

Bringing back the birds of the

Montebellos

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The islands of the Montebellos off the Pilbara coast once housed a variety of species. However, the effects of introduced predators and British atomic testing in the 1950s led to the loss of several types of birds and mammals. A plan to reintroduce some species has seen populations of spinifexbirds and fairy-wrens breeding successfully. But they're not out of the woods yet, and ongoing monitoring is being carried out to see how they're faring.





The Montebello Islands is a spectacular archipelago of about 180 islands, islets and rocks located 20 kilometres north of Barrow Island and 130 kilometres off the Pilbara coast. Most islands are dominated by *Triodia* (spinifex) with scattered *Acacia* thickets and there are also patches of mangroves and tidal lagoons.

Despite its remoteness, this unique ecosystem has not been immune to the effects of humans and a number of species that once occurred there no longer do so. Spinifexbirds, for example, once lived on Hermite and Trimouille islands, and there is an unconfirmed record of the black-and-white fairy-wren from Trimouille Island. But, neither species had been observed on these islands since 1950, probably because they fell victim to the ravages of feral cats and rats, or were impacted by the atomic testing that was carried out by the British in the same decade.

HEMELCOMING

In 2010, the then Department of Environment and Conservation (DEC) embarked on an ambitious project to reintroduce animals, including several mammal and bird species, that once lived on the Montebello Islands. In preparation, DEC staff had already removed all the feral cats and rats from the islands that would have preyed on the small-medium-sized mammals that were reintroduced and the birds that nest on or near the ground, such as spinifexbirds and fairy-wrens. The team also ascertained that the most serious effects of the atomic tests were significantly reduced. Then, in 2010 and 2011, 36 fairy-wrens and 47 spinifexbirds, which had been fitted with uniquely numbered leg bands, were translocated from Barrow Island to Hermite Island, the largest of all the islands in the archipelago. The fairy-wrens, in particular, are poor fliers and would not have made that 20-kilometre crossing unaided. Luckily, environmental conditions were just right for the translocation, and the island experienced good rainfall before and after the release.



PLEASING RESULTS

It was pleasing for the team of five researchers who returned to the island in September 2012 to monitor the populations of fairy-wrens and spinifexbirds to find that more than 80 per cent of the birds of these species did not have leg bands. Why? Because the birds without leg bands were not translocated birds, but ones that had been bred on Hermite Island since the first translocation in mid-2010. In other words, fewer than 20 per cent of birds observed were from the founder stock, indicating that both species had been breeding well.

Not only had the spinifexbirds been breeding, they had also spread well beyond the areas where they were released. To begin with, the team stayed at the aptly named Cyclone Hut on Hermite Island, and walked out each day to monitor the bird populations. However,

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Main left Hermite Island is one of 180 islands in an archipelago 130 kilometres off the Pilbara coast.

Photo – Col Roberts/Lochman Transparencies

Main right A spinifexbird.

Inset left A black-and-white fairy-wren.

Photos – Alan Danks/DBCA

Inset right Department researchers returned to the island to monitor the success of the translocation.

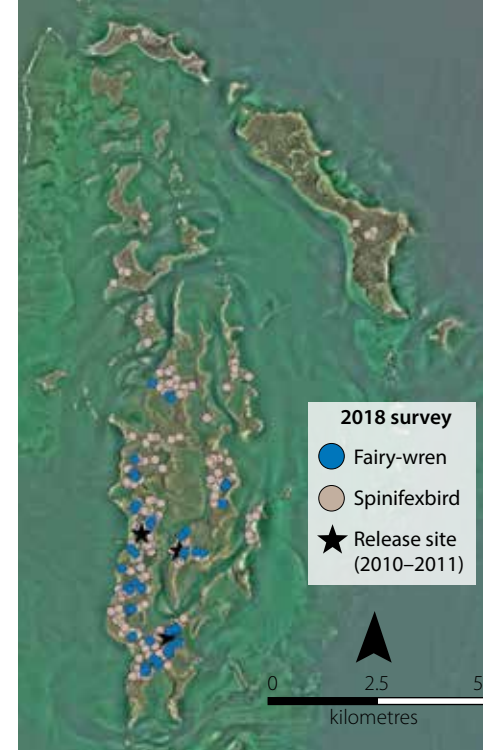
Photo – Mike Burbidge

Above A view of Hermite Island, which shows stands of mangroves (bright green vegetation), ideal fairy-wren habitat (the darker shrubs), the spinifexbirds' preferred habitat (the intervening flats) and shorebird feeding ground (mudflats in the shallow tidal lagoons).

Photo – Allan Burbidge/DBCA

the further the birds spread, the more difficult this became, especially once the spinifexbirds started hopping between the islands. Walking up to several kilometres to a survey area before dawn, or returning after sunset, was impracticable, especially in areas of uneven terrain. Fortunately, skipper Andy Edwards provided transport on his specially fitted-out expedition vessel, the *Keshi Mer*, and more recent visits have been boat-based. This meant the team could be dropped off or picked up at points convenient to the survey locations, providing much safer conditions and allowing for more effective use of their time.

Number of birds at Hermite Island



Above left background Hermite Island has a range of vegetation types, including the mulla-mulla.

Photo – Alan Danks/DBCA

Above Results of the 2018 survey. The black stars indicate where black-and-white fairy-wrens and spinifexbirds were introduced in 2010 and 2011.

Left Researchers travelled to the islands in 2010, 2011, 2012, 2015 and again in 2018.

Photo – Mike Burbidge

“Spinifexbirds have self-introduced to eight other islands, with the new locations being up to 10 kilometres from the original release sites ...”

But it’s not all doom and gloom. Spinifexbirds have self-introduced to eight other islands, with the new locations being up to 10 kilometres from the original release sites, and have included water crossings of up to 500 metres. And, despite the drop in numbers, there are still about four times as many spinifexbirds present than were translocated in 2010 and 2011. The lesson here is that, especially in arid and semi-arid areas where rainfall can be highly variable from year to year, it is important to monitor



A return visit to the islands in 2015 revealed a spectacular increase in the number of spinifexbirds – there were about six times the number of birds that had been translocated. And, adding to the team’s excitement, was the revelation that the birds had colonised an additional six islands. This was well beyond initial expectations. The fairy-wren population had increased to at least 69 birds – not as spectacular, but a solid increase – suggesting that the translocation would continue to be successful in the long-term.

A CHANGE OF MOOD

Unfortunately, the results of a 2018 survey were not as pleasing, and revealed

a reduction in the number of spinifexbirds. The team couldn’t be certain of the cause, but suspected it was related to rainfall. There are no rainfall records for the Montebellos, but there is a weather station on Barrow Island, about 20 kilometres to the south. In 2015 there was much higher-than-average rainfall on Barrow Island in autumn, which perhaps set the scene for a better-than-average breeding season, which would occur in winter in this area.

On the other hand, autumn rainfall in 2016–18 was well below average in each year, which likely resulted in less healthy vegetation, and therefore fewer invertebrates – the main food source for these birds.



Above Spinifexbird on Hermite Island.
Photo – Allan Burbidge/DBCA

Above right Researchers used monitoring equipment to detect birds on the island.
Photos – Alan Danks/DBCA



through a number of breeding seasons to check whether the population has reached a level where it can withstand such variations. This will provide the opportunity to supplement numbers if necessary, as it's not possible to determine the real success of a translocation until the population has been through a series of variable seasons.

And why weren't the numbers of fairy-wrens similarly affected? That's still unknown. But it may be that, because they occur in family groups, there were behavioural adaptations, or there might be some physiological differences that have helped them through the drier times. There have been a couple of pairs of fairy-wrens cuckolded by a Horsfield's bronze-cuckoo, so it can be assumed that they did not contribute to the population in that season, but that would have been a natural event and probably hasn't made a significant impact on the population. In any case, in 2018 about double the number of birds that had been translocated in

2010 were recorded in 2018, which is cause for optimism that this translocation is also experiencing long-term success.

OPPORTUNISTIC OBSERVATIONS

The bird fauna of the Montebellos is similar to that on Barrow Island. However, as Barrow is much larger, and there has been much more work done there, more bird species are known from there – about 140 species compared with about 90 in the Montebellos. However, the islands of the Montebellos are still a very important bird refuge, and the islands do have some very important values.

Being boat-based, and needing to visit a range of islands across the Montebello group, gave the team a chance to make opportunistic observations on a range of bird species. The data collected adds to information gathered by various other researchers, including department staff working on earlier feral cat and rat eradication. These observations have brought the total number of bird species recorded on the islands to 90. Like some other Pilbara islands, these islands support important breeding colonies of some seabirds, such as wedge-tailed shearwaters, which nest on a number of islands, sometimes in large numbers (e.g. more than a thousand pairs on South East Island). The osprey has been recorded

breeding on more than 30 different islands and rocks in the Montebellos, but the Brahminy kite, which prefers to nest in mangroves, has only been recorded breeding on Crocus Island and Hermite Island. Five different species of terns were recorded breeding in the Montebellos, and sometimes there were hundreds of pairs of fairy terns (listed as vulnerable) and thousands of pairs of crested terns and roseate terns nesting, making the islands a highly important site for these species. The tidal mudflats, especially in the lagoons around Hermite Island, are home to a range of migratory shorebird species during the non-breeding season. This population comprises small numbers of several threatened species, including eastern curlew, curlew sandpiper, great knot, greater and lesser sand plovers and bar-tailed godwit. The long shorelines of the islands, which are free from foxes or feral cats, means that the area is important also for breeding sooty and pied oystercatchers, and beach stone-curlews. In all, the islands support about 27 species (seabirds, shorebirds and land birds) that have been recorded breeding there, some regularly, some only occasionally. It is for these reasons that BirdLife International lists the area as an Important Bird Area.

There is no permanent freshwater on any of the islands so the resident bush birds, including Australian pipits and two



open country raptors – nankeen kestrels and spotted harriers, are those suited to the arid environment. When walking along survey transects or between sites the team was often accompanied by the resident white-breasted woodswallows, which followed just a couple of metres behind, hawking the grasshoppers that flee on their approach. Brown quail are common and, perhaps because feral cats and rats have been removed, stubble quail have been recorded for the first time. Yellow white-eyes, brown honeyeaters and bar-shouldered doves are common, usually seen in and around the mangroves.

In good years, welcome swallows are present and breeding, and the diminutive zebra finch also occurs some years. Occasionally, irruptions of white-winged

trillers and Horsfield’s bronze-cuckoos have been observed transiting through. And vagrants such as a single budgerigar and the occasional magpie-lark have also been recorded.

WHAT’S NEXT?

The spinifexbird population in the Montebellos is probably secure now. The likely fate of the fairy-wren population is promising, but not certain. While they have done well so far, it is still a very small population, and is therefore

susceptible to chance events such as a series of droughts. Monitoring of both species will continue for at least another five years. Results of this monitoring will be used to consider whether some new individuals should be introduced to improve the genetic vigour of the translocated population. In the meantime, monitoring for feral cat and rat incursions will continue, in order to safeguard the future of not only these birds, but also the translocated mammal populations in the Montebellos.

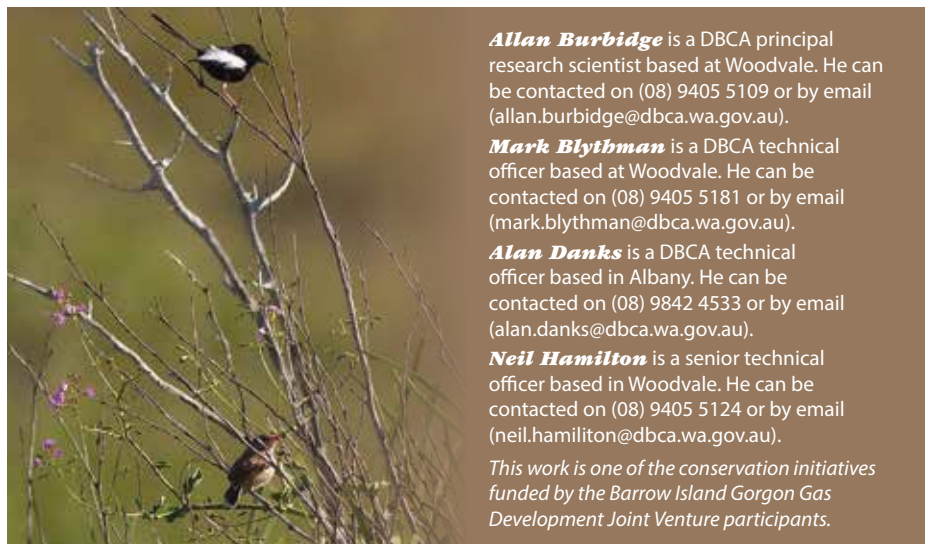
Top The Montebello islands are an important area for breeding sooty oystercatchers.

Above Dozens of ospreys nest in the Montebello islands.

Above right Australian pipits are common in the more open areas on the islands.

Right Male and female fairy-wrens on Hermite Island.

Photos – Alan Danks/DBCA



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