

A land manager guide to Plains-wanderers

in South Australia



Introduction

The Plains-wanderer (*Pedionomus torquatus*) is one of Australia's most unique birds. Endemic to Australia and the sole member of its family, it dates back more than 40 million years. It is a species that is so ancient it's often called a 'living fossil'. The distinct evolutionary heritage of the species has earned it global recognition, with Plains-wanderers ranked among the world's most important birds to protect.

While looking similar at first glance, the Plains-wanderer is not a quail. In fact, the Plains-wanderer is the sole member of a family called *Pedionomidae*, with its closest living relatives being *Seedsnipes* from South America.

These birds live quietly on the ground, relying on camouflage and survive in the open country they live in.

This booklet is intended for landholders, land managers, and local communities in South Australia where Plains-wanderers may occur. It aims to provide practical information on the species, how to identify it, the habitats it depends on, and steps you can take to help conserve this unique bird.



Male (left) and female (right) Plains-wanderer

Saskia Gerhardy

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Front image: Female Plains-wanderer
Photo: Saskia Gerhardy



Identification guide

Height

15–19cm when standing upright.

Shape

It has a compact, quail-like body with a plump torso, slender neck, and fine yellow bill adapted for feeding on seeds and insects. It's long yellow legs are noticeably longer than those of Buttonquails or quails. Unlike Buttonquail, Plains-wanderers also have a hind toe.

Colour

Feathers on the upperparts are light-brown with a fine black outline, creating a scalloped pattern.

Flight

In flight, the species has a pale wing bar, with dark patches on the upper crest of the wing. Flights are short, laboured, and poorly sustained, with legs often seen hanging below the bird. They rarely raise more than 3-4m from the ground and flights are generally short in distance (usually 10-20m but can travel 100s of meters).

Female

Larger in size; distinguished by a bold black and white spotted collar and a rich rust-coloured breast patch.

Male

Smaller; plain light brown above, buff-white below with dark brown crescent marks but lacks collars or breast patches. Legs may be slightly paler than the female.

Movement

Typically moves by running or walking. When alarmed, they will often freeze in a crouched position or stand upright on 'tip toes' with head extended. They may also begin head bobbing.

Activity and Diet

Generally active during the day. Plains-wanderers forage alone, searching for grass seeds, native herbs, leaves, and invertebrates (spiders, beetles, ants, caterpillars); and may use its bill to probe hard ground.

Breeding

Females initiate courtship, inflating their neck and giving a low, booming 'oom' call which is heard primarily at dawn and dusk. The female lays a clutch of four eggs in a shallow, grass-lined scrape on the ground with the male incubating the eggs for about 21 days and solely raising the chicks.

Chicks hatch fully feathered and mobile (precocial) and remain under the male's care for several weeks, fledging at around three weeks. Breeding is not tied to seasons; instead responding to rainfall and vegetation growth.

Birds that can be confused with Plains-wanderers

Accurate identification of Plains-wanderers in the field is challenging due to their superficial resemblance to a number of other ground dwelling birds which are more widespread and encountered in similar habitats. When identifying a Plains-wanderer, look for features such as the markings, posture, yellow legs, bills, and eyes.

Little Buttonquail

Looks very similar to a Plains-wanderer but has a noticeably thicker, browner bill and lacks the Plains-wanderer's long, yellow legs and upright stance



Saskia Gerhardt

Stubble Quail

Larger and stockier than a Plains-wanderer, with a pale, streaked body and a more rounded, quail-like shape.



Darcy Whittaker

Australasian Pipit

A slender, songbird with a characteristic tail-wagging habit and a distinct white eyebrow. Smaller, thinner, and more active than a Plains-wanderer.



Darcy Whittaker

Australian Pratincole

Slender, long-legged and often seen flying or running on open plains, Australian Pratincoles are more aerial and agile than Plains-wanderers.



Darcy Whittaker

Inland Dotterel

Bold facial markings and a banded chest, and they move with more typical 'ploverlike' behaviour, making them quite different in appearance and posture from the cryptic, quail-like Plains-wanderer.



Darcy Whittaker

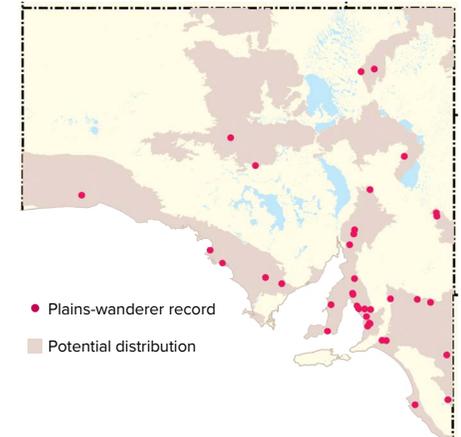
Distribution in South Australia

While once widespread across much of interior Australia, Plains-wanderers are now thought to be mainly restricted to two stronghold regions in the Riverina of New South Wales and the northern plains of Victoria.

Beyond these strongholds, the species persists in peripheral populations, scattered across south western Queensland and South Australia's north east rangelands. Peripheral populations are often isolated by vast distances and modified landscapes. They are also yet to be studied thoroughly, so much of their distribution, behaviour and ecology remains a mystery in these regions.

Plains-wanderers were once widespread across much of South Australia, with early records from the Adelaide Plains to the Eyre Peninsula and Flinders Ranges.

A number of sightings have recently come out of the North East Pastoral region of South Australia, but it is entirely possible that the species continues to exist undetected in other parts of the state.



Plains-wanderer distribution in South Australia

Plains-wanderer decline

Historically, the Plains-wanderer was common across the open plains habitats of Victoria, New South Wales, South Australia, and south western Queensland. However, the species has experienced a dramatic decline in range since the 19th century. Today, it survives in small, fragmented pockets of habitat.

The Plains-wanderer is now listed as Critically Endangered under Australian law (*Environment Protection and Biosecurity Conservation Act 1999*) and Endangered on the International Union for Conservation of Nature Red List. It is also listed as a priority for action under the Commonwealth Threatened Species Action Plan. Fewer than 2000 birds are thought to remain in the wild, making it one of Australia's most threatened birds.



Number of mature individuals
251 – 5,000



Population trend
Decreasing



EPBC Act
Critically endangered

Birdlife Datazone

Where Plains-wanderers like to live

The Plains-wanderer is often referred to as the 'Goldilocks bird' as it needs conditions that are 'just right'. Plains-wanderers tend to prefer open habitat that is made up of approximately 50% bare ground, 40% low vegetation, and 10% litter, with vegetation between 5-15cm high.

Core Range Habitat

In its strongholds, Plains-wanderers are found in open grassy plains.



Saskia Gerhardt

South Australian findings

However in South Australia, Plains-wanderers are more often found in open chenopod (saltbush and copperbur) shrublands.

Being so picky makes Plains-wanderers vulnerable to habitat change. Overgrazing and weed invasion can quickly tip conditions outside the 'Goldilocks zone.'

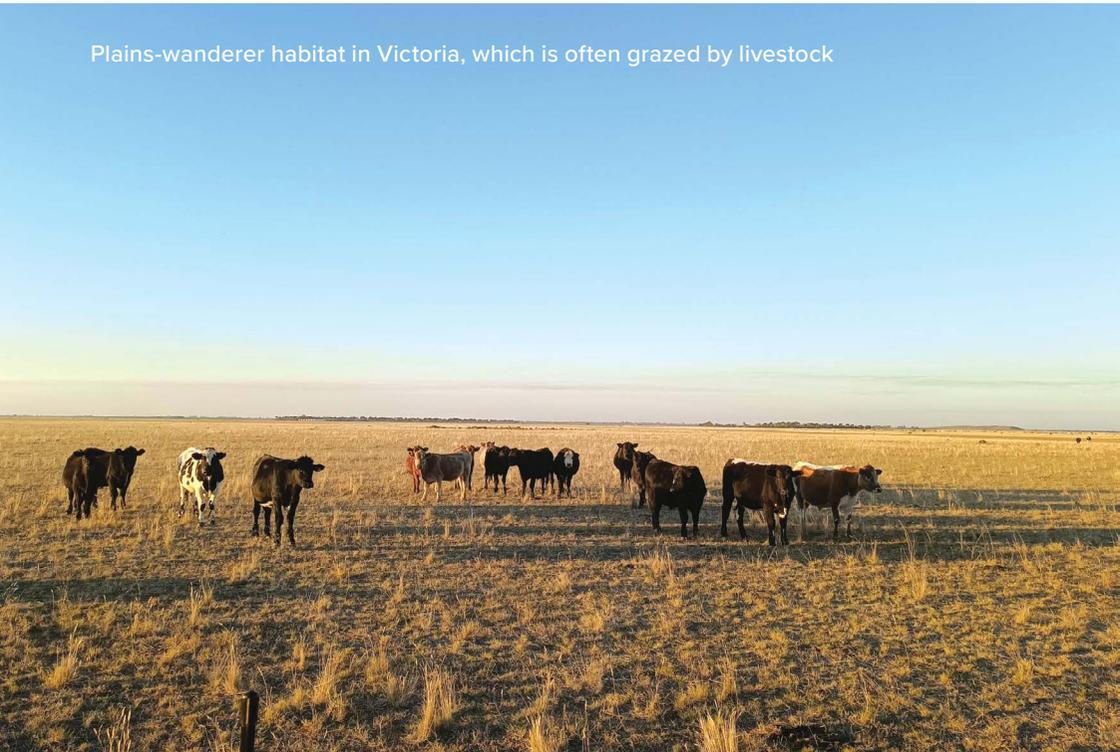


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Plains-wanderers and grazing

Plains-wanderers are one of few threatened species that can successfully co-exist with well-managed grazing. Research from Victoria shows that light to moderately grazed paddocks often provide the ideal ‘Goldilocks’ structure that the species relies on. In these areas, strategic grazing is being used to improve habitat when grasslands become too dense, especially after high rainfall.

Plains-wanderer habitat in Victoria, which is often grazed by livestock



Potential Plains-wanderer habitat in South Australia often overlaps with pastoral land, as the species relies on open, patchy grasslands and chenopod shrublands commonly found on grazing properties. Where this suitable habitat occurs, maintaining a mosaic of vegetation is likely to be critical for the species survival.

While these relationships have been demonstrated in Victoria, they have not yet been formally studied in South Australia, with further research and records needed to better understand how the species uses pastoral land here.

Threats to the Plains-wanderer

Habitat loss

Plains-wanderers depend on open plains landscapes, many of which have been heavily cleared or converted for cropping and pasture. Remaining habitat is often fragmented; isolating birds and reducing breeding opportunities. Conserving open plains habitat underpins recovery for this species.

Poor habitat management

Areas of too sparse and too dense habitat are unsuitable for Plains-wanderers. Best outcomes come from strategic grazing that does not put too much pressure on the land.

Herbivores

Introduced herbivores (particularly rabbits and goats) and overabundant macropods can also contribute to over grazing.

Predators

Groundnesting birds are highly vulnerable to predation by species such as the European fox and feral cats. Birds of prey are also known to routinely predate Plains-wanderers.

Changing climate

Extreme weather events such droughts, floods, and heatwaves all affect vegetation structure and food availability for Plains-wanderers. With climate change expected to increase the frequency of drought and flood periods, appropriate habitat management will be even more important to maintaining resilience in the landscape and the preservation of this unique and special species.

What you can do as a land manager

Manage grazing pressure

Aim to maintain a year round mosaic of low chenopods, sparse grasses, and bare ground. As a guide, habitat structure with roughly 50% bare ground, 40% low vegetation less than 15cm high, and 10% litter can support Plains-wanderers. Adjust stocking rates and grazing timing to avoid vegetation becoming too sparse or too dense, especially through wetter or dryer than usual periods.

Control weeds

Species such as buffel grass, dense exotic pasture grasses, and shrubs like boxthorn can all close-up habitat and reduce bare ground. Prioritise targeted control where these weeds threaten to alter habitat structure.

Predator and introduced herbivore control

Take advantage of regional pest programs for fox and goat management, and coordinate broadscale control with neighbours for predators like foxes and feral cats. Reducing both predators and introduced herbivores helps maintain vegetation structure and lowers risks to breeding birds.

Locust and other pest control

Insecticides that kill all insects reduce food sources for Plains-wanderers. If your property is known to have Plains-wanderers or contain highly suitable habitat, consider using pesticides, insecticides or chemicals that will cause the least amount of impact.

Monitor and report

Keep an eye out for Plains-wanderers during routine property work and report sightings promptly to either www.birdssa.au/rarebirds or BirdLife at birdata.birdlife.org.au.

What is being done

Improving monitoring and detection

Researchers from the University of Adelaide and Bush Heritage Australia, have recently identified a thriving population of Plains-wanderers at Boolcoomatta Station Reserve. As part of ongoing monitoring of the species, birds at Boolcoomatta are routinely health checked and fitted with leg bands to monitor survival and movement.

Statewide monitoring

Following this discovery of a significant population in South Australia, the South Australian Arid Lands Landscape Board has

launched a project to better understand Plains-wanderer distribution across South Australia. This includes deploying acoustic song meters on multiple properties across the state.

Citizen science

The South Australian Arid Lands Landscape Board is actively encouraging landholders, pastoral staff, and tourists to report recent or historical sightings via an online form www.birdssa.au/rarebirds or birdata.birdlife.org.au, which helps identify new populations and direct future surveys.



South Australian Arid Lands Landscape Board staff setting up a song meter for Plains-wanderer detection

How can you help

Even small actions make a big difference for Plains-wanderer conservation. Here are practical ways to get involved:

Share sightings

Submit observations (with GPS and photos if possible) via the SA Arid Lands citizen science portal (bit.ly/saal-plains-wanderer) the Birds SA rare bird committee at www.birdssa.au/rarebirds or BirdLife Australia at birddata.birdlife.org.au. Alternatively, contact your local Landscape or NRM Board directly to report the sighting, where they will capture all of the necessary details.

Report banded birds

If you see a Plains-wanderer with a leg band, report it to the Australian Bird and Bat Banding Scheme (ABBBS). These records help track survival and movement.

Be an ethical birdwatcher

Observe from a distance, avoid flushing birds, and never drive off-track in suitable habitat.

Volunteer

Join conservation organisations like Bush Heritage Australia (www.bushheritage.org.au), Birds SA, (www.birdssa.au), BirdLife Australia or local community groups for surveys, weed control, and habitat restoration.

Spread the word

Talk to neighbours and community groups about Plains-wanderers and the importance of open plains habitats.

Setting up a song meter for Plains-wanderer detection with landholders



Wildlife acoustic song metres have been used to monitor land in South Australia for Plains-wanderer presence



Saskia Gerhardy

This booklet has been compiled by Saskia Gerhardy on behalf of the South Australian Arid Lands Landscape Board.

The Plains-wanderer: Revisiting the Baseline project was an initiative aimed at improving our understanding of the species' distribution, habitat use, and conservation needs in South Australia.

It was funded by the Australian Government's Saving Native Species program and was delivered by the SA Arid Lands Landscape Board, Bush Heritage Australia and BirdLife Australia.

We extend our thanks to Bush Heritage Australia, BirdLife Australia, landholders across the SA Arid Lands region, and the many volunteers, pastoral staff, and community members who have contributed sightings, participated in surveys, or supported ongoing conservation efforts.

We also pay our respects to the Adnyamathanha and Wilyakali Traditional Custodians, whose Country includes key Plains-wanderer habitat in the Northeast Pastoral region.



Jack Casley-Smith

A female Plains-wanderer

If you want to find out more
Information, updates, and resources can be found on the SA Arid Lands Landscape Board website.

Contacts
South Australian
Arid Lands Landscape Board
Website: www.landscape.sa.gov.au/saal
Phone: (08) 8429 9666
Plains-wanderer sightings:
www.birdssa.au/rarebirds
birddata.birdlife.org.au

This booklet provides practical information for landholders, land managers, and community members in South Australia where Plains-wanderers may occur. It includes tips for identifying the species, understanding its habitat needs, and managing properties in ways that support both grazing productivity and conservation outcomes.

