



Regent parrots and frost fans

Avoiding a frosty reception for these beneficial birds

Photo: Regent Parrot, Helga Keiskamp

The beautiful eastern regent parrot relies on riverine trees and mallee woodland, especially around agricultural areas. Frost fans are a new addition to the Murraylands and Riverland agricultural belt that may affect them. This fact sheet is for you if you are considering building frost fans and want to learn more about these parrots.

Regent parrots

The eastern regent parrot (*Polytelus anthopeplus* ssp. *monarchoides*) is a stunning olive-green charismatic bird that is nationally recognised as vulnerable under the EPBC Act 1999. Sadly, in the last one hundred years, the regent parrots' population has suffered severe declines, where now only an estimated 1500 breeding pairs remain¹. Where regent parrots were once a common sight in Riverlands from Murray Bridge to Dangalli Conservation Park, their range has contracted to tighten along the river in the river red gum woodlands from Swan Reach to Chowilla. Much of this land is used for agriculture so regent parrots must coexist with landholders and farmers in this region.

An unfair rap for regents

Regent parrots are ground-foragers of grains, seeds and nuts and for this reason are often found feeding in almond orchards. Mistaken for the similar-looking yellow rosella, some landholders choose to shoot regent parrots to prevent orchard damage. It is illegal to shoot regent parrots due to their protected status. Research also shows that the public perceive crop damage from regent parrots to be much higher than it really is¹.

A study from Charles Sturt University² found that regent parrots can actually benefit almond orchards by consuming spoiled, mummified and/or disease-ridden nuts at the end of the growing season. These spoiled nuts can result in profit losses by spreading fungal infections or attracting insect pests that damage other healthy nuts. Although regent parrots do eat small numbers of healthy almonds, they calculated that overall, regent parrots save producers \$82.50 - \$332.50 per hectare from this ecosystem service².



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Photo: Mummified almonds, Almond Board

Regent parrots can benefit almond orchards by consuming spoiled, mummified and disease-ridden nuts

Frost fans in the Riverlands

Regent parrots already have to contend with habitat loss and degradation from clearing of mallee habitat, removal of old river red gum trees and competition for nest hollows. The arrival of frost fans may present a new threat to their survival.

Frost fans look a little like small wind turbines. The fan propeller blades mix warm and cool air layers to prevent frosts from forming in early spring and killing crops in a critical stage of development. However, they spin at much faster speeds than wind turbines (up to 418 revolutions per minute) and switch on when temperatures are low enough to trigger a frost (usually less than 2°C). Being located around the peripheries of crops where regent parrots are likely to forage, these fast spinning fans may pose a major collision risk for regent parrots.

Other possible impacts of frost fans on regent parrots include habitat loss through sound disturbance, as well as blocking previously safe flight paths that allow regent parrots to

commute through orchards to mallee woodland.

Future directions

The rapid increase in the number of frost fans in the region has not allowed sufficient time to adequately study how the regent parrots respond to frost fans. We need foundational and rigorous research to understand how frost fans may affect regent parrots. Then we can work through the management steps we can take to maximise frost prevention and regent parrot conservation.

This is where you can help.

If you are a land-holder with regent parrots on your property and are considering installing frost fans, **we would love to hear from you.** Working together, we can investigate ways to learn more about frost fans and how they can coexist with regent parrots.

Be a part of some early research. Be a part of guiding regional management strategies.

Be a part of the regent parrots' future.

Contact us

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References

¹ Wills (2021) SA Regent Parrot Recovery Team

² Luck *et al.* (2013) Wild. Res. **40**



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