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Issue 1
March 2017

Island Restoration News: Gough & Henderson



Welcome

Welcome to the first edition of the RSPB's Island Restoration News: This newsletter will provide information on our work with the Government of the Pitcairn Islands, Tristan da Cunha Island Council and DEFRA to restore two threatened World Heritage Sites and prevent the extinction of British species.

Separated by thousands of miles of ocean, Gough and Henderson are united with their designation as World Heritage Sites. They are both globally important seabird nesting sites. However, all is not well on these islands. Both are severely impacted by invasive non-native species. On Henderson, the problem is the introduced Pacific rat *Rattus exulans* while on Gough, the threat is from two species, the introduced house mouse *Mus musculus* and a non-native plant, *Sagina procumbens*.

Gough Island

Part of the Tristan da Cunha UK Overseas Territory, Gough Island is recognised by UNESCO as one of the world's most important seabird nesting sites.

House mice were introduced to the island in the late 19th century. They have since spread across Gough and

are now known to be contributing to the decline of the Critically Endangered Tristan albatross, the Critically Endangered Gough bunting and severely reducing the breeding success of all species of seabirds.

Sagina is a more recent introduction. This species arrived on Gough during the early 1990's. Since that time, it has spread very little but threatens the vast currently undisturbed uplands of the island if nothing is done.

Henderson Island

Some readers may have followed our efforts to restore Henderson Island. The RSPB, in partnership with the Government of the Pitcairn Islands, mounted a rat eradication project during September 2011. If successful, the operation would have reversed the decline of the Henderson petrel (see image below for a Henderson petrel chick) and led to the recovery of the wildlife native to this oceanic island. Today, we know that the 2011 attempt failed to achieve its goal.

Through a meticulous review process, we are very confident that the operation was carried out to an exacting standard. We may never know the cause of failure but we can speculate that environmental conditions may have played a role.

Henderson Island is located in the subtropical climatic zone and presents challenges that are unique to this zone.

What we also know for certain is that if we do not overcome the causes of failure, the island will remain degraded and the Henderson petrel will continue its slow path towards extinction.

Telling our story

This newsletter marks bringing these two endeavours together in the public domain. Delivery of these complex restoration programmes is not yet guaranteed. We have a lot of work to do. Key tasks include securing the funding needed to work in such remote areas, preparing all the logistics for the proposed operations and, for Henderson, understanding the feasibility of a second attempt before we go operational once again.

Through the various issues of this newsletter, we will aim to help readers understand the twists and turns that we must overcome along the way. While we are aiming to keep you informed, we may also need your help. From time to time, we may ask your support for these projects to help us deliver these globally important conservation efforts.

Our partners



The restoration of Gough Island gains momentum

Thanks to a contribution from DEFRA, the Gough Island Restoration Programme receives a much needed boost.

Defra announced in December that the UK government will provide £1.75 million towards the Gough Island Restoration Programme. This contribution will help save the last two British breeding bird species still designated as Critically Endangered on the IUCN Red List of Threatened Species, and to simultaneously restore the UK natural World Heritage Site of Gough Island.

This news builds on a separate announcement by the IUCN that two other British bird species are no longer 'Critically Endangered'. This would not have been possible without the successful conservation projects carried out by partners, the RSPB and backed by Defra to save the Montserrat oriole and the St Helena plover from extinction. The focus now is to remove all British birds from the 'Critically Endangered' list.

Ian Lavarello, Tristan da Cunha Chief Islander said in a statement: *'The entire community of Tristan da Cunha is delighted that the UK government will support us to save these wonderful species from extinction and restore Gough Island World Heritage Site. Our small but thriving community is proud to act as custodians for this site of global importance but faced with such a challenging conservation effort, we could not act without the help of the government and the RSPB.'*

Clare Stringer, Head of International Species Recovery at the RSPB said: *The RSPB welcomes this vital contribution from DEFRA. Gough Island is a truly wonderful place and home to Critically Endangered species. If we can raise the full £7.6m we will be able to safeguard this site and save the last two Critically Endangered British bird species from extinction.*



Gough Island is home to the only British birds that are still classed as Critically Endangered, the Tristan albatross and Gough bunting. Success restoring Gough Island will allow the populations of these two species to recover. The UK governments most recent contribution of £1.75 million has made a significant contribution to achieving this goal.

Our vision for restoring Gough Island

There will be no extinctions on Gough Island; the World Heritage Site will be restored and protected; and both seabird and landbird numbers will recover.

No island restoration programme can be complete without a vision for everyone involved to work towards. For Gough Island, our vision involves saving species from extinction, restoring a World Heritage Site and allowing the birdlife and other species on the island to recover.

Our proposed operation to restore Gough Island is one of the most urgent but also ambitious island restoration projects in the world. We will learn from other similar projects and follow best practice techniques developed in New Zealand. We will work with experts in the field, such as the Island Eradications Advisory

Group, to ensure independent oversight of our developing plans and maximise our potential for a successful outcome.

We will target mice during the winter, when the population is at its lowest with no breeding and less naturally available food to compete with the bait. We will deliver our project to eradicate *Sagina* over a number of years and adapt to what we learn along the way.

In delivering this vision and outline plan, we will restore Gough Island and save these species for the enjoyment of future generations to come.



MacGillivray's prion listed as Endangered by IUCN

The MacGillivray's prion has been listed by the IUCN as Endangered owing to its incredibly low breeding success.

With the most recent update of the IUCN Red List during December 2016, we now have another globally threatened species on Gough, the MacGillivray's prion (*Pachyptila macgillivrayi*). This species has been recognised as a full species, and assigned an IUCN Red List status of Endangered. This brings the number of globally threatened bird species on Gough to eight.

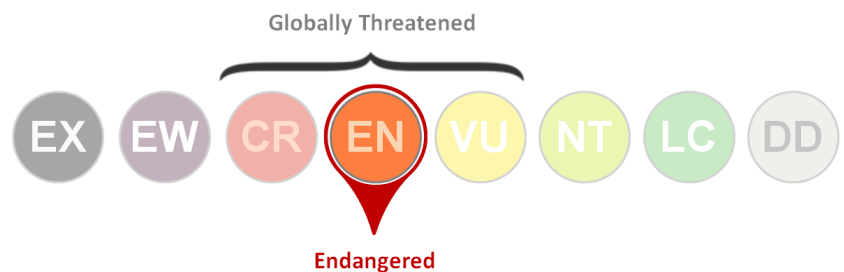


Before 2013, the MacGillivray's prion was only previously known from outside of Tristan da Cunha. However, research has shown how important Gough is for this seabird. Gough holds >99% of the global population (likely hundreds of thousands), with perhaps only as few as 250 individuals on St. Paul in the Indian Ocean).

MacGillivray's prions breed in burrows and caves during the summer, and are affected by introduced mice.

Research conducted by the Percy Fitzpatrick Institute at the University of Cape Town and the RSPB estimated breeding success of 15% in 2013-14,

but 0% in both 2014-15 and 2015-16. Eradicating mice from Gough should lead to a recovery of the breeding success of this species.



First Tristan albatross chicks hatch for 2017

March is an exciting time of year on Gough Island, with the first of the 2017 Tristan albatross chicks hatching.

During the programme, we hope to place a team of biologists on Gough. Arriving in early September each year, the teams will live and work with the overwintering South African Weather Service Team. They will remain on island until their replacement team relieves them the following September.

This year we have Emma Witcutt and David Kinchin-Smith on island. Emma and David have been busy monitoring seabirds, collecting data on breeding success of nesting species and carrying out *Sagina* control.

Emma and David recently reported the first hatchings of Tristan albatross chicks for 2017. Tristan albatross make wonderful parents. Over the last two months, the parents have taken it

in turns to incubate their large white eggs. Now hatched, the chick will be brooded for the next few weeks and then guarded until it is large enough to defend itself against native avian predators while the parents go out to sea to feed. In total it will take these chicks up to nine months to fledge.

Sadly, we already know that many of these chicks will not survive to fledge their nests. Lacking a defence, the chicks have not evolved a defence against mice. We know that a successful eradication operation will save future generations of Tristan albatross.

You can follow the team through their blog:
goughconservation.blogspot.co.uk



Planning continues during 2017

Preparing to restore Gough Island will take detailed planning and preparation. During 2017, we will continue this work both on and off island.

Restoring Gough Island will require a level of detailed planning not usually required for conservation projects. Tristan da Cunha, DEFRA and the RSPB are set for the challenges ahead. All organisations are aware that this endeavour will require rigorous planning and working through any issues we encounter along the way.

Planning for the mouse eradication

A great deal of effort has already gone into preparing for the mouse eradication operation. We are aiming to carry out an operation during the Southern hemisphere winter of 2019. To succeed, we need helicopters; bait; vessel; the best people; an incredibly long inventory of equipment, tools; temporary structures and various pieces of kit. The isolation of Gough in the middle of the South Atlantic Ocean means that there is little margin for error. If something is forgotten or misplaced, there is no Gough store to rely on.

To help our planning efforts, we recruited Keith Springer, a leading island restoration expert, as an Operational Advisor during the development phase of the programme. Now that we are building towards implementation, we hope to recruit an Operational Manager early in 2017 to help us hone our plans further and work towards implementation.

Sagina rapid response

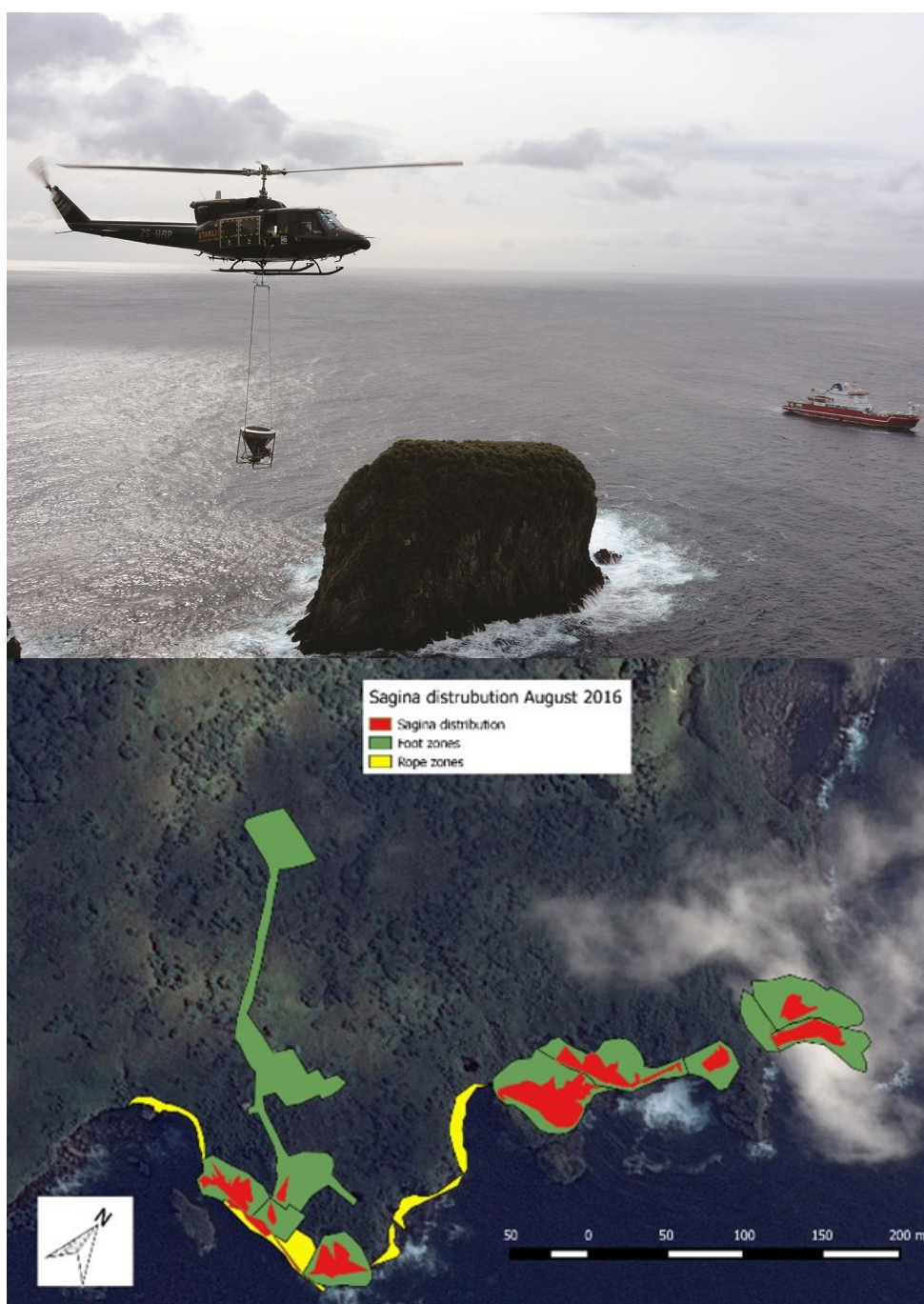
Sagina was detected on Gough for the first time in 1998 and was thought to have come onto the island through contaminated footwear or cargo. A native to the Northern Hemisphere and parts of South America it is a prolific invasive species on sub-Antarctic islands.

On Gough, the distribution is restricted to a stretch of coastline by strict containment measures, dense

vegetation and a few dedicated field assistants who work on this ambitious project.

Work is divided into foot accessible areas and zones that require rope access. Foot areas are visited once a month, while rope areas are visited every three months. Plants found are treated with herbicides from hand sprayers and plant locations marked

with blue dye contained in the herbicide. Plant coverage and herbicide applications are recorded in a database to track progress. This information is combined with GPS mapping data to give a comprehensive picture of the distribution of the plant and the efforts to eradicate it. The eradication effort will be reviewed during 2017.



Research underpinning restoration of Henderson Island

Our commitment and resolve to restore Henderson Island remains. We have some challenges to overcome but we are determined to find the solutions needed.

Followers of the Henderson Island story may know that, compared to temperate environments, there are a number of additional challenges that must be overcome when eradicating rodents from islands in tropical and sub-tropical climates.

These challenges have only recently become known to the island restoration community at large. This is down to the fact that most island restoration projects have been carried out in temperate environments. As more islands are attempted in warmer climates, the true nature of the challenge can be understood and eradication design tweaked accordingly. Solutions are now being designed and tested in the most recent projects.

The RSPB and the Government of the Pitcairn Islands remain committed to seeing Henderson restored. Our strategy has evolved. Through our extensive research programme and by working with Cambridge University, we now know the 2011 operation was tantalisingly close to success. A rather

complex genetic analysis and computer model assessed the size of the surviving population. Between 60-80 individual rats survived.

Why did these rats survive?

The honest answer is, we will never know with 100% certainty. Some theories do exist. Following independent review, we have ruled out operational failure as a cause. The prevailing weather pattern during 2011 may have played a role. Competition for bait is also a possibility or the indication that (under laboratory conditions only) some rodents on Henderson may have a preference for coconut over bait.

These issues need to be addressed and understood before we can proceed with a second operation. During 2017, the RSPB will commission an independent eradication expert or experts to review the existing feasibility assessment, update this document, develop recommendations for us to consider and provide a road map of how we

should approach a second attempt to restore this wonderful but fragile World Heritage Site. We will bring you news on the outcome of this revised assessment once it becomes available.

Our work to restore Henderson Island World Heritage Site will continue. We will bring you updates of the many twists and turns we encounter along the way through this newsletter.



Our vision for restoring Henderson Island

Rats will be eradicated from Henderson Island, breeding seabirds numbers will increase and the biodiversity at this World Heritage Site will recover.

Henderson Island holds the potential to be recognised as a one of the Pacific Oceans most important seabird nesting islands. Our vision for Henderson sees this World Heritage Site restored, that the Henderson petrel population breeding success and population will recover, and all species impacted by rats will begin to recover.

Achieving this vision has indeed been complicated by the failed attempt. However, we must persevere. Henderson Island is one of the largest and least disturbed raised atolls in the world. It should be a safe haven for

nesting seabirds and endemic flora and fauna if rats are one day removed.

To achieve our vision, we will hark back to the RSPB's evidenced based conservation principles. We must hone our understanding of rodent ecology on Henderson Island, review the feasibility assessment and develop a plan accordingly.

One day, rats will be eradicated from Henderson Island. It is our job to ensure that happens sooner rather than later but also that we have maximised the chances of success.



Outcome of the 2015 expedition to Henderson Island

2015 was an exciting year for the Henderson Island effort. A significant quantity of data was collected allowing scientists to crunch the numbers all during 2016.

This was one of the most ambitious research expeditions the RSPB has mounted. As part of the expedition, fieldwork was carried out from May until November 2015. It was designed to address issues raised following the eradication attempt in 2011. The endeavour has vastly improved our knowledge of the ecology and wildlife of one of the remotest UK Overseas Territories.

What have we learned?

We have significantly increased our knowledge about the island's ecology, the ecology of the rodent population, the population status of the four endemic landbirds and gathered more data on the passing seasons.

Some of the lessons can be applied to any future operation but will require additional work that must be planned and budgeted for during any operation. We also collected data to suggest the operational window for any proposed baiting project starts earlier in the year than previously known. Based on the data collected

during 2015, an eradication operation in late July - August would appear to have the greatest probability of success.

The team also took advantage of their time on Henderson to undertake several secondary studies, including tracking seabirds, counting plastic debris on East Beach, and surveys of the island's reptiles.

What are the next steps?

The analysis of all the data collated during the expedition is nearing completion. We are aiming to publish much of this information in scientific journals and share our findings with the wider community.

We will soon commission an update to the existing feasibility study. Once the new feasibility study has been completed, we foresee the need for another expedition to Henderson Island. At this stage, it is not anticipated that this would be as lengthy as the one in 2015. Perhaps half the duration. This will be designed to address all of the



The expedition team examined the breeding biology of the endemic Henderson petrel in more detail than any previous study.

The team also examined if the extent of rat predation has changed since 1991. In total, the team found 25 nests and five large fledglings. These had a slightly higher nest success than previously observed, providing some reassurance that if we are unable to successfully eradicate rats within the next few years, the species is unlikely to become extinct. We have some time to perfect our eradication strategy.

Island Invasives 2017

An exciting conference focusing on the management of invasive species on islands will be held in Dundee, Scotland from Monday 10 July – Friday 14 July, 2017

Hosted by the University of Dundee and the South Georgia Heritage Trust, and supported by the RSPB, this will be a long-overdue gathering of the island invasives clan. It will build on the great success of the previous meetings held in Auckland, New Zealand, allow greater participation of people from Europe and North America, and bring together experts, funders and those keen to gather knowledge about invasive species. This will be an opportunity to share knowledge, and to be inspired by what has been achieved by passionate and dedicated conservationists around the world.

You can find out more and how to register to attend this exciting conference through the website:

www.islandinvasives2017.com/

Early bird registration is open until the 30 April 2017.



Acknowledgements

The work to restore both Gough and Henderson islands would not be possible without the support of many organisations and individuals.

The Darwin Plus Initiative, David and Lucile Packard Foundation, Farrallan Islands Foundation, British Birds, Susan Orr, Peter Harrison and the many other donors that have supported our work to restore these two wonderful World Heritage Sites and prevent the extinction of species.

How you can help

Gough donations

If you would like to donate to the **Gough Island Restoration Programme**, you can use the following link.

- <http://tinyurl.com/zvjm9y3>

Or search online for:

Gough Island Donation RSPB

Then follow the RSPB links. Please do not donate through any third party website that is not connected to the RSPB. If in doubt, please contact John Kelly for more information.

Henderson donations

If you would like to donate to the **Henderson Island Restoration Programme**, you can use the following link.

- <http://tinyurl.com/h9pko53>

Or search online for:

Henderson Island Donation RSPB

Then follow the RSPB links. Please do not donate through any third party website that is not connected to the RSPB. If in doubt, please contact John Kelly for more information.

Postal donations

Alternatively, donations by cheque or postal order, payable to the RSPB, can be sent to:

John Kelly

The RSPB,
The Lodge,
Sandy SG19 2DL,
United Kingdom

Please also include a short note identifying which programme you want to support and your address so we can acknowledge receipt of your donation.

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