

Book review

THE WOODHEN – A FLIGHTLESS ISLAND BIRD DEFYING EXTINCTION

By Clifford B Frith

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I first became aware of the research that was underway to identify the cause and improve the survival prospects of the Woodhen (*Gallirallus sylvestris*) on Lord Howe Island in 1979 when an article from Keith Finley from the *Australian Women's Weekly* was placed on my desk by a colleague returning from Australia. At that time, the main risks to the species had been established by Ben Miller, and the captive breeding programme was being established. Little did I know that I was just about to start a Ph.D. on Weka (*Gallirallus australis*) in a wet and cold habitat similar to the refuge used by Woodhen on Mount Gower.

This book presents an inspirational view of a population recovery of an endemic species of flightless rail, as a result of the hard work, dedication and skill of a few scientists, New South Wales National Park and Wildlife Service staff and island residents. These people first assessed the risks to the Woodhen and then implemented a pig eradication program and an extremely successful captive breeding program.

The book follows a logical structure in 11 chapters dealing with the discovery of Lord Howe Island by Europeans in 1788 and the subsequent impacts on its biota by humans and their introductions of alien species, the Rallidae and evolution of flightlessness, and the Woodhen's population decline and recovery. The text is easy to read, and is aimed at a general audience, and sections vary between general observations and substantial detail. It is carefully illustrated, and includes some of J. Fenwick Lansdowne's beautiful illustrations used previously in S. Dillon Ripley's *Rails of the World* (Ripley 1977) and annotated photos and maps.

The author Clifford Frith is no stranger to flightless rails having studied the Aldabra Island Rail (*Canirallus cuvieri aldabrensis*) in the 1970s. He draws on this work to comment on the potential consequences of the loss of animals like the tortoise and turtle to Lord Howe Woodhen food supplies, and the phylogeny of flighted and flightless species. Consequently, Frith captures in an accessible way the key elements of the Rallidae and the debate over the origin of flightlessness. Some of these ideas remain speculative, including the original number of flightless rails in the world before the Pacific Islands were colonised by humans.

The parts of the book on the Woodhen are predominantly based on the published and unpublished literature of others but include some personal observations and the interpretation by the author. The seventh chapter on Woodhen management is co-written with veteran Woodhen researchers Peter Fullagar and John Disney. Most importantly there is a 36-page appendix based on a draft text by Disney and Fullagar describing the effects of aviary manipulations during the Woodhen captive breeding program, between 1981 and 1984. This is a fascinating account of problems overcome in a very short time that ultimately improved the survival probability of this species. This account reveals the skill of Glenn Laurie-Fraser in manipulating pairs for optimal productivity.

Other information is drawn from the unpublished reports of Robert Harden and colleagues, including a 2012 typescript on the Woodhen population expansion between 1985 and 1999. It is unclear how much of what is contained in this typescript is commented on or reproduced in this book, but there are indications of sizable body of work with 1301 Woodhen banded and 2142 resightings.

Clifford Frith refers to previous work and assumptions that are challenged by new information. He queries the failure to explain why the Woodhen population increased from 9 pairs in 1978–80, to 20–22 pairs in 1997 on Mount Gower, when previous work had suggested that the population was at saturation at the lower density. However, it is surprising that Frith does not then attempt to consider the expected changes in Woodhen population biology if, as planned, all rodents are removed from the island. I had some difficulty interpreting information that is presented in some of the tables in Chapters 8, 9 and 10 on the Woodhen recovery and population biology that refer to Harden and colleagues' work. In the process of simplifying these tables for a general audience, some key information, like sample sizes, was dropped. I hope that Harden's work will be published.

Chapters 9 and 10 present a lot of information on the Woodhen's ecology, behaviour and breeding biology. One advantage of a book over a scientific journal article is that you can delve into areas that may lack substantive data and speculate on unknown aspects of the bird's biology. Frith uses information on other related rails to speculate on gaps in information on areas as diverse as foraging energetics, interspecific food competition and parasite loading. There are sonograms of the most common Woodhen calls and I was surprised to read that it is not known which sex gives the higher and lower notes in duets. There is interesting information on the stress bars in flight feather plumage of museum specimens, but stress bars have not been assessed in the current population. However, the most intriguing unpublished information for me was an assessment of the annual replacement of wing claws. These claws have a bone base in Weka, the flightless rail I am most familiar with, and are not replaced but wear, so they can be used to define age classes.

At the end of Chapter 10 on Woodhen breeding biology there is a brief assessment of the fundamental biology of bar-winged rails. This section was disappointing because there was no attempt to examine the recent literature on the *Gallirallus* group and the author relied solely on Taylor and van Perlo (1998), the most recent monograph of the family Rallidae, for comparative biological information.

There is little information presented on the status of and research on the Woodhen over the past 14 years. The final chapter looks at the future for the Woodhen and compares the current state of activity against the now superseded Lord Howe Woodhen Recovery Plan. This assessment is robust, and includes concern about work that was not completed. One area lacking investigation that concerns the author is the competition between the Woodhen and several species including Purple Swamphens (*Porphyrus porphyro*), Buff-banded Rails (*Gallirallus philippensis*), Blackbirds (*Turdus merula*) and Song Thrushes (*Turdus philomelos*). Frith appears to specifically be concerned about displacement of Woodhen by Buff-banded Rails based on some observations near the settlement. I was left in a quandary over the significance of this work, because there appears to be a higher breeding rate by Woodhen in lowland habitats and no robust assessment of the change in Woodhen diet since

1978–79 after Woodhen colonised many lowland habitats. Such a multi-species assessment appears useful only if there were signs of stress in the Woodhen population and food was found to be limiting.

There is also a substantial discussion of the absence of a backstop population or even a few birds in captivity. An examination of the appendix on Woodhen captive breeding shows how difficult it can be to maintain a captive population long-term that neither breeds profusely nor has deaths due to individual compatibility issues. However, Woodhen are expected to be held in captivity throughout the forthcoming rodent eradication program. If we consider that David Steadman is correct, and there were 1000–2000 flightless rail species before human populations expanded into the Oceanic islands, then we have a precious few left. The

inherent risks of rapid world travel mean that we need to be constantly vigilant and plan wisely. A discussion of the important issue of backstop populations is a fitting end to this monograph.

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References

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