

Darwin Initiative: Half Year Report

(due 31 October 2013)

Project Ref No	20-003
Project Title	South Georgia Habitat Restoration Project: Mouse Eradication Sub-Project
Country(ies)	South Georgia and the South Sandwich Islands
Lead Organisation	South Georgia Heritage Trust
Collaborator(s)	Government of South Georgia and the South Sandwich Islands (GSGSSI) and Royal Society for the Protection of Birds (RSPB)
Project Leader	Prof. Anthony Martin
Report date and no.	October 2013 HYR1
Project website	www.sght.org

1. Outline progress over the last 6 months (April – Sept) against the agreed baseline timetable for the project.

The Darwin Initiative-funded mouse eradication sub-project is running in parallel with a larger rat eradication project on South Georgia. In preparation for the 2013 fieldwork for both the mouse and rat eradications, Project Director Professor Tony Martin assembled a team of 25 international specialists. The team comprised four pilots, two engineers, three chef/bait loaders, two medical doctors, two documentary film-makers and field staff with expertise ranging from GIS and data management, to meteorology, polar logistics and an intimate knowledge of South Georgia and its wildlife. The RRS *Ernest Shackleton* was chartered from the British Antarctic Survey for four weeks from the beginning of February 2013 to transport the bait, food, helicopters, fuel and the field team to South Georgia to commence the eradication work. Depots of fuel, bait, equipment and food were established around the coast. During depot-laying, weather conditions proved extremely challenging, with blizzards, gale-force winds, low cloud and fog making flying impossible on many days. However, the mouse areas were visited on the ground, and aerially surveyed, in mid-February, with the objective of mapping the precise area to be baited (glacial retreat changes the extent of permanent ice each year) and assessing the number of birds potentially vulnerable to poisoning.

Fortunately the weather turned in our favour in the second week of April. The project team baited the mouse-infested areas of South Georgia from 11-14 April 2013. On 11th April the field team managed to spread 67 loads (24 tonnes) of mouse bait. On April 13th, despite aircraft maintenance holdups, the team completed the baiting of the largest mouse-infested zone (Nuñez Peninsula). The second mouse area (Rosa) was finished on 14th April.

The mouse zones were revisited on 20 May to check the condition and availability of bait, to look for live and dead birds, and to check for obvious mouse sign. The delay in the baiting due to persistent poor weather caused this follow-up visit to occur much later than planned, and consequently laying snow covered most of the terrain. However, sufficient bait was found to show that it had lasted well, and no mouse tracks were seen on the snow. As far as could be ascertained at that time, the bait-spreading operation covered all mouse habitat and bait was available to mice for at least 5 weeks. The initial objectives of this operation have therefore been met. Whether or not every single mouse has consumed bait and perished will not be known until monitoring has been carried out in subsequent seasons.

2a. Give details of any notable problems or unexpected developments that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

Despite allowing a generous amount of contingency time, the eradication team encountered the worst weather in a decade and was forced to change baiting strategy for the mouse-infested land. The original

intention was to spread bait in two identical drops at least 10 days apart, and to cover all land areas within the two mouse zones of Nunez and Cape Rosa. However, by April 6th 2013, it was clear that weather would not allow the existing strategy to be implemented. The Project Director convened a meeting of the pilots and the team's eradication specialists to discuss how best to deal with this situation. They discussed the many issues involved, including research on the SG mice which had become available subsequent to the relevant section of the OP being developed (Richard Cuthbert's work previously funded under the Darwin Initiative). This showed that the mice were apparently at very low densities indeed, and were restricted to a very narrow band of vegetation at low elevations along the coast.

Consensus was reached on a way forward that (a) offered a good chance of being completed in six helicopter-days of baiting (b) concentrated the bait where the mice were known to be, (c) used up all the bait depoted, and (d) avoided dropping bait at low densities. The latter was potentially critically important for the mouse work. Mice have very small home ranges, so the bait has to be spread with NO gaps in coverage whatsoever. The revised strategy was as follows:

- i. One single application at 10 kg/ha with 60% overlap between adjacent swaths (instead of two applications at 8kg/ha 10 days apart).
- ii. One coastal application with deflector at 3 kg/ha.
- iii. Only spread bait over land with scree or vegetation (ie ignore bare rock and ice at high altitudes; this reduced the block area significantly from 5350 to 3070 ha).
- iv. No differentiation in application rates between areas of scree and vegetation.
- v. Cover all steep slopes and cliffs with an additional 5 kg/ha.
- vi. Any remaining bait to be used to supplement coverage of coastal regions - areas of known mouse occurrence.

As it transpired, the weather improved adequately for us to complete the mouse work using this modified strategy, but we could not have completed the original mouse strategy. These changes caused no impact on budget or schedule of activities.

Another unexpected event is that Richard Cuthbert, an invasive eradication expert at RSPB, and the RSPB's main contributor to this project, has left the organisation. The Project Director is discussing with the RSPB whether or not his expertise can be replaced. At present this seems unlikely.

2b. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement? Not yet. The changes to the baiting protocol had to be made in the field with very limited communications with the outside world. We await formal confirmation from RSPB before submitting a change request concerning the monitoring.

Discussed with LTS: Yes/No

Formal change request submitted: Yes/No

Received confirmation of change acceptance Yes/No

3a. Do you expect to have any significant (eg more than £5,000) underspend in your budget for this year? Yes No

3b. If yes, and you wish to request a carryforward of funds, this should be done as soon as possible through the formal Change Request process.

Estimated carryforward request: £0

4. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?

No