

The secret life of the **western ground parrot**



How do you go about studying and devising recovery actions for a critically endangered bird that is so secretive and elusive that, chances are, even scientists undertaking extensive research on the species might never see one in the wild? Hard work, listening surveys before dawn and after dusk, and some innovative but systematic methods are beginning to yield results for the Western Ground Parrot Recovery Project.

by Brent Barrett

It's 4.30 am. The mist is barely moving around the silhouetted form of a researcher stalking cautiously through the heathland. To his left are five more soldiers of conservation all evenly spaced. To his right, three kilometres of uncharted habitat waits to be surveyed. The six dark figures press on, each hunched over a GPS and compass, lit by a circle of light emitted from a torch on their forehead. Then, despite the 600 metres separating each person from the other, they all stop in abrupt unison, having reached a predetermined distance from the road. During the two previous days, they had all taken part in an intensive training program for this very moment, and the six similar mornings and evenings yet to come.

They record the details of the weather, date and location on a clipboard, despite the numbing cold, then switch off head torches, slide hands into warm pockets and listen intently.



Minutes are lost to the soft clicking of crickets and the occasional frog. A meteor crashes into the atmosphere high above, leaving a smudge of light. Suddenly, a clamour of noise rings out in the still of the early morning. The mysterious noise increases, reaching a feverish intensity. Then, as suddenly as it began, there is silence. Compass direction and time is recorded, along with details of the type and distance of the call, and suddenly there's another call, then another. All around, the dark

landscape is swimming in rhythmic whistles. With so much calamity the researchers could be forgiven if they asked themselves 'how could this bird be rare?' How indeed?

Losing ground

From the moment renowned ornithologist John Gilbert first collected a western ground parrot in the 1840s, its geographic range and total population size has been diminishing. Knowledge of this shy parrot was decidedly lacking for the ensuing 140 years. While two very similar subspecies exist on the eastern coast of Australia, our own Western Australian endemic subspecies faces its final challenge... the threat of extinction. Even over the last decade, western ground parrots could not be relocated in areas, such as Waychinicup National Park and Mount Manypeaks, from which they had previously been known. If the events of the next five years don't aid this critically endangered bird in its fight for survival then we may never get a chance to truly understand its secretive life. Do western ground parrots possess the repertoire of traits required to survive the modern age or will they succumb to pressures and threats imposed by people and introduced predators?



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Main The vast wilderness of the Fitzgerald River National Park viewed from West Mt Barren.

Insets Caught on film, the first photograph of a wild, unrestrained western ground parrot.

Western ground parrot feathers, scanned from feathers collected in 1989 by CALM volunteer Kaye Vaux.

Top Fitzgerald River National Park ranger Peter Wilkins assists the project's technical officer David Chemello, and a volunteer from Switzerland, with habitat surveys.

Above left The first evidence of western ground parrot feeding, located in Cape Arid National Park in 2004.

Left Evidence that western ground parrots have been feeding on seed heads of semaphore sedge (*Mesomelaena tetragona*) that they have collected, piled up and milled.

In a dedicated ornithologist's quest to locate a western ground parrot, a number of outcomes are likely, which would test the resolve and persistence of even the most staunch researchers. First of all, you will most likely never see one. Even if you do see a western ground parrot it will only be for a fleeting moment, the image of which will haunt you forevermore, as you strive to drink in every second of the event.

I came to Australia from New Zealand in October 2003, after three years of tracking the nocturnal and flightless kakapo, the heaviest parrot in the world, and one of the rarest. I started the Department of Conservation and Land Management's (CALM's) Western Ground Parrot Recovery Project realising that I might go home after the first year, having never seen my target species. It is a testament to their secretive behaviour that I researched them for six months before I saw my first bird. It took four months just to hear a good calling session. I have had amateur ornithologists join our expeditions who had been devotees of ground parrots for up to 20 years, and never seen a single bird in all that time. How had western ground parrots remained under our radar for so long? How had they survived the pressures of extensive land clearing, large-scale wildfires and the onslaught of introduced predators?

On a wing and a prayer

To answer these questions, we need to know a little more about the behaviour of ground parrots. The habitat they occupy in the eastern states differs greatly from the favourite haunts of our own WA subspecies. In Queensland, the vegetation is up to two metres high and almost entirely devoid of life, including introduced and native predators. The soils are so low in oxygen that they are acidic. No large trees or shrubs can grow in this nutrient-poor soil, so all that remains is a large wet heath swamp. This habitat recovers quickly from fire, with ground parrots reoccupying areas as little as two years after a fire. The absence of predators leaves this unique ground-nesting parrot to its leisurely breeding season undisturbed.

The situation in WA is vastly

different. Western ground parrots inhabit vegetation that is typically half a metre high and floristically rich, with a large number of flowering and seeding plants making food available all year round to foraging parrots. Predators such as reptiles, carnivorous marsupials, rodents, foxes and cats move freely through this habitat. Large-scale fires occur in almost cyclical fashion, and habitat clearing has removed much of the connectivity between the larger parks, giving dispersing juveniles very few options. Despite these limiting factors, the western ground parrot has clung to existence, some would say by a wing and a prayer. How can they survive so many confounding factors?

Parrotting answers

Some of the answers lie in their predator escape behaviour. If an animal approaches a ground parrot in a

reasonably constant line then the bird simply skulks cautiously to the side as the perceived threat passes. This 'disturbance' could be something as benign as a kangaroo or bushwalker, or it could be a predator which has not found any ground scent. If the 'disturbance' approaches a ground parrot with an erratic, unpredictable or inescapable path, then the bird may be forced to take flight. In this rare event, the bird plays the only trump card it has—camouflage. With incredible likeness to the surrounding vegetation, ground parrots travel parallel to the



Top Researchers and volunteers prepare to repeat a long-term monitoring survey in Fitzgerald River National Park.

Above Curtin University of Technology students assist with critical habitat mapping in February 2004.



ground a mere 20 centimetres above the height of the vegetation. With fast, strong wing beats it travels in either a long sweeping arc or a sharp zigzag, much like a quail. The flight pattern is often described as a flap-flap-glide. After the bird reaches a desired distance of 50 to 100 metres from the 'disturbance' it stalls abruptly in mid-air and crashes back into the undergrowth. Thus, in a simple movement, the bird has left no ground scent for its approaching threat and afforded no striking silhouette for any opportunistic raptor.

Although this manoeuvre alone is brilliant enough in its execution, a ground parrot runs a further 20 metres away from the landing site. This halts any further advance from a predator able to see the landing zone, but any researcher

hoping to follow a bird is also foiled. If you are lucky enough to relocate the disturbed parrot, you have two further chances of glimpsing the critically endangered blur. On the third flush, most ground parrots fly more than 400 metres away and are lost from sight.

Ears to the ground

The rarity of sightings explains why the best method of locating western ground parrots is through listening surveys. Researchers can be trained to distinguish a ground parrot call from the plethora of dawn and dusk calling species. Over many early mornings and late evenings, researchers can spread systematically through a landscape and map the presence or absence of ground parrots. Employing this method, CALM's Western Ground Parrot

Recovery Project team has been surveying the vast reaches of both Fitzgerald River and Cape Arid national parks on WA's southern coast. This project operates under the watchful guidance of the South Coast Threatened Birds Recovery Team, which includes park managers, scientists, researchers and community members. The project operates with a grant from the Natural Heritage Trust (NHT), which was secured by CALM through the South Coast Regional Initiative Planning Team (SCRIPT).

Listening surveys are conducted during the only time that western ground parrots fly by choice. Calls can be heard while the birds move from their daytime feeding areas to their night-time roosts. This risky activity is conducted just on dark, when there is the least chance of being detected by predators. This 'call-flight' period is believed to serve an important role in the bird's social behaviour, which may include calling and displaying to mates. Unfortunately, this means that researchers and volunteers have to be out in the field one hour before sunrise every morning. Furthermore, they need to be in their listening positions for one hour following sunset. If the weather conditions are kind (no wind or rain) then a bird can be heard up to 400 metres away.

The western ground parrot call is a rhythmic whistle that has been described as resembling 'Morse-code' or a kettle whistle. Calls are either a rising or level pitch, and consist of two to four notes, repeated in succession. A few other animals have similar calls; one in particular is the tawny-crowned honeyeater.

CALM receives many reports from interested people who believe they may have seen a western ground parrot



Above left A western ground parrot captured for radio-tracking in 1989 at Fitzgerald River National Park.
Photo - Allan Burbidge

Left An eastern ground parrot from Tasmania.
Photo - Dave Watts/Lochman Transparencies

Right Volunteer Wendy Banks in the field, painting the western ground parrot.

Below right Two hours after finishing this painting Wendy saw her first live western ground parrot.



in their local park, or while holidaying on the south coast of WA. When trying to identify the birds, it is worthwhile remembering that western ground parrots do not live in large groups, and are seldom seen in pairs. They never roost, nest or even fly into trees or tree hollows, and they don't call when flushed off the ground during the day.

Realising that the western ground parrot is one of the most cryptic birds in WA, CALM has developed a number of techniques that help to locate a bird that doesn't want to be found. Listening surveys were the beginning and, while not new technology, the specific application of this technique has changed considerably over the last two years. We now map as we go, which requires every listening site to be recorded and mapped on a laptop in the field while the survey is being conducted. Any possible records can be followed up immediately, and surrounding areas can be targeted for any free-ranging birds. Accurate images of habitat composition are used to locate vegetation boundaries, which may be suitable for roosting and feeding. While this accurate field approach is now an essential tool for our broad-spectrum surveys, some old fashioned searching is also employed.

Breaking ground

In October 2004, a team of eight CALM researchers and amateur ornithologists converged on Fitzgerald River National Park. The team intended to search for a western ground parrot nest. If they were successful, it would be the first to be located since 1914. A number of new methods were employed during the 10-day trip. Listening surveys and flushing surveys were the main methods. During flushing surveys, the team also hand searched more than 17 kilometres of habitat. During this trip, many abandoned tawny-crowned honeyeater



nest were collected. When they were dissected in the lab, some were found to contain feathers from the elusive ground parrot. While building the nests, the adult honeyeaters had collected ground parrot feathers from the ground. This indicated that, at least while the nest was being built by the tawny-crowned honeyeaters, ground parrots were in the area.

During the same trip, adult calls were played in habitat known to contain western ground parrots. Through this 'play-back' method, two very young juveniles were found. It appeared that the researchers were two weeks too late, and nesting had finished for the year. Despite this setback, we were able to photograph one of these juveniles while it sat silently on the ground—the first ever photograph of a wild unrestrained western ground parrot.

From its slow beginnings in October 2003, the project has made gains that exceeded the expectations of most participants. We now have a method to find populations and assess their extent in the landscape. Habitat requirements and basic elements of

western ground parrot behaviour are now better understood. Timing of breeding is accurately recorded, and a methodology for locating nests has been developed.

While the western ground parrot is a bird that has 'secretive' in its family crest, we cannot afford to have so many unknowns if we are to have any chance of conserving this enigmatic species. However, the last two years have broken through the shroud of silence and started to lift the lid on a bird that has remained such an enigma for so long.

Brent Barrett is project leader of the Department of Conservation and Land Management's Western Ground Parrot Recovery Project. He can be contacted on (08) 9842 4519 or by email (brentb@calm.wa.gov.au).



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