Ornithologist/Naturalist

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Legislative Council Sessional Committee Government Administration A
Wild Fallow deer

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Re: The environmental impact of wild fallow deer in Tasmania

This submission describes the impact of feral deer on native vegetation, the effect this has on native bird species, and the impact of a declining bird fauna on the ecology and long term environmental health and viability of farmland.

Bush fragments and native birds

Small and large patches of native bush occur throughout the rural landscape. They are important to the health of farming properties for a variety of reasons. They provide shade and shelter for stock, are a source of seed for revegetation projects, and they provide habitat for numerous species - particularly birds and bats - that feed on pest insects in crops.

Healthy bush is a complex ecosystem of canopy trees, sub-canopy trees, mid storey vegetation, understorey shrubbery, and a ground layer of grasses, orchids and small herbaceous plants. These different elements provide a range of bird species with feeding, breeding and sheltering habitats with the different species preferring different parts of the bush. For instance, pardalotes feed on invertebrates (insects and spiders) in the canopy foliage of eucalypts whereas fairy wrens almost always feed on invertebrates on the ground. If any of these elements are missing the assemblage of bird species cannot persist and the bush usually shows signs of dieback as a consequence.

Background to bird surveys at Connorville Station.

In 2006 I represented Birds Tasmania (now Birdlife Tasmania) at a community consultation meeting relating to Mr Roderic O'Connor's intention to obtain Forest Stewardship Council (FSC) certification. As a result of the meeting Mr O'Connor employed me as a consultant to survey the birds on his property. (Birds are considered as good indicators of environmental health.) Consequently, bird surveys have been conducted every spring for ten years since 2006 using Birdlife Australia's standardised methodology. Ten years of surveys is enough to obtain meaningful data and to draw conclusions about the state of the bird life and what that might mean for the ecological viability of the property.

Five survey sites were established at Connorville in consultation with Mr O'Connor. We selected different parts of the farm that were subjected to different grazing regimes and conservation protection. One site, Squidges Gully, was chosen because of its high conservation significance which led to it being fenced to exclude grazing sheep and cattle in 1997 to protect its natural values. Squidges Gully is the focus of this submission because it well illustrates the impact of feral deer on the vegetation and therefore on native birds.

Feral deer at Squidges Gully

To understand the impact of feral deer at Squidges Gully it is necessary to have some appreciation of relationships between the Noisy Miner, other native bird species, vegetation and feral deer.
The Noisy Miner is a strongly territorial native honeyeater that favours and often dominates areas with little or no understorey vegetation. It lives in small or large family groups and aggressively excludes most other bird species from its territory. Decline in ecological health of areas of bush inhabited by Noisy Miners is well documented throughout southern Australia.
The Noisy Miners mostly exclude small insectivorous bird species including pardalotes, endemic honeyeaters, robins, fairy wrens and thornbills. These are common widespread species that play an important role in maintaining the ecological health of the bush because they consume copious quantities of insects that can adversely affect bush health if they are left to flourish. They rarely co-occur with Noisy Miners because they are aggressively excluded.

Squidges Gully

In 2006 when the surveys began there was very little understorey vegetation at Squidges Gully and the site was dominated by Noisy Miners with none of the species mentioned above—pardalotes, endemic honeyeaters, robins, fairy wrens and thornbills—recorded. (These species were present at the other survey sites on the farm where Noisy Miners were absent.) A botanical survey indicated that the understorey vegetation was showing signs of recovery after being fenced in 1997 to exclude sheep and cattle. Orchids, grasses, small herbaceous plants and eucalypt and wattle seedlings were flourishing. They continued to flourish until 2013.
My 2013 report noted that numbers of Noisy Miners had declined from 15 in 2006 to 3 in 2013. It also noted that a range of small insectivorous bird species were recorded in the *Eucalyptus nitens* plantation that in the intervening years had been planted to surround Squidges Gully. However, these birds were not recorded on the survey site itself because the understorey vegetation that could provide shelter and a source of food had been heavily browsed by feral deer.
The winter and spring of 2013 were exceptionally wet and provided favourable conditions for feral deer whose population increased dramatically. This was exacerbated by a lack of culling by the regular shooters who don't go shooting on wet nights and don't want to risk getting bogged in sodden paddocks.
Noisy Miner numbers gradually increased between 2014 and 2015, the understorey was still being eaten or destroyed by feral deer and the canopy trees were showing signs of deteriorating health.

Conclusion

Feral deer are large introduced herbivorous animals with no natural predators in Tasmania. Their impact on native vegetation is much greater than that of native herbivores such as pademelon and red-necked (bennetts) wallaby. This is because, unlike pademelons and wallaby that browse on a range of grasses, herbaceous and woody plants, feral deer usually target woody shrubs and seedling trees which they damage either by eating the foliage or bark or by breaking the plants when they climb and lean on their branches.
The ability of feral deer to jump standard fences often leads to the failure of revegetation projects undertaken to improve biodiversity on private and public land. Erecting deer-proof fencing around native vegetation adds considerably to the cost of revegetation projects.

For the long term health and viability of farmland, the success of revegetation projects and the maintenance of biodiversity in Tasmania it is imperative that populations of feral deer be culled.

Yours sincerely,

Sarah Lloyd