of the island. The team hypothesised that this area could be free from chytrid because it was isolated from the known infected zone within Montserrat's Centre Hills by volcanic pyroclastic flows. However after the project was awarded, but before it began in July 2010, a mission to test this hypothesis found the disease present within tree frogs in May 2010.

Therefore there were no chytrid free areas on the island. This required us to adapt our plans but the core objectives of the Darwin project remained unchanged



Global distribution of mountain chicken (left) and evidence of remaining population on Montserrat in 2010, showing 2011-12 release site. The remaining population currently appears to be very small and at low densities.)

The major change in this revised plan was to bring forward the planned trial releases from Year 2 to Year 1. A second release of frogs into Montserrat took place in Year 2 and a third is planned for Year 3.

Releasing frogs into chytrid positive areas is a contentious move that was carefully assessed and consulted with partner organisations, the IUCN Reintroduction Specialist Group and DEFRA. Although mortality from chytrid is to be expected, we also predict that a proportion of this release population will survive and breed. Our aim is to identify those factors – such as age-at-release cohorts and release season (wet vs. dry) – under our control that optimize future release and maximize our chances of establishing a viable *in situ* population of mountain chickens.

Throughout this report we refer to: **surviving** mountain chickens or frogs, meaning frogs that persist in small numbers in Montserrat since the arrival of chytrid; **released** frogs, meaning captive-bred animals we have released into Montserrat during this project; and **other amphibians**, referring to sympatric non-native cane toads (*Rhinella marina*) and tree frogs (*Eleutherodactylus johnstonei*) that may act as chytrid reservoirs and vectors.

3. Project Partnerships

This project forms a major component of a larger collaboration between the Governments of Montserrat and Dominica, Durrell, ZSL, NEZS (Chester Zoo) and Parken Zoo called the Mountain Chicken Recovery Programme (MCRP). For more information on this collaboration and on the project team go to www.mountainchicken.org/partnership/team/

The Durrell Wildlife Conservation Trust (Durrell) provides project leadership from Matt Morton, based in Saint Lucia, with day to day project management in Montserrat from Sarah- Louise Smith, Project Coordinator. Durrell provides technical support from Drs. Richard Young (research design), Gerardo Garcia (herpetology and captive management), Javier Lopez

(veterinary science) and Andrew Terry (project management and oversight), both in the UK and (from Drs. Lopez and Garcia) in the field. The in-country project leader is Gerard Gray, Director of Montserrat's Department of the Environment (DOE, in the Ministry of Agriculture, Housing, Lands and the Environment, MAHLE).

Sarah-Louise provides day-to-day in-country coordination, based fulltime in Montserrat and is contracted to DOE, working closely with her departmental colleagues on all aspects of project delivery. Having embedded within DOE part of their staff structure was identified as an important way of integrating the project with DOE activities. DOE provide invaluable governmental backing to the project, with field and administrative support from DOE staff and inter-departmental linkages such as to the Physical Planning Unit (for GIS support) and the Veterinary Department of MAHLE. Durrell and DOE have collaborated for over 10 years prior to this project on biodiversity conservation initiatives in Montserrat.

A Montserrat-based Project Steering Committee brings together in-country stakeholders. Overseas PSC members receive agendas and minutes for each meeting to allow them to contribute, input, and also attend some meetings in Montserrat. The Project Leader also attends PSC meetings each year and, with the Project Coordinator, annual meetings with European Partners in Jersey.

The Project Coordinator is based in DOE, working alongside Lloyd Martin, a DOE Forestry Technician contracted as the Project Research Officer. Calvin Fenton is contracted as the Primary Field Assistant. Sarah-Louise reports directly to Gerard Gray and, via email and Skype, to Matt Morton who also visits Montserrat regularly. She also circulates weekly tabular progress reports to all project partners (PSC members). Other DOE staff participate in project activity planning through monthly meetings with the project staff. Veterinary and herpetological support from Durrell is via regular email/Skype communication with Sarah-Louise and Matt and on-the-ground support during frog releases.

Dr. Andrew Cunningham, Head of Wildlife Epidemiology and Deputy Director of the Institute of Zoology provides technical guidance on epidemiology from the UK, which builds on previous experience through the Darwin funded project (Ref 13032) on chytridiomycosis in the Eastern Caribbean. All swabs of taken from frogs in the wild are analysed for the presence of chytrid by ZSL's laboratory in London, partly with Darwin funding and ZSL co-funding.

4. Project Progress

The project started in Quarter 3 of year one and so the period covered by this report covers Quarter 4, Year 1 through Quarter 3 Year 2 in the Activity Timetable

4.1 Progress in carrying out project activities

Output 1. The evidence base for the restoration of the mountain chicken and mitigation of the impacts of chytrid is established.

1.1 Establishment of project basis and staff in Montserrat

This activity was completed in Year 1 with the Project Coordinator, Research Officer and Field Assistant contracted to DOE.

1.2 Research prioritisation exercise

Research priorities for this project were developed and approved in Year 1 and are currently being implemented.

Additional research priorities, that will fall largely outside the current project were presented to the PSC and approved in Year 2. These will take the form of two PhDs: (1) The development of a field treatment for chytrid using a low-virulence strain of the fungus and/or bacteria that boost skin peptide production. (2) The ecology of chytrid in Montserrat.

1.3 Develop, test and implement population estimation method

As in Year 1, encounter rate of surviving mountain chickens is too low to allow a meaningful mark-recapture estimate of population size. This scattered population was, however, intensively monitored, with marking for individual identification, throughout Year 2, to identify new

individuals and track chytrid status: we want to determine if these frogs are evading the disease or resistant to it. As an alternative to estimating abundance, we have focussed on area of occupancy to track this population. Distribution data is recorded in a GIS database, which the Project Research Officer has been trained to use. In Year 2, we trialled the use of “songmeters” (automated call recorders) to provide an index of population size but, again, encounter rate (number of calls) has been too low to be useful. The technique does though, have promise for extending searches for surviving frogs over a wider area. Two project staff, and two additional DOE staff have been trained in deploying songmeters for data collection.

A presentation from Dominica's Forestry, Wildlife and Parks Division to the PSC in Year 2 suggested that frog numbers in Dominica have increased since the initial declines following invasion of the island by chytrid in 2002. The project's Primary Field Assistant and a volunteer made a pilot visit to Dominica in Year 2 and were able to locate calling frogs and juveniles at one site. More work on the current status of the Dominica population is planned for Year 3.

1.4 Network of chytrid monitoring sites identified

Three sites for monitoring environmental chytrid load (in sympatric non-native amphibians) in Year 1: one at the release site, plus two control sites. Monthly monitoring continued through Year 2 as outlined below.

1.5 Monitoring programme

In Year 2 we have continued to monitor surviving frogs; chytrid loads in other amphibians; and frogs from the first two releases. Monitoring of the latter is covered in section 2.5 (monitoring release success).

Surviving frogs were monitored bi-weekly at our five permanent transects, plus three additional transects added in Year 2. In addition, five songmeters were deployed over five months at four sites. We have developed a first draft ‘recognizer’ (a software device for the automated screening of songmeter recordings to identify mountain chicken calls). This has successfully extracted a few calls and will be refined in Year 3 when the songmeters will be used to attempt to map mountain chicken distribution over a wider area.

Chytrid loads in other amphibians were monitored throughout Year 2 at the release site and two control sites once per month to detect seasonal fluctuations. 1,601 swabs were collected in Year 2 and deposited with ZSL for screening

In Year 2 an additional 3 people were trained to use the monitoring protocols established in Year 1 (available online at www.mountainchicken.org/resources/reports). These include biosecurity at field sites and frog health screening. Progress is tracked through weekly reports from the field team to the PSC (including veterinary support) and data are maintained in spreadsheet and GIS databases. The Research Officer was trained in the use of these databases in Year 2 and regularly maintains and update these databases.

3,480 swabs have been shipped to ZSL in Years 1 and 2 to determine chytrid status. Processing of these swabs is essential to understanding the status of surviving and released frogs. It has, however, been delayed by the need to repeat screening with a higher resolution method to weed out false negatives in the initial screening. The latter have all now been processed along with 219 of the mountain chicken and 436 of the other amphibian swabs from Years 1 and 2. This data set will be used for analyses of survival probabilities in Year 3.

Output 2. Trial re-introduction of mountain chickens into Montserrat completed.

2.1 Survey trips to candidate introduction sites

This activity was completed in Year 1 when a site was chosen and a report produced. The same release site was used for the second release in Year 2.

2.2 Development of predator control programmes

Field sites with released and surviving mountain chickens are monitored for evidence of predator impacts as outlined in the contingency plan developed during Year 1. Field teams collected evidence during weekly site visits and two camera traps were used to monitor the release site. Evidence was also collected from post-mortems of dead mountain chickens, with

detailed individual reports submitted to Durrell and ZSL vets for review. There was been little evidence of predation (one suspected kill) on released frogs and it did not trigger the threshold to activate the plan.

2.3 Development and approval of plans for trial introduction

This activity was brought forward and a plan was developed for the release of mountain chickens in Year 1. This plan was adapted in Year 2 for the second release based on lessons learnt from the first release. This included testing temperature profiles in dummy transit crates in flight, using data loggers in the crates during transport and adapting the tents for the soft release. Both of these changes proved successful during the second release as all frogs survived transport and were successfully released. This adapted plan is available online at www.mountainchicken.org.

2.4 Release of mountain chickens

Thirty three mountain chickens were successfully transported to Montserrat and released in the Centre Hills during January 2012. This is the second release, bringing the total number of released frogs to 97. The release was attended by the Minister of Agriculture, covered by Montserrat's national newspaper, national radio and appeared on the government website and detailed blogs were posted on the project website www.mountainchicken.org.

2.5 Monitoring release success

Thirty four released frogs were implanted with radio transmitters in each of Years 1 and 2. These allowed intensive (six nights a week) monitoring of the released population for the first three months after release. Thereafter, in Year 2, frogs (also implanted with identifying PIT tags) were monitored weekly to the extent they could be located. As with other monitoring, progress was tracked through weekly reports and data transferred to spreadsheet and GIS databases, with swabs sent to ZSL. In Year 2 an additional Montserratan was trained in radio tracking and health screening.

Radio tracking in Year 2 is currently ongoing, but the monitoring data from Year 1 and the next two quarters of Year 2 has been analysed (Annex 3.1). Frogs were able to use their habitat normally and maintain or increase their body weight after release. There was no direct evidence of breeding though males were heard calling during the nesting season.

Nine of the 64 frogs released in Year 1 are known to have died within 10 months of release, six showing signs of disease. But the fates of frogs beyond this point is not known: we may have lost contact because of deaths, dispersal or low detectability. In the past week, calls from a site immediately adjacent to the release site have been heard and we are investigating whether these are release survivors.

We improved our contact rate during radio tracking the second release by marking out a systematic search grid. Our tracking is still hampered by a very low broadcast range of the transmitters. There are concerns over the impacts of external transmitters (with a greatly improved range) but these will be tested *ex situ* prior to the third release. To date, 12 of the frogs released in Year 2 are known to have died (compared with six by this point in the first release, albeit we had a considerably lower re-encounter rate then); five showing signs of chytrid, the rest of unknown causes but two at least from suspected predation.

2.6 Adaptive management plan for reintroduction and predator management

This activity is planned for Year 3 as a component of the long term recovery strategy.

Output 3. Long term restoration strategy for the mountain chicken established and agreed with regional partners.

3.1 Formation and meeting of regional steering committee

A Project Steering Committee was formed in Year 1. In Year 2, a Programme Steering Committee was formed from this to provide steering to all aspects of the MCRP, including beyond the lifetime of the current project. Terms of Reference for this PSC have been drafted and circulated. The PSC continued to meet quarterly in Year 2, including attendance from Dominican and UK members.

3.2 Review of regional captive breeding opportunities

The Dominican facility continues to be operational and in Year 2 newly discovered wild Dominican mountain chickens were used to stock the facility. Calvin Fenton, the project's Primary Field Assistant visited Dominica for one week where he successfully trained the local staff in PIT tagging mountain chickens in the facility and the wild (Annex 3.2). Any progress in breeding frogs in Year 3 will determine whether this could become a local supplier of frogs for release into the wild. A review of the status of European studbook for Montserrat mountain chickens was also completed in Year 2 (Annex 3.3)

3.3 Training two Montserratian staff on DESMAN course

Project Research Officer Lloyd Martin has completed the 2012 DESMAN (Diploma in Endangered Species Management) course (Annex 3.4). A second member of staff has been identified as being suitable for the course but DOE can only spare one staff member at a time. It is planned that he will attend this course in Year 3.

The project Primary Field Assistant, Calvin Fenton, plus a DOE staff member also attended the 2 week Durrell ISLA (Island Species-Led Action) course in September 2011 which was held in Santo Domingo (Annex 3.5). Both staff passed the course which included training in: invasive species management, population monitoring, stakeholder identifications and workshop planning, fundraising and proposal writing, habitat restoration and captive breeding, reintroduction and translocation.

3.4 Development of long term restoration plan

The long term restoration plan will be informed by the actions being developed and carried out by the current project and actions being developed alongside it such as the *ex situ* programme and additional research activities. As a part of the Project Research Officer's Diploma, in Year 2 he developed a proposal to lead this activity on his return to Montserrat with a review of current progress, stakeholder consultations and a workshop. Additional research proposals were presented to the PSC in Year 2 by Durrell and ZSL, along with updates from Dominica's Forestry, Wildlife and Parks Division and Chief Vet. The PSC has endorsed the current strategy and this will form the starting point for the workshop planned in Year 3 to develop the longer term strategy.

Output 4. The restoration of the mountain chicken is a source of national pride and benefits from long-term collaboration between national, regional and international partners.

4.1 Communication strategy completed

This activity was delayed in Year 1 due to bringing forward the first release of frogs into Montserrat. A communication strategy was completed in Year 2 in collaboration with DOE's Outreach and Education Officer. This has been circulated and approved by the PSC. The document is a strategic plan for the completion of the public awareness campaign that is now being implemented (see 4.2, 4.3). This document outlines target audiences such as teachers, school groups, hunters and farmers along with proposed activities, deadlines and budgets (Annex 3.6)

4.2 Communications materials produced – posters, calypso

This activity was also put back to Year 2 by the first release of mountain chickens in Year 1. An island-wide project logo competition produced a winning design that has been used in promotional materials, and on the project website and facebook page (Annex 3.7). A total of three calypsos singing about the mountain chicken were produced in live competitions (broadcast on national radio) during Year 2 and one studio and two live recordings made. PSC members from Montserrat, Dominica, Saint Lucia and UK appeared in a televised interview in Montserrat discussing MCRP's work and a wildlife documentary featuring the mountain chicken and the project was filmed and edited in Year 2. The latter will be made available online and broadcast on Montserrat national television in Year 3 (a draft, awaiting a final voiceover track from Montserrat, is available as a DVD). Two posters (Annex 3.8) were produced in Year 2 and are available online; 200 hard copies are in press for distribution throughout Montserrat in Year 3. The project featured in Montserrat Science Week (www.mvo.org) and Save the Frogs week

(www.savethefrogs.org) delivering a library display, a radio interview and a community presentations for each week. Activities were covered by the local media (two radio announcements and one press release) and the project website blog.

4.3 Schools presentations

PowerPoint presentations by the Project Coordinator and Outreach and DOE's Education Officer were given at four Primary Schools to Grade 3 classes (ages 7-8). The four primary school classes were given quiz questions after the presentations with 33 children out of 63 answering over 70% of the questions correct. A Mountain Chicken Day was also run through the summer holidays where we took a group of 13 children into the forest during the day to practice laying transects in the forest, swabbing cane toads for chytrid and biosecurity techniques. A detailed report on school visits is available at www.mountainchicken.org.

4.4 Behavioural and attitudes surveys and reporting

Preliminary analysis of the first survey conducted showed that general knowledge about the mountain chicken is good with 90% of people identifying it as a frog and 70% confirming to have seen one but only 48% of those who answered were concerned it might go extinct. General knowledge of the chytrid fungus is not so good with only 24% of people recognising it as a fungus and 80% reported as not knowing how it is spread. A more detailed report of these results is available online at www.mountainchicken.org. These results will be compared with the results of the final baseline survey during the next reporting period to show the effectiveness of the public awareness campaign.

4.2 Progress towards project outputs

Output 1. The evidence base for the restoration of the mountain chicken and mitigation of the impacts of chytrid is established.

Prioritization of the research requirements for our trial release strategy was completed in Year 1 and through Year 2 we have continued to accumulate an evidence base on the distribution and disease status of surviving mountain chickens, released frogs and other amphibia. Databases (including GIS) have been established and are in use by project staff to record all this data.

An analysis of the data from the first release of frogs has given us information on survival of frogs. Analyses tying this and the other data sets, to histories of chytrid status are pending completion of repeat, higher-resolution screening of the large number of swabs collected and deposited with ZSL (3,480 to date). This has been a frustrating delay but good progress has been made on clearing the backlog.

Population estimation of surviving mountain chickens has not been possible: encounter rates have been too low despite intensive surveying (which continues, however, to collect valuable data on the chytrid status of these important animals). Instead we are currently using distribution mapping to track surviving frogs. All surviving frogs found are PIT-tagged for individual identification and mark-recapture analyses may be possible as more data accumulates. We trialled the use of automated call recording to index population size but it may prove more useful in mapping distribution. Five additional surviving frogs have been found at four additional sites in Year 2. A scoping visit to Dominica confirms more fieldwork is needed to improve our current understanding of the mountain chickens population there, but found evidence of breeding.

Our assumption of the availability of a Montserratian MSc candidate within MAHLE proved incorrect. We adapted this role to that of a Project Research Officer who has now completed three months of residential training at Durrell, Jersey and obtained an accredited Diploma. It is planned that a second candidate from Montserrat will complete the same diploma in Year 3. On his return to Montserrat he will lead on the development of long term restoration plan.

Output 2. Trial re-introduction of mountain chickens into Montserrat completed.

As noted in Year 1, a key assumption of our original plan failed: that of a chytrid-free release site within Montserrat's volcanic exclusion zone. We adapted the plan to a series of

experimental releases into a site in the Centre Hills which are easier to monitor, with the approval of the Government of Montserrat, Durrell's Ethics Committee, DEFRA and IUCN's Reintroduction Specialist Group.

Good progress has been made in that we have demonstrated we can breed sufficient stock (97 of the planned 100 frogs have been released, and more will be released in Year 3). We can safely transport frogs to the site: losses during the first transfer were addressed and none occurred during the second. Habitat use and feeding by captive bred frogs is as predicted from our knowledge of free-living mountain chickens. As yet we have no direct evidence of breeding in the release population though male mating calls were heard at the site during Year 2.

Our evidence for survival of frogs (after the first three months of intensive radiotracking) is, however, weak. Nine frogs are known to have died (most showing signs of disease) during the first release of 64 frogs, but the fate of rest is not currently known (though one was still alive 11 months after release and showing no signs of disease) The next calling season (at the start of Year 3) will be an opportunity to try to re-locate any survivors from the first release. Ten of the 34 frogs in the second release are known to have died (five we believe from chytrid, one from suspected predation). The higher proportion confirmed dead in the second release may just reflect our improved re-encounter rate in this release due to improvements to our radio tracking protocols. We plan to improve radio tracking performance further by testing alternative transmitters on captive frogs in Year 3 for a third release.

Our second release was originally planned for the wet season in Year 2, to allow a comparison with the Year 1 dry season release. Our *ex situ* health screening, however, indicated a novel virus in one of the release candidates. This was subsequently confirmed to be a false positive, but the release was postponed until this was confirmed. Thirty three of these candidates were then released in the next dry season (to free capacity in the *ex situ* facilities) and a further, wet season, release will now take place in Year 3

Our early warning chytrid monitoring and introduced predator control plans were developed on the failed assumption of a chytrid-free site on Montserrat (which was known to have very elevated predator levels). With our adapted plan to release frogs into a site known to have chytrid, we have adapted both of these. Environmental chytrid is now monitored throughout the year at the release site and two control sites. Future analyses will seek to explain patterns in frog survival against this data and identify seasonal variation to inform future releases. Introduced predator levels at the new release site are lower than at the original planned site. We have developed a predator control contingency plan (in Year 1) with a threshold of predation events to trigger a predator control response. As yet, this threshold has not been triggered, but we continue to monitor the site for predators.

Output 3. Long term restoration strategy for the mountain chicken established and agreed with regional partners.

The PSC established in Year 1 continues to meet quarterly to guide project activities. The committee was extended this year to include Dominican representatives in order to increase collaboration between the islands. Members contribute topics to the agendas and meetings are well attended with lively discussion on all aspects of project delivery.

The *ex situ* facilities in Dominica are operational, producing sufficient live food and, by Year 2, stocked with mountain chickens sourced from Dominica (in Year 1 it was planned to provide captive-bred Montserrat frogs because of the difficulty in finding *in situ* stock). This facility may not be able to produce frogs for release in Montserrat during the lifetime of this project but its longer term viability for this purpose will be re-assessed during finalization of the long term restoration plan. The current status of the *ex situ* Montserrat mountain chicken population in Europe was also reviewed in Year 2 and it continues to have the capacity to supply release stock.

The Project Research Officer completed his diploma in Year 2 and has developed a proposal to lead the process of establishing the long term restoration plan in Year 3. He also has prior experience of delivering species action planning workshops in Montserrat. The current strategy of *ex situ* breeding, experimental releases and research has been approved by the PSC and

will form the foundation for the longer term strategy. In Year 2, a short workshop with PSC members, including participants from Dominica and the UK, presented, deliberated on and approved some additional research priorities (mostly outside the current project) which will also feed into the longer term strategy.

We have built on existing DOE capacity to monitor mountain chicken populations so that it now routinely incorporates strict biosecurity measures at all field sites. Training in more intensive, monitoring techniques such as health screening, swabbing and radiotracking, has continued into Year 2, with additional training on data handling and reporting (Annex 3.9). The Research Officer's diploma has also provide the basis to strengthen his capacity to write funding applications and future project proposals, manipulate project databases in excel and Arc GIS and provide leadership skills.

Output 4. The restoration of the mountain chicken is a source of national pride and benefits from long-term collaboration between national, regional and international partners.

Four out of the five activities from this output were completed this year. A communications strategy has been finalised and approved by the PSC. Materials have been produced under the direction of the communications strategy including the electronic production and ordering of hard copies of 200 posters and the production and airing on local radio of 3 mountain chicken calypsos (copies of both are available electronically). A project logo (see Annex 3.7) and wildlife documentary have also been produced (copy available on request). Five school presentations have also been completed and reports produced. Project activities have been covered by the local media through seven press releases, six national radio programmes and one television programme. Preliminary results are available from the first behaviour and attitudes survey and the second survey is due next reporting period. As this is the last activity and indicator to be completed for this output it is likely that we will achieve this output by the end of the project. All public awareness activities completed by the project have received much support from the local community. Competitions received many entries, presentations were well attended and many people have commented to the Project Coordinator about listening in to radio programmes and asking further questions about topics discussed. In Montserrat, with such a small human population, word of mouth is a very effective communication tool.

4.3 Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Year 1 Total	Year 2 Total	Total to date	Number planned for this reporting period	Total planned from application
2	1 Montserratian to complete an MSc on mountain chickens in Montserrat	0	0	0	0	1
3	2 Montserratians to complete the DESMAN course accredited by University of Kent	0	1	1	2	2
5	1 Montserratian appointed Research Officer and complete more than 1 year of on the job training with Project Coordinator	0	1	1	1	1
6A	5 Montserratians and Dominicans to be trained in techniques involved in monitoring mountain chickens and chytrid.	4	7	11	0	5
6B	33 weeks spent training Montserratians and Dominicans	10.2	15.1	25.3	11	33

Code No.	Description	Year 1 Total	Year 2 Total	Total to date	Number planned for this reporting period	Total planned from application
7	A release manual including standardized protocols and data entry sheets.	1	0	1	1	1
8	12 weeks spent by staff from UK institutions in Montserrat or Dominica	9	6	15	6	12
9	1 Research Strategy and 1 Long-term Restoration Strategy produced	0	0	0	0	2
11A & B	3 papers to be published in peer reviewed journals	0	0	0	0	3
12A	2 computer databases to store monitoring information of release and surviving mountain chickens and chytrid monitoring in sympatric species.	0	0	0	0	2
14A	1 workshop on the development of the Long-Term Restoration Strategy; 1 conference in Montserrat to present results of the releases	0	0	0	0	2
15A,B,	12 national and/or local press releases in Montserrat	1	7	8	2	12
15C	4 national press releases in the UK	0	0	0	0	4
16A	4 newsletters promoting project activities	0	0	0	0	4
16B	Newsletters to be circulated to an estimated 600 people.	0	0	0	0	600
17A	Create the Project Steering Committee dissemination network.	0	0	0	0	1
18A	1 national TV programme featuring the project in Montserrat	0	1	1	1	1
19A & C	6 national and/or local radio interviews in Montserrat	2	6	7	2	6
22	5 permanent field transects established for monitoring surviving mountain chickens and chytrid in sympatric species	5	0	5	0	5
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project work	55,500	102,034	157,534	57,034	198,268
	Release at least 100 mountain chickens into the wild	64	33	97	100	100

Table 2 Publications

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £

4.4 Progress towards the project purpose and outcomes

The project is progressing well despite the failure of one assumption: the existence of a chytrid-free site on Montserrat. This was addressed in Year 1 by adapting the release (reintroduction) plan and the trial release remains a key indicator and target that we are currently meeting and will likely surpass. To date, the Soufriere hills volcano has not produced any activity to affect the activities of the project.

We have gone a long way towards establishing the evidence base for a long term restoration plan. A frustration has been the delays in swab screening for chytrid, but this is now being addressed and the large bank of swabs we have amassed is being processed. Alongside this project, two PhDs on understanding and mitigating chytrid have been developed and will continue to expand this evidence base. Through the monitoring of released animals, the analysis of disease status and the longer-term research efforts being put in place, this is will be one of the most complete and best described case studies in the world attempting to restore species threatened by chytrid.

Collaboration between project stakeholders remains strong, with visits to Montserrat this year from both Dominican and UK (ZSL) collaborators and a return visit to Dominica. The in-country Project Coordinator and the Research Officer supply informative weekly progress reports to project members and receive strong technical input and guidance in return. Durrell's long-standing relationship with DOE has ensured stakeholder engagement remains, and will remain, high.

In a country with a national human population of about 5,000 it is relatively easy to reach the Montserratian public and gauge their support. Ongoing support for the goals of this project is evidenced by the informal word of mouth feedback to the Project Coordinator, people calling into radio programmes and consistently good attendance to community presentations.

The first two years of the project have given us a solid foundation to develop and longer term restoration plan in Year 3. It is very pleasing that the Montserratian Research Officer used the overseas training he received this year to develop a proposal to lead on this activity next year.

The indicators remain adequate for measuring the outcomes and all are projected to be completed within the remaining timeframe of the project.

4.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

The aim of this project is to enable Montserrat to ensure the survival of the mountain chicken and its restoration in the long-term. Thus the project aims to establish the necessary skills, knowledge and responses to meet this aim. The species is a top native predator on Montserrat and Dominica, a flagship species for both islands and their forests, and an important model for amphibian conservation worldwide. The species has an important role in the culture of both islands and is the national dish in Dominica, although hunting has ceased while the species is so threatened.

The species is globally threatened primarily by a disease that threatens many amphibian species worldwide. Progress in tackling this problem will be slow, but we have demonstrated it is possible to successfully breed a large amphibian, under biosecure conditions, in sufficiently large numbers to support a reintroduction. We have demonstrated it is possible to conduct a reintroduction with these animals that is at least successful in terms of the captive-bred frogs acclimating to release into natural habitat, maintaining body condition and showing signs of breeding behaviour. We hope this work will be of value to other amphibian restoration programmes. The success of our releases in terms of these frogs surviving in a chytrid-infected environment is still uncertain. There have been some fatalities, as predicted, but the fact there have been indications of breeding behaviour – and on Dominica, this year, direct evidence of ongoing reproduction in a surviving population – gives us some grounds for optimism. The same is true of the persistence of surviving mountain chickens in Montserrat. We hope that our evidence base from these releases and the responses of these frogs to chytrid will also be of wider applicability. The development of parallel research into field treatments of the disease is

very exciting. This will extend beyond the lifetime of the current project but is focussed on the Montserrat mountain chicken and, if lab trials are promising, our ongoing *in situ* work can provide a model system with which to evaluate future treatments. This will require strong support from Montserrat but we have already deliberated on the subject with stakeholders and approval has been given to the lab-based work, with strong interest in, but also some concerns over, subsequent field trials.

5. Monitoring, evaluation and lessons

There is a hierarchy of structures governing the strategy and providing oversight. At the highest level is the MCRP PSC containing the representatives from Durrell, ZSL, Parken and Chester Zoo, and the Governments of Dominica and Montserrat, who oversee implementation of the overall restoration of the species in its entire range. This project reports its results and findings to that group.

Within Durrell the Head of Field Programmes and Conservation Science provide oversight of project progress and financial management from the Headquarters in Jersey and the Project Leader in Saint Lucia and Project Coordinator in Montserrat lead daily management and implementation. The Project Leader and Coordinator are in weekly communication concerning implementation and progress.

In Montserrat the project is guided by the Project Steering Committee, which meets quarterly. Locally this PSC is made up primarily of local stakeholders and the Project Coordinator and Research Officer. It was strengthened in Year 2 with its incorporation into of a wider Programme Steering Committee, including Dominican partners. It is chaired by the In-country Project Leader, Mr. Gerard Gray. Overseas partners representatives are provided with agendas, to which they contribute and minutes are provided online for partners to provide further input. All international project partners communicate using an email network which has been enhanced to include Montserratian as well as Dominican members. Weekly progress reports to PSC members allow for ongoing technical input including intensive veterinary support from overseas.

Activities are implemented following the logframe timetable and are discussed with the PSC ahead of time. The Project Leader, In-country Project Leader and Project Coordinator meet in Montserrat each year to review progress and a planning meeting of the European partners has been held in Europe to review and plan the wider MCRP strategy with feedback into this project. Durrell's vet and herpetologist have also overseen both releases in Montserrat.

Budget oversight is provided from Jersey where funds are disbursed to the host country partner, Department of Environment, and managed by the Project Coordinator, who reports quarterly on expenditure. Each disbursement from Durrell is only made on the receipt of financial reports on current expenditure.

The key indicator at the moment is the number of frogs released that are surviving, and the data that has been generated as a result. Equally the number of hours of training and hours of fieldwork from host country partner indicates the extent of their integration, which is essential for future sustainability.

The large number and geographic spread of partners and institutions involved in this project means the time required to initiate project activities where the participation of other partners is required can take a long time and this is now factored into project planning.

6. Actions taken in response to previous reviews (if applicable)

Not applicable

7. Other comments on progress not covered elsewhere

[leave blank]

8. Sustainability

The mountain chicken has a high public profile in Montserrat and there is considerable Governmental buy-in for the restoration of this species, with approval and ongoing support at the Ministerial level for the actions undertaken to date. Preliminary findings of an awareness questionnaire campaign indicate good public support. DOE, in collaboration with Durrell and other overseas partners (notably RSPB, Royal Botanic Gardens, Kew and Fauna & Flora International), have an established track record for resourcing and sustaining conservation efforts in Montserrat, and in particular for the mountain chicken. Frog monitoring has been carried out annually since 1998 by DOE, primarily with local resources, and this was instrumental in the early detection of the arrival of chytrid on the island, allowing a rapid response (emergency evacuation of uninfected frogs to biosecure facilities) by calling in overseas partners (Durrell). All of the sites at which field activities are currently undertaken are within or cross the boundary of a large (for Montserrat) Protected Area, The Centre Hills. This Protected Area has been the focus of other Darwin Initiative projects (14-027 and EIDPO027) which have put in place effective management systems for the site. The Conservation and Environmental Management Act (CEMA) has been drafted as a Bill. When enacted by the Government of Montserrat it will provide additional support for managing Montserrat's mountain chicken project. Project partner ZSL also has a long history of lab and field based initiatives addressing the problem of chytridiomycosis and the mountain chicken in particular. They have established (13-032) an *ex situ* facility in Dominica which also provides regional capacity for chytrid surveillance (testing of swabs) that has been used in MCRP and as of Year 2 has been stocked with mountain chickens from Dominica for breeding. More sensitive health screening capacity is available at ZSL's Institute of Zoology. Durrell and other European partners have established world leading expertise in captive husbandry for this species and have made a long-term commitment to the species since they began working with it in 1997.

Funding has been secured for two PhDs – one which started in Year 2, one to start in Year 3 – researching chytrid in Montserrat mountain chickens. One aims to develop field treatments the other will look at the environmental context of the disease in Montserrat.

Our exit strategy for this project is partly determined by the fact that it is part of a longer-term Recovery Programme, with commitments from European and Montserratian partners to continuing these recovery efforts for this species. The purpose of this project is to establish an evidence base, and the in-country capacity, for this work to continue.

9. Dissemination

Montserrat is a small country with a population of under 5000 people. There is only one radio station (ZJB), one local television channel (ZTV) and one published newspaper on island (The Montserrat Reporter). Due to various natural disasters on the island, including hurricanes and volcanic eruptions, there is a culture of listening to the local radio as the government uses this as the main method to communicate with the general public and to issue warnings and evacuation procedures. Particularly when the volcano is active, most government offices will have a radio playing during the working day. The local radio station is also online and often receives calls or comments online from Montserradians overseas that fled after the capital was evacuated. A high percentage of the population works for the Government of Montserrat and has access to computer and the internet. Facebook is also widely used.

The Government Information Systems department runs the various government media entities including radio, television, website and Facebook page under the signature Spirit of Montserrat. The Project Coordinator works closely with the Director to distribute press releases on the websites (www.gov.ms; www.zjb.gov.ms), organise the filming and airing of events, such as the release, to promote the project on the Spirit of Montserrat facebook page and on the radio either through updates on the news programmes or interviews with field staff.

The project website (www.mountainchicken.org) continues to be used as a means of disseminating information about the project through regular blogs. In the last 12 months the project has posted 36 blogs. From May – Dec 2011 the website had 3549 unique visitors and 5941 visits and from Jan – April 2012 the website had 3889 unique visitors and 7195 visits. People from Montserrat, Dominica and the UK have posted comments. In the last three months the project has set up a facebook page which so far has 57 'likes'. Durrell's members receive

our newsletter On The Edge that includes updates on the project; it reaches an international membership of over 14,000. The general public, local and international are targeted using the methods above. The Montserrat Tourist Board has agreed to feature the project in the next brochure and a section for the website has been drafted.

School children have been targeted as an audience and are being reached through the presentations and library displays which are also advertised on the radio and through the school head teachers. People who hunt feral animals within the forest and farmers who also farm on the edge of the forest are also targeted as they often cover large areas and may see or hear evidence of surviving mountain chickens. They are reached by word of mouth and appeals during radio programmes.

As most means of dissemination are currently distributed with the assistance of the government departments therefore it will be relatively easy and of minimum cost for them to continue this post-project. The Outreach and Education Officer and Research Officer will be trained in the copy management system Wordpress to continue posting blogs and updating the project website and will be given administrative rights to the facebook page. The website will continue to be hosted by ZSL. A longer term communication strategy for continued dissemination will be included in the long-term restoration plan due to be finalised next year and will be developed with input from the Department of Environment.

10. Project Expenditure

Table 3 project expenditure during the reporting period (1 April 2010 – 31 March 2011)

Item	Budget (please indicate which document you refer to if other than your project application or annual grant offer letter)	Expenditure	Variance/ Comments
Matthew Morton			
Andrew Cunningham			
Richard Young			
Gerardo Garcia			
Javier Lopez			
Sarah Louise Smith			
Lloyd Martin			
Calvin Fenton			
Overhead costs			
Travel and subsistence			
Operating costs			
Capital items/equipment (specify)			
Others: shipping costs frogs			
Others: Swabs			
Others: vehicle maintenance, fuel, communications			
TOTAL			

11. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

I agree for LTS and the Darwin Secretariat to publish the content of this section.

Chytrid fungus reached Montserrat in 2009 followed rapidly by a catastrophic death rate amongst the island's population of Critically Endangered mountain chicken frogs. Durrell, working with Montserrat's Department of the Environment, evacuated 50 remaining healthy frogs to biosecure captive facilities and began breeding healthy stock to augment the island's now devastated wild population. A release of these frogs into Montserrat in the first year of the project was followed by a second one in year two. Almost 100 frogs have now been released back to their native country. As expected, there have been losses to chytrid, which remains in the environment. But some individuals have survived for extended periods and we are hopeful are still surviving. Hopeful because there are also small pockets of frogs in more isolated parts of Montserrat's rainforest which continue to survive in the face of chytrid, sometimes for years. We are continuing to closely track the health of these survivors too. Our releases have shown it is possible to successfully breed a large amphibian in captivity and use the offspring to augment a wild population. Despite only knowing captivity, released frogs adapted quickly to their new surroundings, using their habitat as wild mountain chickens do; feeding well and growing; and showing signs of breeding behaviour – the characteristic 'whooping' mating calls of the male. The future is still uncertain for the mountain chicken but we are making progress towards addressing the severe threats it faces.

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2011-2012

Project summary	Measurable Indicators	Progress and Achievements April 2011 - March 2012	Actions required/planned for next period
<p>Goal: <i>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</i></p> <ul style="list-style-type: none"> ⇒ The conservation of biological diversity, ⇒ The sustainable use of its components, and ⇒ The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources 		<p>We completed a second release of mountain chickens into Montserrat this year, learning from our first release and improving protocols. This continues to augment populations of a key ecosystem component (top predator) and further develop a model for amphibian reintroductions</p>	
<p>Purpose Enabling Montserrat to save the Critically Endangered mountain chicken through a programme of research, re-introduction, strategic planning and awareness-raising.</p>	<ul style="list-style-type: none"> ▪Evidence base documented to support the long term restoration of mountain chickens and the management of chytrid in Montserrat. ▪Long-term species restoration plan agreed. ▪Trial re-introduction of mountain chickens completed. ▪Pride in the conservation of the species among Montserratians increased and public support for the species restoration strategy secured. ▪Regular collaboration between the necessary stakeholders underpins the restoration of the species. 	<p>We have amassed a database of captive-bred frog responses to release into native habitats and continuing survival of mountain chickens persisting in Montserrat. This is complemented with a database of background chytrid prevalence in sympatric, non-native amphibia. The PSC has been incorporated into a wider, regional and international Programme Steering Committee and exciting new research (PhDs to run parallel with, and beyond this project) directions on developing field treatments have been approved. Many awareness activities have been completed and met with enthusiastic responses.</p>	<p>Complete the evidence base by completing processing of chytrid swabs, to provide the most important explanatory factor for persistence or not of released and surviving frogs.</p> <p>Strengthen monitoring of released frogs by extending radio tracking surveillance</p> <p>Complete a third, wet season, release of frogs</p> <p>Complete a long term reintroduction strategy and reintroduction management plan</p> <p>Repeat baseline survey of awareness, attitudes and behaviours.</p>
<p>Output 1. 1. The evidence base for the restoration of the mountain chicken and mitigation of the impacts of chytrid is established.</p>	<ul style="list-style-type: none"> ▪Research prioritisation exercise to identify key information gaps completed in Year 1. ▪Population estimation methodology developed for mountain chickens 	<p>Estimating population abundance is not an appropriate indicator with current encounter rates. Instead we are using area of occurrence and have trialled the use of automated call recorders to survey new areas. In Dominica, a population with evidence of breeding (juveniles) has been identified but more distributional data is needed from around the island.</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2011 - March 2012	Actions required/planned for next period
	<p>and used to generate estimates for Montserrat and Dominica by mid Year 2.</p> <ul style="list-style-type: none"> ▪Network of chytrid monitoring sites on Montserrat established by the end of Year 1. ▪Database designed and used by Montserrat DOE and project Partners. ▪At least one MSc by a Montserratian student on the environmental dynamics of amphibians as vectors for chytrid on Montserrat 	<p>The remaining indicators are still considered appropriate:</p> <p>Chytrid monitoring has continued at the release site and two control sites. We also continue to monitor the chytrid status of released frogs and surviving frogs</p> <p>Spreadsheet and GIS databases are in use by Montserrat DOE and project Partners</p> <p>The MSc position had to be adapted in Year 1 to a Diploma in Endangered Species Management (DESMAN; Durrell and Kent University). The Project Research Officer completed this in Year 2 and a second DESMAN candidate from DOE identified for Year 3.</p>	
Activity 1.1 Establishment of project basis and staff in Montserrat		Completed Year 1	
Activity 1.2 Research prioritisation exercise		Completed Year 1, but additional research (2 PhDs), mostly beyond the lifetime of this project, were developed and approved in Year 2	
Activity 1.3 Develop, test and implement population estimation method		Implemented as distribution mapping. Individual marking (PIT tagging) will allow mark-recapture estimates if encounter rate increases.	
Activity 1.4 Network of chytrid monitoring sites identified		Completed Year 1; operational through Year 2	
Activity 1.5 Monitoring programme		Operational through year 2: released frogs; surviving frogs; chytrid in other amphibia	
Output 2. Trial re-introduction of mountain chickens into Montserrat completed.	<ul style="list-style-type: none"> ▪Two survey trips completed to identify primary re-introduction site within Montserrat in Year 1 and 2. ▪Presence/absence of chytrid and amphibians at target sites established. ▪Minimum of 100 adult mountain chickens introduced to primary location, targeted for the end of Year 2. ▪Introduced predator control 	<p>Original supposed chytrid-free site rejected Year 1, surveys adapted to candidate sites in Centre Hills and completed in Year 1; used in Year 2</p> <p>Chytrid swabbing is on going; there is a backlog in swab processing but clearing it has started.</p> <p>33 frogs were released in Year 2, bringing the total released to 97. A third release is planned for Year 3. Releases were intensively monitored with radio tracking for the first 3 months then weekly thereafter. Acclimation to native habitat, feeding has been successful and there have been signs of breeding behaviour. Impacts of chytrid are less certain, in part due to delays in swab processing (now improving) in part because surveillance</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2011 - March 2012	Actions required/planned for next period
	<p>programme implemented around release sites at the time of introduction and monitored annually.</p> <ul style="list-style-type: none"> ▪ Early warning monitoring plan for chytrid in the reintroduction site implemented with Montserrat DOE and Volcano Observatory teams. ▪ Lessons learnt from trial reintroduction are documented and communicated by mid Y3. ▪ A post-release frog monitoring scheme implemented and an adaptive management plan completed for the trial reintroduction by end of Year 3. 	<p>beyond radio tracking period is challenging (we are planning to test an alternative radio tracking technique for the third release).</p> <p>Predator control contingency plan in operation but not triggered (predator levels appear much lower at adapted release site than original chytrid-free site)</p> <p>Early warning chytrid monitoring was only applicable when original chytrid-free site was planned, but background chytrid monitoring (in sympatric amphibia) has continued in Year 2</p> <p>These indicators are still considered appropriate but the longer term intensive monitoring of released frogs needs to be strengthened.</p>	
Activity 2.1 Survey trips to candidate introduction sites		Completed Year 1	
Activity 2.2 Development of predator control programmes		Contingency plan in place	
Activity 2.3 Development and approval of plans for trial introduction		Completed Year 1	
Activity 2.4 Reintroduction of mountain chickens		Second release completed in Year 2	
Activity 2.5 Monitoring release success		10 months completed in Year 1. 3 months (and ongoing) Year 2	
Activity 2.6 Adaptive management plan for reintroduction and predator management		For Year 3	
Output 3. Long term restoration strategy for the mountain chicken established and agreed with regional partners.	<ul style="list-style-type: none"> ▪ International/regional re-introduction steering committee established by the end of Year 1. ▪ Use of facilities on Dominica to breed frogs for re-introduction to Montserrat assessed by the end of Year 2. ▪ Draft Restoration strategy prepared by the Steering Committee and agreed with all 	<p>Breeding facility in Dominica is breeding sufficient live food and, as of Year 2, is stocked with mountain chickens sourced from Dominica. It is not currently producing stock. Its ability to do so will be re-assessed in Year 3</p> <p>The restoration strategy currently consists of the strategy behind the reintroduction protocols; the research strategy; and the project communication strategy. These have all been approved by the PSC and will be developed into a longer term restoration strategy in Year 3</p> <p>We have continued to build capacity to plan, implement and monitor frog reintroductions into Montserrat, and to monitor the surviving mountain chicken population and background chytrid levels in sympatric amphibia.</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2011 - March 2012	Actions required/planned for next period
	stakeholders by end Year 1 and continuously evaluated throughout project. ▪Strategy completed by end Year 3 and published ▪Sufficient capacity in place to manage species restoration long term.	We have also built capacity to collect, handle and report on monitoring data. As noted, The Project Research Officer completed a Diploma in Endangered Species Management (Durrell and Kent University) in Year 2. We continue to consider these appropriate indicators.	
Activity 3.1 Formation and meeting of regional steering committee		Completed Year 1	
Activity 3.2 Review of regional captive breeding opportunities		Assessed but will need to be re-assessed in Year 3 as breeding stock were only sourced in Year 2. The European <i>ex situ</i> population was also reviewed in Year 2	
Activity 3.3 Training two Montserratian staff on DESMAN course		Completed by the Project Research Officer in Year 2. A second DOE candidate identified for this course in Year 3	
Activity 3.4 Development of long term restoration plan		For Year 3	
Output 4. The restoration of the mountain chicken is a source of national pride and benefits from long term collaboration between national, regional and international partners.	▪Communication strategy developed for mountain chickens in Montserrat within Year 1. ▪Minimum of 200 posters produced profiling the species and highlighting core conservation areas by the end of Year 1. ▪A calypso on the mountain chicken crisis written and broadcast on Montserrat radio by end Year 1. ▪At least 5 presentations made to local schools during Year 2. ▪Awareness, attitudes and behaviours surveys shows increased understanding of the conservation value of the mountain chicken by Year 3.	The communication strategy was postponed from Year 1 by bringing forward the first release of frogs. It was completed in Year 2 and is being implemented. 200 posters (of 2 designs) were produced in Year 2; available electronically and in press for national distribution in Year 3 As above, postponed from Year 1. But 3 calypsos were written and broadcast on national radio in Year 2 5 presentations to schools were made in Year 2, with associated activities for children delivered as well We continue to consider these appropriate indicators.	

Project summary	Measurable Indicators	Progress and Achievements April 2011 - March 2012	Actions required/planned for next period
Activity 4.1 Communication strategy completed		Completed Year 2	
Activity 4.2 Communications materials produced – posters, calypso		Poster and 3 calypsos produced	
Activity 4.3 Schools presentations		Completed Year 2 with additional associated activities	
Activity 4.4 Behavioural and attitudes surveys and reporting		Baseline completed; repeat due in Year 3	

Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of Verification	Important Assumptions
<p>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.</p>			
<p>Sub-Goal: The probability of long-term survival of the Critically Endangered mountain chicken frog is significantly enhanced on the Caribbean island of Montserrat.</p>	<ul style="list-style-type: none"> ▪Mountain chickens reintroduced to Montserrat establish a self-sustaining population within 5 years of project completion. ▪Management of the mountain chicken restoration plan continues to be led by regional partners through long-term within 3 years of project completion. 	<ul style="list-style-type: none"> ▪CBD national biodiversity strategy reports. ▪Montserrat DOE staff work plans. ▪Scientific literature. ▪Monitoring and evaluation reports 	
<p>Purpose Enabling Montserrat to save the Critically Endangered mountain chicken through a programme of research, re-introduction, strategic planning and awareness-raising.</p>	<ul style="list-style-type: none"> ▪Evidence base documented to support the long term restoration of mountain chickens and the management of chytrid in Montserrat. ▪Long-term species restoration plan agreed. ▪Trial re-introduction of mountain chickens completed. ▪Pride in the conservation of the species among Montserratians increased and public support for the species restoration strategy secured. ▪Regular collaboration between the necessary stakeholders underpins the restoration of the species. 	<ul style="list-style-type: none"> ▪Project annual reports ▪Scientific literature ▪Government ratified management plans ▪Monitoring data from introduced animals collated annually in database ▪Results presented to international bodies ▪International media coverage ▪Project partner website hit count ▪Public awareness survey results 	<ul style="list-style-type: none"> ▪No catastrophic eruptions of the Soufriere volcano during the lifespan of the project prevent safe access to reintroduction site(s) ▪Reintroduction sites remain chytrid free
<p>Output 1. 1. The evidence base for the restoration of the mountain chicken and mitigation of the impacts of chytrid is established.</p>	<ul style="list-style-type: none"> ▪ Research prioritisation exercise to identify key information gaps completed in Yr 1. ▪Population estimation methodology developed for mountain chickens and used to generate estimates for Montserrat and Dominica by mid Year 2. ▪Network of chytrid monitoring sites on Montserrat established by the end of 	<ul style="list-style-type: none"> ▪Minimum of three scientific papers by the end of Year 3. ▪Monitoring manuals produced. ▪Workshop meeting minutes. ▪Project progress reports. ▪IUCN specialist group materials and website. ▪Project partner websites ▪International meeting proceedings or publications 	<ul style="list-style-type: none"> ▪MSc student available to implement studies ▪Sufficient field staff available from Montserrat DOE and Veterinary services.

Project summary	Measurable Indicators	Means of Verification	Important Assumptions
	Year 1. <ul style="list-style-type: none"> ▪Database designed and used by Montserrat DOE and project Partners. ▪At least one MSc by a Montserratian student on the environmental dynamics of amphibians as vectors for chytrid on Montserrat completed by end Year 2. 		
Output 2. Trial re-introduction of mountain chickens into Montserrat completed.	<ul style="list-style-type: none"> ▪ Two survey trips completed to identify primary re-introduction site within Montserrat in Year 1 and 2. ▪Presence/absence of chytrid and amphibians at target sites established. ▪Minimum of 100 adult mountain chickens introduced to primary location, targeted for the end of Year 2. ▪Introduced predator control programme implemented around release sites at the time of introduction and monitored annually. ▪ Early warning monitoring plan for chytrid in the reintroduction site implemented with Montserrat DOE and Volcano Observatory teams. ▪Lessons learnt from trial re-introduction are documented and communicated by mid Y3. ▪A post-release frog monitoring scheme implemented and an adaptive management plan completed for the trial reintroduction by end of Year 3. 	<ul style="list-style-type: none"> ▪Trip reports. ▪Data logger records and recordings. ▪At least two articles peer reviewed scientific publications. ▪Re-introduction plan published. ▪Adaptive management plan. ▪Articles in international print and web media. ▪IUCN specialist group reports. 	<ul style="list-style-type: none"> ▪Strategic partnership established with the Volcano Observatory and maintained during lifespan of project enables helicopter access to volcano exclusion zone in Montserrat. ▪Chytrid-free areas identified in the project remain unaffected by disease. ▪The 50 founder frogs provide sufficient basis for a long term captive breeding programme.
Output 3. Long term restoration strategy for the mountain chicken established and agreed with regional partners.	<ul style="list-style-type: none"> ▪International/regional re-introduction steering committee established by the end of Year 1. ▪Use of facilities on Dominica to breed frogs for re-introduction to Montserrat 	<ul style="list-style-type: none"> ▪Restoration strategy document. ▪Annual progress reports. ▪Steering committee meeting reports ▪Evaluation mission report. 	<ul style="list-style-type: none"> ▪Dominican authorities continue to support the captive facilities for the lifetime of the project. ▪Mountain chickens can be brought to the captive breeding facility.

Project summary	Measurable Indicators	Means of Verification	Important Assumptions
	<p>assessed by the end of Year 2.</p> <ul style="list-style-type: none"> ▪Draft Restoration strategy prepared by the Steering Committee and agreed with all stakeholders by end Year 1 and continuously evaluated throughout project. ▪Strategy completed by end Year 3 and published ▪Sufficient capacity in place to manage species restoration in long term. 	<ul style="list-style-type: none"> ▪Training reports and manuals. ▪Montserrat staff member trained at Durrell and ZSL on captive management of mountain chickens. 	
<p>Output 4. The restoration of the mountain chicken is a source of national pride and benefits from long-term collaboration between national, regional and international partners.</p>	<ul style="list-style-type: none"> ▪Communication strategy developed for mountain chickens in Montserrat within Year 1. ▪Minimum of 200 posters produced profiling the species and highlighting core conservation areas by the end of Year 1. ▪A calypso on the mountain chicken crisis written and broadcast on Montserrat radio by end Year 1. ▪At least 5 presentations made to local schools during Year 2. ▪Awareness, attitudes and behaviours surveys shows increased understanding of the conservation value of the mountain chicken by Year 3. 	<ul style="list-style-type: none"> ▪Posters and pamphlets printed. ▪School visit reports. ▪Awareness survey results. ▪Communications strategy document printed. ▪Media reports, articles and TV transcripts. 	

Annex 3 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

Please note that the following documents will be provided as a separate folder attached to the email containing this report.

- 3.1 Results from Radio-tracking Montserrat Mountain Chickens in 2011
- 3.2 Montserrat, Dominica staff exchange report
- 3.3 Status of mountain chicken ex situ population as of Jan 2012
- 3.4 DESMAN 2012 leaflet
- 3.5 Timetable ISLA Hispanola (English)
- 3.6 Communications Strategy
- 3.7 Project Logo
- 3.8 Mountain Chicken Posters
- 3.9 Montserrat and Dominica Training Log

Checklist for submission

	Check
Is the report less than 5MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Yes
Is your report more than 5MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	No
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	