

# Henderson Island News

October 2015



Steffen Oppel (RSPB)

The Henderson fruitdove is one of the endemic landbirds found on Henderson Island

## Phase 1 complete

Henderson Island is a 4,600 ha raised coralline atoll located in the South Pacific. Part of the Pitcairn Island, UK Overseas Territory, the island is home to over 50 endemic species. The island sits roughly 35 m above sea level with no human settlement, infrastructure and none of the 'necessities' of modern life.

Henderson Island is one of the last remaining examples of this type of habitat in the world not yet destroyed by development or other human activity. Still, Henderson's unique biodiversity is currently under threat due to the presence of introduced Pacific rats. Rats are negatively affecting many native species on Henderson Island. Following the failed eradication attempt in 2011, more research is needed to ensure that an operation is indeed feasible before we can begin planning and fundraising. In May of this year, the RSPB mounted a six-month expedition to Henderson Island. Divided into two phases, the first team have now returned home and the second team have just started their work on Henderson.

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Working together to give nature a home



the David & Lucile Packard  
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## Expedition to Henderson Island

On 22 May 2015, the Phase 1 team of the RSPB's expedition arrived on Henderson. During the first three months, the team witnessed some exciting changes in the natural environment of this World Heritage Site. Major rain fronts came and went; Murphy's petrels came to breed, hatched chicks, and lost all of them to rats; and for reasons we do not yet understand, rat numbers skyrocketed in July and plummeted in early August. The only thing that did not seem to change very much was the vegetation.

### The Phase 1 team

Readers of the previous *Henderson Island News* will already know that the RSPB assembled a truly multinational team of experts and budding scientists to deliver this expedition:

**Steffen Oppel:** team leader

**Jennifer Lavers:** marine biologist

**Lorna Mackinnon:** botanist

**Angus Donaldson:** research assistant

**Alice Forrest:** research assistant

**Sue O'Keefe:** camp and field assistant

**Pawl Warren:** camp and field assistant.

### Getting to Henderson

Travelling to Henderson Island takes time and a great deal of planning. The five research scientists made their way to Henderson Island via French Polynesia from different corners of the globe in time for the boat's departure. The team also visited Pitcairn Island on their way to get their passports stamped, take some time to explore this other gem in the Pacific and to pick up Sue and Pawl, the two local members of the team.

The boat left Pitcairn and travelled overnight to Henderson. Upon arrival, they didn't have much time to get to know the island they would call home for the next three months. First off, all food, camping supplies, scientific equipment and all other essential pieces of kit required offloading from the vessel onto a small inflatable craft and then ferried across the reef onto Henderson. The work didn't stop there as supplies needed to be pulled or carried up the soft sand to the camp located in a sheltered spot behind the beach. The whole process took time and a great deal of effort.

### Camp life

Some of the highlights of living and working on Henderson came from the camaraderie that the team showed for one another. Other highlights came from the natural world. Henderson is a truly amazing place. There were ample beautiful sunsets, stary nights, close encounters with seabirds and the endemic landbirds, and sightings of turtles, sharks and humpback whales.

Of course, living on an island for any appreciable length of time brings its own unique challenges. Access to fresh water is one such example. The team carried 3000 litres of fresh water up the beach, but this amount would not have lasted for 3 months. Unfortunately, one key piece of kit went missing in transit. The desalination unit. This took over 50 days to make its way from the USA to New Zealand and missed the boat by a wide margin. Because Henderson Island has no surface water, and freshwater is essential for survival, the team constructed two large rainwater catching systems. The first three weeks saw little in the way of rain, and the steadily dropping water supplies made the entire team nervous. It wasn't long however before the rains came. The intensity of the 2015 El Nino resulted in above average rainfall on Henderson during the expedition. One rainfall event flooded the camp and had the whole team digging up drainage ditches, but overall they were very happy to have the water tanks full to the brim with enough left over to enjoy a shower.

All food supplies had to be onboard the vessel. This took a lot of advance planning and coordination to ensure there was enough to go around and that the food was suitable. Sometimes things don't go to plan. Owing to a mix-up during the food ordering, the team on island, made up of mostly vegetarians, found an inordinate amount of tinned chicken - two enormous barrels full. Overall, the team back at the RSPB headquarters were pleased that all essential items made it to the island and the team had all the provisions they needed.

Once the camp was set up and the boat departed, it was time to start the work to better understand the ecology of this remote and rarely visited island.



The scientific research team on Pitcairn Island

Steffen Oppel (RSPB)



Unloading the vessel



The rainwater system

RSPB



A tagged Pacific rat eating *Pandanus*

Steffen Oppel (RSPB)

## The ecology of rats on Henderson

### Background

At the RSPB, our conservation efforts are underpinned by evidence collected through research. Sometimes evidence takes years to identify a solution for a conservation problem, but this approach ensures that once a solution has been identified, the outcomes are sustainable with a lasting benefit for nature. Our work on Henderson Island is an exemplar of this.

Henderson Island has been the subject of a small number of research expeditions with RSPB staff playing a leading role. The largest of these expeditions dates back to 1991 - 92. In addition to the research expeditions, the failed eradication attempt had the benefit of adding to the scientific communities' knowledge about this conservation technique on tropical islands. However, we now know we have some challenges to overcome before we can deem the restoration of Henderson Island feasible for a second attempt. Further developing our knowledge about the ecology of rats on Henderson Island is critical for the future design of an eradication programme.

### Impact of rats on Henderson Island

Rats, a legacy of the Polynesian colonization several hundred years ago, are not native to Henderson Island. Without human intervention, they would never have colonised this island. It is believed the Polynesians kept rats as a source of protein which resulted in the widespread distribution of this invasive species throughout the Pacific.

Henderson Island is the only known nesting site for the Henderson petrel. Because rat predation greatly reduces their chance to raise offspring, this species is recognised as Endangered by BirdLife International and the International Union for Conservation of Nature. Eradication of the rats is key to restoring the population of the endemic Henderson petrel. Other petrel species are also badly affected, with the Murphy's petrel losing all chicks in less than five days of hatching.

### Goal of this expedition

A key goal of this expedition is to get a better understanding of the density and movement ranges of rats on the island. To achieve this, the team cut several trails, deployed 250 rat traps across these, and started catching rats and marking them with numbered ear tags. Frequent recapture of individually identifiable rats will provide information on movement ranges and survival rates.

### The research

Handling and monitoring rats became an everyday task. The rats were tagged and released to be captured at a later date, giving us data on their movements through the forest. This is the largest study of its kind ever planned for Henderson Island. Previous attempts involved radio tracking rats but these efforts were complicated by the dense vegetation. Unfortunately, the rat population has already recovered since the 2011 eradication attempt and the rat densities were as high as before the eradication, with about 50 rats per hectare of forest. The team captured and tagged a number of individual rats and has recorded some long movements of rats across the island.

Highlights to date from this work include recording the longest movement by a rat of 730 m in a single day from one trap to another, and a cumulative total distance of 3 miles (5 km) over 2 months. This vastly exceeds previous information obtained by radio-tracking in 2013. Some rats caught near the camp site had apparently survived since 2013, as the team found rats with ear tags from previous expeditions. Individual rats displayed how clever they can be. Some learned how to beat the traps, steal the coconut bait, and somehow open the door and escape.

The data from the first phase of this expedition have informed the second phase. Bigger and stronger traps were deployed in early September, and as a consequence the team is now catching more and bigger rats. Once the second phase is complete, a full analysis will be undertaken, informing our next actions.



Steffen Oppel after catching a Pacific rat

Jennifer Lavers (RSPB)



Rats were tagged with unique tags

Steffen Oppel (RSPB)



RSPB

Tagging a petrel with a GPS logger to track its foraging range



Jennifer Lavers (RSPB)

Two Henderson petrels climbing a tree before taking off



Jennifer Lavers (RSPB)

Pair of Henderson Petrels at their nest

## Increasing our knowledge of petrel biology

### Investigating growth and survival rates of Henderson petrel chicks

Henderson petrels nest in the dense forest in the interior of the island. As a species adapted to travel thousands of miles across the open ocean, petrels are not nimble tree-climbers. Yet, to take off from the forest, they need to scramble to the top of trees or bushes, which they do amazingly well using their hooked bill.

The chicks hatch at a mass of just 60 grammes (about the same weight as a chicken egg). Adapted to island life where native mammalian predators do not exist, the chicks are left alone by their parents at the age of just two days. The parents will return intermittently every day or two and feed the chick for about 10 to 20 minutes. Some chicks can double their body mass overnight if they happen to have been fed by both parents. At 5 to 10 days old, chicks are a fluffy ball of fat. After 2–3 weeks they become increasingly stronger and violently object to being picked up and measured.

The RSPB team installed motion-sensor cameras at several nests to document the nest attendance pattern of Henderson petrels for the first time, and to record the gruesome predation events. While the team did observe some Henderson petrel chicks fledge, sadly the typical chain of events is that an adult feeds its chick multiple times, and soon after the adult has left to gather more food at sea, a rat enters the nest and kills the helpless chick with a bite into the neck. What surprised our team most was that some rats seem to kill the chicks without even eating them.

How the petrel populations on Henderson Island are maintained given the ubiquitous rat predation is somewhat mysterious. Historic populations must have been many times larger than those of today, and with rats on this island, the Henderson petrel appears to be heading towards extinction, slowly but certainly.

### Investigating the amazing journey of the Murphy's petrel

The Murphy's petrel breeds on several South Pacific islands. Henderson Island supports a small population of about 2000 pairs. The Murphy's petrels nest near the beach and all started laying eggs in early June. Sadly, the efforts to raise chicks routinely failed due to rat predation. The species is far more docile than the feisty Henderson petrel, which is not particularly helpful to fend off rats or crabs. This does, however, make the species very easy to work with.

In July, the RSPB team attached small GPS loggers to the tail feathers of breeding birds to track their foraging movements during incubation. Previous work by Thomas Clay, Richard Phillips, and Mike Brooke from the Cambridge University Zoology Department had indicated that these birds undertake very long foraging trips during incubation. During this study, novel technology allowed us to track these movements with greater precision.

All deployed loggers were successfully retrieved, one bird spent 34 days incubating its egg and never left to go foraging at sea, but most other birds undertook foraging trips ranging from 10 days to four weeks.

While the data still need to be analysed in detail, and will be published in due course, the first impression of the foraging trips is nothing short of spectacular. Half of the tracked birds undertook enormous journeys throughout the eastern tropical Pacific and travelled more than 7,000 miles (12,000 km) in a single foraging trip!

These foraging trips are longer than comparable trips by albatrosses or other petrels. Thomas Clay, a PhD student with the British Antarctic Survey, will use these and the earlier tracking data to figure out what resources may compel Murphy's petrels to travel such huge distances.

## The plant life of Henderson Island

At first sight, Henderson Island looks like a gently undulating plateau covered in a layer of fuzzy, green vegetation. In reality, it is in fact a gently undulating plateau covered in trees, shrubs, vines, thorns, jagged *Pandanus* leaves and random outcrops of razor-sharp coral.

Before I left the UK for my Henderson odyssey, the team at the RSPB headquarters warned me about the dense impenetrable vegetation that would hamper my research work. Initially, after hearing about this obstacle, I thought to myself "there's no such thing as impenetrable to a botanist". This I still maintain, with a slight modification; there's no such thing as impenetrable to a team of botanists. Unfortunately, being the sole botanist, and the rest of the team being largely unavailable due to their own research commitments, my collecting and surveying was mostly restricted to the more established trail network which was still in existence after the 2011 expedition.

With the opportunity for botanical work limited to the path network, I needed to occupy my time with other vital research work. Luckily, there was no shortage of work to go around. I got involved in some of the landbird point count surveys. This is pretty much what it sounds like - standing at a defined point counting birds based on their calls and sightings.

As an ever-keen botanist, I used this opportunity to carry out some vegetation surveys. My method involved using a tape measure to measure the distance to the nearest tree. This helps to give an indication of the density of the forest at that point. I also estimated the canopy cover and assessed species composition. Adding all this data gives an overview of the habitat at each point. While sounding very simple to execute, the work involved much tripping over, untangling of, and swearing at the measuring tape, which had the infuriating habit of unhooking itself from whatever it was attached to just as I reached the far end and had to thrash my way back to re-attach it.

Other bird work included monitoring the Henderson petrel nests that we found alongside the trails. When the chicks

hatched they were weighed regularly to chart their growth. This was quite pleasing for the first few weeks while the chicks were still relatively amiable balls of grey fluff but they became increasingly feisty as they grew, definitely an advantage against the rats but leaving scientists with nipped fingers and bruised shins.

When I did undertake botanical surveys, leaving the birds alone, they sometimes seemed happy to come along! Often I could carry on with my botanical surveying and collecting with a companionable rail beside me. On one occasion, being caught in a sharp downpour, I took shelter under some dense *Cyclophyllum* bushes to find they were occupied by a rail with the same idea; I gave him a friendly nod, he said, "wurp", and we sat and watched the rain together until it eased off.

Towards the end of the expedition I got involved in the 'rat capture-mark-recapture' study to assess home range and population size. In addition to a surfeit of rat poo, which one can expect in work involving this species, and the occasional wily escape, we also had to contend with the perambulatory tin-openers which are found all over Henderson Island, otherwise known as hermit crabs. The crabs were also quite partial to the coconut bait used in the traps.

Despite the hurdles that working on Henderson will throw at any scientist, the botanical research has been a success. More work is required to sort and categorise the samples brought back to the UK. The botanical collections from this expedition number over one hundred. This will keep me busy processing and identifying them in the herbarium of the Royal Botanic Garden Edinburgh. At this point, I can't say if there are any new species previously unknown to Henderson, but I am hopeful! At the time of collecting there were a handful of specimens which I was unable to identify as being previously known from the island, there may at least be some new species!

**Lorna Mackinnon**



Lorna Mackinnon, the team botanist, exploring Henderson Island

Steffen Oppel (RSPB)



Henderson petrel chick

Jennifer Lavers (RSPB)



The landcrabs on Henderson Island

Jennifer Lavers (RSPB)



Steffen Oppel and Alice Forrest studying a Henderson rail

Jennifer Lavers (RSPB)

## Henderson landbirds

Henderson Island is home to four endemic landbirds. The Henderson rail, Henderson fruit dove, Henderson lorikeet and the Henderson reed warbler. These species are found nowhere else on earth.

### Population monitoring

Our team began monitoring these species to assess whether populations have changed in the four years since the rat eradication attempt. The landbird counts were very encouraging, with healthy numbers of all four species. The most encouraging trend was that the team recorded more of the endemic Henderson rail across the island than in 2013. The species declined considerably following the bait drop in 2011, but current data suggest that the population has almost fully recovered.

### Henderson rail feeding trials

The decline of the Henderson rail during the 2011 eradication attempt was also the focus of another piece of research. The rails may have consumed the green poison pellets spread across the island to kill rats, possibly because wet green pellets resemble some juicy caterpillars that the rails like to eat. One goal of the expedition was therefore to test whether the rails would eat fewer pellets if they had a different colour.

These rail feeding trials required the team to first catch enough birds in the forest. The Henderson rail, although being flightless, is an agile runner that ducks and weaves through the densest scrub. Catching them required finesse and determination: the team stalked through the forest carrying a small mistnet and chased any unsuspecting birds into the net; this often resulted in two of the team getting hopelessly entangled in the dense undergrowth. Despite bruises and various escapes, the team managed to get 22 Henderson rails to participate in the feeding trials.

During the trials the rails were maintained in small aviaries where they received daily rations of normal food. Over five days they also received either blue or green pellets



The endemic Henderson lorikeet

Jennifer Lavers (RSPB)



The endemic Henderson fruitdove

Jennifer Lavers (RSPB)



Steffen Oppel (RSPB)

The team collected plastic along a transect on East Beach.

## Plastic in paradise

Henderson is one of the remotest places on the planet, yet the sight of large quantities of plastic rubbish on the beach deeply saddened our team.

Prevailing winds and currents wash up the discarded plastics and fishing paraphernalia onto this remote island. The east beach of Henderson Island resembled a small town's rubbish dump rather than the pristine sands it should be. The tragic consequence of this rubbish problem was brought home to us in the form of a sea turtle which washed up dead on the beach entangled in fishing lines cut to the bone.

### Counting plastic waste

RSPB scientists never let a bad situation get them down. With the marine pollution biologist, Dr Jennifer Lavers ([jenniferlavers.org](http://jenniferlavers.org)) on our team, they used their spare time to count this plastic and begin to quantify the scale of the problem.

Establishing transects on the beach, they began to systematically sieve the sand and catalogue the rubbish. This ranged from the tiniest pieces to the larger buoys and fishing nets. All of the rubbish found were sorted by type and origin. Once the analysis is completed, this may provide information on the source of the problem, and hopefully, possible solutions.

Some everyday items were found washed up on the beaches. Dozens of toothbrushes, hair combs, hundreds of cigarette lighters, bottles from as far away as Scotland (Famous Grouse whisky), two toy tea cups, numerous toy car tyres, and a kids water pistol.

Fishing also provided the opportunity to study stomach contents of previously unsampled fish species. The team immediately examined fish caught for food to see whether they contained plastic.

### A big problem...

The team found that the plastic problem on Henderson is far higher than they first expected. At densities of up to 800 pieces per square metre, Henderson has some of the highest densities of any beach in the world.

Looking at the guts of fish off the coast of Henderson identified that plastic is getting into the food chain. From tiny fragments of toys to larger items. The impact this is having is not yet understood.

This work will be published in a peer reviewed journal over the coming months.

### ... but just scratching the surface

Some readers may be surprised that our plastic waste has reached this isolated island. Sadly, this is not a problem isolated to the remote beaches of the Pacific Ocean but a global problem. When plastics enter the marine environment, they slowly break into smaller and smaller pieces due to wave and wind action. These pieces are carried far and wide across our oceans. More and more, scientists are beginning to understand that marine life ingest pieces of plastic, mistaking our discarded waste for food. For example, at Midway atoll, where nearly two million Laysan albatrosses live, researchers have come to the staggering conclusion that every single one contains some quantity of plastic. Globally, the number of birds, fish species and other fauna affected and the population impacts for species of ingesting plastics are unknown.

The message to all our readers is clear: *'reduce, reuse and recycle'* your waste. Make sure you dispose of your waste in an environmentally-friendly way. If we all act, we can start to stem the flow of plastic entering our oceans. For more information, see the BirdLife International website on Marine Litter:

- <http://www.birdlife.org/europe-and-central-asia/news/reversing-tide-marine-litter>



Steffen Oppel (RSPB)

Sorting and counting all the plastic was painstaking work



Steffen Oppel (RSPB)

The litter on East Beach



Jennifer Lavers (RSPB)

## The voyage home

It was bittersweet for the team when the ship returned after just over 100 days of isolation to carry them back to society. Before the team could return home, they had to deal with an unexpected delay. The vessel scheduled to pick them up and drop off the replacement team developed a mechanical fault and had to return to its home port in New Zealand. The crew on board worked hard to return the boat safely to port and to repair it as fast as possible. Off island, the RSPB support crew in the UK reworked the travel arrangements for both the homeward and outward bound teams.

This unexpected event may have been most stressful for the team on island. The lack of internet access, the time difference between the UK and Henderson Island and with limited ability to communicate with the outside world via satellite phone, all culminated in a sense of uncertainty about the schedule. The team had a tense couple of days not knowing when they were going to be reunited with their loved ones. In the end, the boat made it to Henderson after just a seven day delay. Both teams had two days together to handover the research plan and brief the new team about island life.

### Highlights from Lorna Mackinnon

As a botanist searching for a deeper understanding of the ecology of Henderson Island and on the look out for something new, I fell in love with the north-east point of the island. The opportunity to access one of the less-visited areas of the island, without trails is one I will remember for years to come. Here I found a change in the terrain and vegetation which was both interesting and refreshing.

Despite witnessing firsthand the mess that humanity can make of our planet, I found the experience of studying plastics both fascinating and enjoyable. I enjoyed the opportunity to “muck in” and be involved in collecting and quantifying the marine pollution which washed up on the beaches of this remote island.

Mostly, I will remember the great team that I worked and lived with. The energy and enthusiasm and their entertaining fieldwork stories were a joy.

Professionally, it was of great interest to hear about and experience work outside my usual botanical sphere.

### Highlights from Angus Donaldson

My time on Henderson Island was full of amazing experiences. To be able to work on this island less than one year after finishing my degree is pretty special. My highlights of the trip were sitting on the edge of a cliff, we called “the weather station” watching the petrels flying around and the whales breaching and playing in the shallow tropical waters out the front of our camp site. Steffen made a sofa out of fallen tree branches from the adjacent forest. This made for very comfortable sunsets.

The experience that made Henderson Island so awesome was the people on the island. Meeting the crew was daunting at first, but it didn't take too long to realise that everyone was great! Adventuring with Alice, playing frisbee with Steffen, helping with plastics and learning about the ocean with Jenn and having chats with Lorna about her experiences and conservation globally made my 103 days at Henderson all the better.

The team welcoming the return of the vessel



Rhiannon Adams

Food supplies for three months



RSPB

Enjoying some quality time and the view





Jennifer lavers, her new husband Andrew with the Henderson Island research team



Not expecting a wedding at the end of the expedition, Steffen wore one of his fieldwork t-shirts.



The wedding 'gift'

## Jennifer's wedding

If spending more than three months marooned on a sub-tropical island with a team of fellow scientists wasn't enough of a "once in a life time experience" for Jennifer Lavers, she and her partner Andrew Fidler planned their wedding in French Polynesia for her journey home.

The team were all hugely supportive of one another throughout their stay on Henderson. Spending so much time working and living together, a great team spirit and friendships developed. In the final few days of the expedition, they threw Jenn a surprise "HENDERSON HEN party". Obviously, a visit to a gift shop was out of the question but our team improvised. Cards and presents came from what they had on island. Washed up materials made ideal party decorations.

Of course the delayed boat affected Jenn and Andrew's plans. Hearing that the boat scheduled to pick them up had to return to port was a blow for all of our team, but the realisation that Jenn and Andrew would not be reunited in time for their original wedding was particularly difficult news. Once the team knew the revised schedule, Andrew, based in Tasmania worked hard to reorganise the wedding while the RSPB team at headquarters, rescheduled all the flights and accommodation for the returning team. But once again, Jenn and Andrew were hit with yet another delay. The returning flight from Mangareva to Tahiti didn't leave on time.

Just over one week behind schedule, Jenn and Andrew were reunited. Their wedding could now take place with all the scientists from the team (minus Sue and Paul who are still on Henderson) invited to attend.

### Morning of the wedding

After all of the uncertainty caused by the delays, Jenn laughed when, on the morning of the wedding, Alice and Angus were nowhere to be seen. They even went as far as sending out a search party, but eventually she made the hard decision to leave without them, in order for the wedding to stay on schedule.

Transport to the private island where the wedding was to be held was a traditional Polynesian canoe. En route, the driver agreed to quickly visit an adjacent bay to search for Alice and Angus. As we rounded the corner, Jenn could see them both, standing on the edge of a jetty, waving frantically. Reunited, they all went to the wedding.

### What do I wear?

Readers might be questioning "what did a team of field scientists wear to a wedding immediately after a three month expedition?". When planning the expedition, the rest of the team didn't actually know they would be going a wedding on their way home. None of them came to Henderson prepared to attend a wedding. Apart from the bride, everyone was sporting their best field attire. Jenn and Andrew embraced this as "part of our wedding story".

Throughout their time on Henderson, the expedition leader, Steffen, became famous for many things, including being one of the most wonderful and dedicated bosses any of us could have wished for. As time went on, he also became known for his attire, which rapidly disintegrated and adopted numerous stains, after weeks of working with rats and bathing only in seawater. His most memorable piece of clothing, was a t-shirt he obtained while working on Montserrat. No longer white, and sporting an enormous hole in the armpit, Jenn made an agreement with Steffen that he could attend her wedding under the condition he wear this particular shirt.

Quite fitting to the Henderson story, on the day of her wedding, the team presented Jenn with a "gift". Neatly wrapped in one of the rat-catching bags, she removed a large black sock. Complete with two white eyes stitched to one end, the sock was made to resemble a rat. Andrew, his parents, the wedding celebrant and photographer all stared at the "rat", confused, while the Henderson team laughed hysterically.



The Phase 2 team leader, Greg McClelland



Andy Skinner



Neil Duffield



Sarah Havery



Sue O'Keefe and Pawl Warren



Nick Torr

## The new team

**Greg McClelland** is an island ecologist and will be the new team leader.

Greg has conducted research on remote islands from the Northwest Hawaiian Islands to the Sub-Antarctic where his research has centred on the impacts of invasive species on island ecosystems, with special focus on endemic birds.

While on Henderson, Greg will oversee the scientific work programme and expand the ongoing rat ecology study to include diet and population structure.

**Neil Duffield** joins the team as a Research Assistant.

Neil's past experience focuses on habitat management work and species research with the RSPB, and assisting farmers find solutions for environmental protection and invasive non-native plant control. International conservation projects to the Amazonian and Indian forests, together with MSc studies, has developed an enthusiasm for field work in remote ecosystems.

Neil will assist all aspects of the research programme on Henderson whilst also capturing video footage of the unique wildlife and team at work.

**Sue O'Keefe and Pawl Warren** will continue their stay on Henderson, having been on the island throughout Phase 1. They will support the new team on island with their commitment, knowledge and hard work.

**Andy Skinner** is a Reserves Ecologist for the RSPB, helping oversee the organisation's conservation efforts in the UK.

Prior to joining the RSPB, Andy spent a number of years surveying the hills and forests of Mauritius for its iconic kestrel. Andy will assist in all aspects of the research programme on Henderson but will also be putting his insect knowledge to good use by conducting surveys on the island's largely unknown invertebrates. This work is supported in the UK by BugLife ([buglife.org.uk](http://buglife.org.uk)).

**Sarah Havery** is a Project Assistant for the RSPB, supporting a wide range of international projects.

Prior to working at the RSPB, Sarah was involved in island restoration projects removing invasive alien species from St Agnes in the Isles of Scilly, UK, and the offshore islands of Antigua, West Indies. She has also worked in Mauritius, helping restore the endemic reptile communities on the offshore islands.

Sarah will assist in all aspects of the research programme on Henderson.

**Nick Torr** is a New Zealander. His background is in threatened species management, previously working for the New Zealand Wildlife Service then the New Zealand Department of Conservation.

In 1998, Nick left his permanent job and since then has worked as an independent consultant. He has a strong interest in islands and has worked on many major island restoration projects both in New Zealand and around the world. Nick has been fortunate to visit Henderson Island twice before; in 2009 as part of pre-eradication research trip, and as co-operation manager during the rat eradication attempt in 2011. He can't wait to get back.

# Hope for the future

The beauty of Henderson Island amazes all that visit and work on the island. Our first team left with an understanding of just how incredible this place is, well deserving of its listing as a UNESCO World Heritage Site. Henderson is a fine example of what can be achieved by saving sites and special places for nature.

However, our team felt a tinge of disappointment to see that even somewhere so remote can be so impacted by human activities, in both the rats and the rubbish. But there is also a lot of hope. The RSPB will continue to work for a solution and we remain hopeful that in the future Henderson Island will be returned to the birds as a pristine tropical island paradise.

## Still some mysteries to solve

As one team leaves the island with wonderful memories, another team starts their story. The bigger question still remains. "Can we one day successfully eradicate rats from Henderson Island and restore this island?" The first team have done their part in helping us to solve this question. To date, the Phase 2 team are getting on well. They're really getting stuck into the work and reporting some excellent progress. They have already had to deal with some unexpected surprises but more on that in our next edition!

Spectacular view of the sky at night over Henderson Island

Rhiannon Adams

## Contact

If you would like further information about the Henderson Island Restoration Programme, please contact John Kelly, RSPB Globally Threatened Species Programme Manager.

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The RSPB is the UK's largest nature conservation charity, inspiring everyone to give nature a home.



The RSPB is a member of BirdLife International, a partnership of conservation organisations working to give nature a home around the world.