



Department of
Agriculture and Food



Alternative options considered to the proposed Esperance extension

**Report prepared by the
Department of Agriculture and Food, Western Australia**

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Background

A 660km extension of the State Barrier Fence (SBF) is proposed around the Esperance agricultural area to offer the same level of protection to the south-east agricultural area from wild dogs, emus and kangaroos that the rest of the agricultural land in WA receives. The Department of Agriculture and Food, Western Australia (DAFWA) on behalf of the agricultural industries in the south-east of the State has been working as the lead agency to deliver this important Royalties for Regions funded project.

DAFWA considers the Esperance extension to the SBF as the preferred and appropriate, non-lethal and long-term option to control the incursion of wild dogs, emus and kangaroos into the agricultural land from the vast area of adjacent woodlands and rangelands. The alternative options to a barrier fence explored by DAFWA and industry are outlined below.

Emu and kangaroo control alternatives

Shooting and poisoning

The available options to control emus are either lethal (shooting and strychnine poisoning), or non-lethal (deflection by barrier fencing). To legally shoot or poison emus a licence to take protected fauna causing damage to a property can be applied for by an affected property owner under Regulation 5 of the *Wildlife Conservation Regulations 1970*. However, emus can be extremely difficult to humanely shoot as they are usually in large mobs, running at speed and will try and run through fences if being pursued. Strychnine is not preferred as poisoning requires emus to learn to feed on grain provided at certain locations before the grain is then laced with the poison. The process also requires a strychnine permit and training by DAFWA. Strychnine poisoning poses a risk of non-target poisonings.

Options to control kangaroos are shooting or barrier fencing. Under the *Wildlife Conservation Act 1950* (GG 69 of 15 July 1988) there is an open season on grey kangaroos in the Shires of Ravensthorpe and Esperance. This means that grey kangaroos can be shot when they are causing damage to primary production or may be reasonably expected to cause damage to primary production.

Barrier fencing

Elsewhere along the interface of the rangelands and the agricultural region, the SBF has provided an effective, non-lethal means of emu control during migrations. These emu migrations are not natural but they amass because of enhanced water supplies in pastoral areas (Davies, 1977). For example, there are approximately 14,400 artificial watering points plus approximately 1300 dams in the southern pastoral area of Western Australia.

‘Migrations’ of large numbers of emus occur when years of good rainfall lead to increases in the emu population, which are followed by the failure of rains over consecutive seasons. The emus mostly follow rain-bearing clouds and head south east (i.e. not all into agricultural areas) in search of better environmental conditions

and most are expected to die as a result of the migration irrespective of a SBF. These migrations occur on average every 7 – 11 years. If large numbers of emus enter the agricultural region during these migrations they can cause significant damage by trampling crops.

As emu migrations are in response to poor conditions in the rangelands many emus do perish during migrations, generally in the rangelands, away from the SBF. Historically emu mortalities along the SBF have been the result of past policies of culling and by illegal culling.

The proposed Esperance extension will intercept the movement of emus during large scale migration events, limiting emu access to the south east agricultural region. Where the proposed Esperance extension intersects the direction of emu movement there is a potential for build-up of emu numbers. Under some weather conditions, emus may return to the rangelands, however some may perish.

DAFWA has gained experience from emu migrations along existing sections of the SBF. The most critical strategy for risk mitigation during migrations is to keep human activity along the fence to a minimum. This is required to prevent unlawful culling of emus and to prevent emus being forced along the fence. Work instructions for emu migrations have been developed for DAFWA staff. These focus on ensuring that areas of fence subject to pressure from large numbers of emus are avoided. Emus suffering from exhaustion are humanely euthanised. Traffic along the SBF is kept to a minimum by control of access permits. Penalties apply to those who access the fence without a permit.

Additional risk mitigation actions include optimising the alignment of the proposed Esperance extension fence, where possible, to minimise the use of acute-angle corners intercepting the direction of emu migration, where emu numbers may build up. Using plain wire rather than barbed wire and the use of high visibility coloured fence droppers will reduce the risk of entanglement and injury due to impact with the fence.

The proposed Esperance extension alignment is more complex than the existing SBF because it is intended to follow private land boundaries in order to minimise cultural and environmental impacts and impacts on the values of the Great Western Woodlands. If the fence is approved and constructed, DAFWA will monitor emu migrations along the fence when they occur.

The ecological benefits from kangaroos and emus will still be present within the agricultural land. Inside the existing 1190km SBF, which has been in place for over 100 years, emus and kangaroos are still present. In the Esperance agricultural area emu densities have been estimated to be $<0.1\text{km}^2$ outside the proposed fenced area and approximately 0.3km^2 in the neighbouring agricultural areas (Caughley and Grice, 1982).

Wild dog control alternatives

Wild dogs have the potential to cause significant impact to small stock enterprises. Such activities result in significant financial, social and environmental impacts.

The Esperance extension will form a barrier to the movement of wild dogs into the agricultural areas from areas of vacant Crown land and reserves. There are currently 713 properties with sheep brands within 50 kilometres of the proposed fence alignment. Many of these properties no longer run flocks of sheep, partially due to the risk of predation by wild dogs.

Individual farmers construct their own barrier fences

If farmers were to build their own private barrier fences around their properties it would not stop movement of emus, kangaroos and wild dogs into the agricultural areas through areas of vacant Crown land, nature reserves and road reserves that extend into and between agricultural properties. Many properties would therefore need to fence multiple boundaries and a very complex, much longer and less effective barrier fence 'network' would result.

This option would also require the cooperation of all landholders over a 659km distance to construct and then maintain multiple boundary fences to a barrier fence standard. This option would become ineffective if a property was left vacant or a section of fence was not maintained properly by a neighbouring property, for example.

Legislation under the *Biosecurity and Agriculture Management Regulations 2013* governing barrier fences is intended to impede the movement of declared pests such as emus and wild dogs via erecting, maintaining and managing barrier fences. The legislation also has provisions to control the movement of people and vehicles along barrier fences providing a more coordinated and consistent management approach over individual property fencing. This consistency in management and monitoring can provide improved animal welfare outcomes for large-scale agricultural pest control measures.

Status quo: wild dog management

DAFWA and the local agricultural industry has gained experience managing wild dog populations using alternative methods currently employed throughout the region including trapping, baiting and shooting wild dogs. It is the responsibility of landholders to control wild dogs on their property, however, the Northern Mallee Declared Species Group and the Ravensthorpe Declared Species Group were specifically set up to assist controlling wild dogs using these methods. The group contracts Pest Control Management Technicians that target their efforts at the interface of agricultural land and the vast areas of woodlands, which provide the source of new wild dogs entering the agricultural land.

The continuous risk that wild dogs pose for small livestock farmers in the region deters many farmers from investing or re-investing in small livestock and wild dog attacks on livestock in the region continue to occur. For example, over a four month period in 2015, one property approximately 60km east of Esperance lost 36 sheep

and 40 were wounded by one wild dog in four separate attacks. Lambing rates on the property dropped 20% and the property owners had to move all their sheep entirely off the property until the dog was eventually destroyed some four months later. The owners reported additional costs in freight and time and suffered significant emotional stress and anxiety from the attacks after dealing with mauled livestock.

Integrated wild dog control (trapping, baiting and shooting) will still be required if a barrier fence is constructed but to a lesser extent to minimise dog movement along the fence and to reduce the passage of wild dogs through the unfenced river crossings and the open coastal end point. DAFWA are undertaking research programs to greater understand the behaviour and movement of wild dogs and the effect the fence has elsewhere in WA on wild dog movements.

Use of livestock guardian dogs

Another option considered and trialled by landholders in the region to protect their livestock from predation is the use of livestock guardian dogs. Guardian dogs of various breeds have been shown to reduce the impact of wild dogs and foxes on producers at the property level if the dogs are correctly trained and managed (van Bommel, 2010). However, this option is unlikely to be effective at managing wild dogs at a regional and landscape level on its own.

Guardian dogs have been trialled in the Esperance region with limited success. There may be several interacting reasons why these trials have been unsuccessful, such as inadequate training or bonding with the stock or poor genetic stock. Farming in the south east continues a trend towards larger property holdings with less staff. Many farmers consider the significant time and effort required to train and manage successful guardian dogs as too onerous and the potential for failure too high. Moreover, guardian dogs will not stop kangaroo or emu damage to crops as when crops are in the ground, livestock are removed from the fields. The end result is that this option has been available to farmers in the region for some time but farmers have not adopted their use due to the complexities of use and unsatisfactory outcomes.

Conclusions

DAFWA and the agricultural industry in the Esperance region have considered and trialled the alternative options for wild dog, emu and kangaroo control over a long period of time and believe the best long-term, non-lethal option is to construct the Esperance extension to the SBF. The final fence alignment, fence structure and clearing practices proposed will minimise or avoid potential environmental or cultural impacts. The Esperance extension will provide significant socio-economic benefits to agriculture and have other associated positive impacts for the region, which have been endorsed by the agricultural industry in the Esperance community and the WA Government.

References

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