

Submission: June 2021

Review of the Victorian Wildlife Act 1975

**Association for Conservation of Australian Dingoes
(AFCAD) (A0109166X Inc.)**

**With Respect to the Act's Deficiency in Terrestrial Apex
Predator Conservation**

Prepared by Dr Ernest Healy

About the Association for Conservation of Australian Dingoes Inc. (AFCAD)

AFCAD is an incorporated association registered in the state of Victoria. Its purposes are the 'Preservation and Conservation of Australian Dingoes and its habitat and ecosystems', and its objectives include:

'Encourage and facilitate *legislative reform* to ensure the protection and survival of the dingo in the wild';

'Encourage and facilitate government *policy change* to ensure the protection and survival of the dingo in the wild'; and

'*Inform and educate* the public and government about the cultural, ecological and historical significance of the dingo and its conservation'

Submission focus and relevance

The submission addresses issues relating to serious deficiencies with the Victorian Wildlife Act 1975 and its articulation with other Victoria legislation with regard to adequate *definition of the dingo*, its unprotection under the Wildlife Act, and negative flow on effects from unprotection for its apex predator function within Victorian ecosystems.

The concerns raised within the submission relate to the following issues being dealt with by the Independent Review Panel:

- whether the Act's current objectives and scope are appropriate, comprehensive and clear
- whether the Act appropriately recognises and protects the rights and interests of Traditional Owners and Aboriginal Victorians around wildlife and their role in decision making
- contemporary values and expectations regarding wildlife
- the need to protect and conserve wildlife and to prevent wildlife from becoming extinct
- interests in sustainable use of, and access to, wildlife
- the role of wildlife in the cultural practices and beliefs of Traditional Owners and Aboriginal Victorians
- the impact of wildlife on agriculture and other activities

Historical background – Recognition of the dingo as Wildlife and the Victorian Dingo threatened species listing

In 2010, accepting a recommendation from the Victorian Scientific Advisory Committee (VSAC), the then Victorian Minister for the Environment, the Hon. Gavin Jennings, listed the dingo as a threatened native taxon under the *Flora and Fauna Guarantee Act 1998*. This was a landmark decision. Threatened species status meant that the dingo governance fell to the *Victorian Wildlife Act 1975*, rather than the pest animal provisions of the *Catchment and Land Protection Act 1994*, under which it previously had been governed as an 'established pest animal', along with feral pigs, goats and rabbits, to be '...eradicated or controlled or its spread in the wild ... prevented' (*Catchment and Land Protection Act, 1994*).

To facilitate the continued protection of farm livestock from predation, a 3 kilometre ‘buffer’ was declared at the interface of Crown and private land, within which dingoes could be lethally controlled, despite being listed as threatened under the FFG Act.

A serious limitation of the Victorian dingo threatened species listing was that only ‘pure’ dingoes were included, which meant that dingo hybrids continued to be afforded no protection as wildlife under the Wildlife Act. All dingo hybrids, *no matter how small the degree of hybridisation*, would remain pest animals under the *Catchment and Land Protection Act 1994*. The conservation dilemma thus created has been succinctly expressed by the Humane Society International:

A major problem for those charged with protecting Australian wildlife and particularly the dingo is that there are Acts of Parliament that both protect dingoes and call for their eradication! (HSI)

The reason offered by biodiversity bureaucrats at the time of the listing, for the exclusion of even mildly hybridised dingoes from wildlife status, was that the protection of hybrids was not legally possible, as hybridisation had been identified as a threat to pure dingoes. Subsequent independent legal advice, however, found that there is sufficient legal latitude under the *Flora and Fauna Guarantee Act* for the inclusion of hybrids for protection. Indeed, this has now been conceded by senior Victorian biodiversity bureaucrats.

Background - The ecological significance of the dingo

It is not intended here to provide a comprehensive account of this literature, but to simply highlight some key insights.

Over the past two decades, ecological research around the world has increasingly focused on the importance of the conservation apex predator populations for terrestrial and marine ecosystem health and the preservation of biodiversity. Diminishing apex predator populations have been associated with ecosystem instability and species decline. The dingoes’ range has contracted greatly since white settlement due to eradication programs.

Johnson (2015) stresses that, although Australia once had a diverse suite of large carnivorous marsupials, which paralleled predator assemblages of other continents, the extinction of these native predators resulted in a “drastic simplification of the ecological structure of wildlife communities in Australia.” Professor Johnson concludes:

Seen in this light, the dingo is one of the most significant species of wildlife in Australia: it replaces at least some of the ecological function of those extinct large carnivores... it provides a stabilising influence which confers a measure of resilience on native wildlife communities... we should value the dingo and protect it as part of the natural fabric of Australian ecology (Johnson 2015).

A substantial body of scientific literature now shows that removing an apex predator from an ecological system can have profoundly negative impacts, affecting species richness and abundance (Corbett 1995a in HSI 2005, Fleming 2001, Glen and Dickman 2005, Glen *et al.* 2007, Harden 2001, Johnson 2006, Letnic in de Blas 2009, Soulé 2007, Wallach *et al.* 2009a).

In a paper published in *Biological Sciences*, Johnson and colleagues suggest that the rate and number of mammal extinctions in Australia over the past 150 years highlights the relationship between the presence of top predators and populations of smaller predators. When top predators are persecuted and their numbers decline, there are also declines and even extinctions of some

prey due to the proliferation of introduced mesopredators - foxes and feral cats (Johnson *et al* 2007).

However, if dingoes are removed from an area foxes and cats move in, this could prove disastrous for critical weight range native mammals (Meek and Shields 2001). Recent research highlights the positive role that dingoes have for small native species which are threatened by recently introduced invasive red foxes and feral cats. Stable, healthy dingo populations, show a suppressive effect on fox and cat numbers and their predatory behaviors.

The ecological significance of dingo hybrids

Dr Laurie Corbett, an eminent dingo expert, has argued that dingo hybrids constitute an essentially an *evolved* dingo that performs the same or similar ecological functions as previously (HSI 2005).

Conservation therefore needs to be focussed on managing dingoes so that they can fulfil a particular ecological, cultural or economic role (Daniels and Corbett, 2003). Similarly, Purcell (2009) suggests that it may be better to focus on dingoes' function in ecosystems than focussing on its DNA and physical attributes.

A jointly signed letter to the Victorian Minister for the Environment in October 2009, by 26 prominent Australian and international experts and scientists, stated that:

Concern about hybridisation is based on an ecologically unproven distinction between 'pure' dingoes and ecologically functional 'dingo hybrids'. Continued use of the terminology 'wild dog' is not justified because wild canids in Australia are dingoes and dingo hybrids, not feral domestic dogs.

This weight of expert opinion highlights the environmental risk in perpetuating a legal/policy distinction between pure dingoes and dingo hybrids. The current relegation of dingo hybrids to the status of an 'invasive pest animal' simply ignores the weight of independent scientific opinion, that the lethal control of dingoes and their hybrids is environmentally harmful.

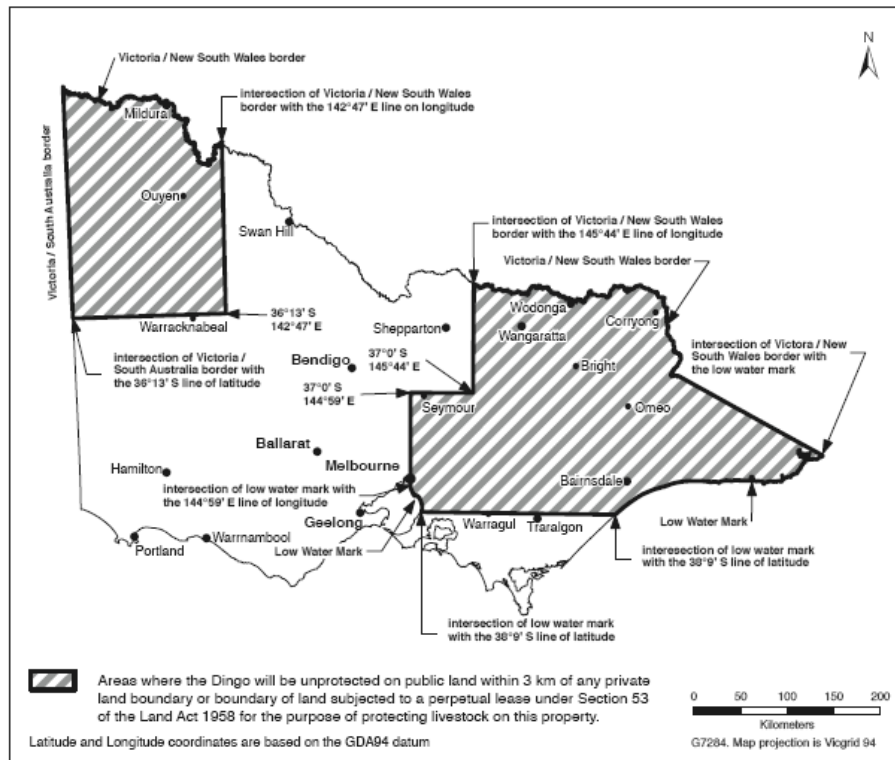
In brief - Deficiencies of the Wildlife Act 1975 in relation to apex predator conservation

Three basic deficiencies of the Wildlife Act 1975, are that:

- a. The Act facilitates the excessive unprotection of the dingo, even though the taxon is listed as threatened under the Flora and Fauna Guarantee Act - ostensibly to strike a balance between apex predator conservation and the protection of farm stock;
- b. The Act is blind to an ecologically inappropriate definition of the dingo being adopted by government, which has relegated high conservation value dingo hybrids (genetically dominant dingo hybrids) to continued pest animal status, thereby subjecting them to ongoing lethal control programs. Apex predator function within Victorian ecosystems has been thereby unnecessarily undermined. Less than pure dingoes have been stigmatised and lethally controlled as 'wild dogs', a classification which is not supported by available genetic evidence.
- c. The Act has been blind to a serious imbalance between the actual level of threat posed by dingo (and dingo hybrid) populations to farm stock and the intensity and extent of lethal control across large areas of Crown Land.

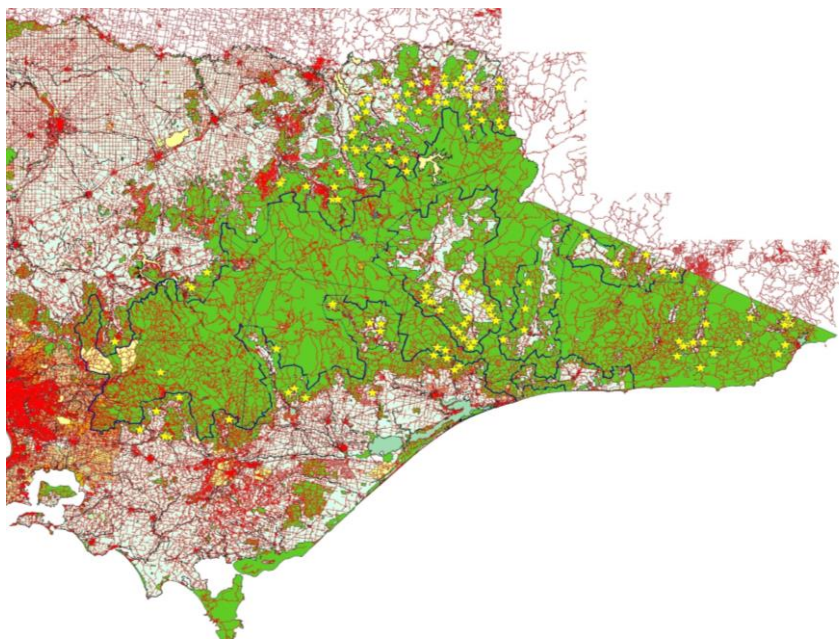
Unprotection of the dingo under the Wildlife Act 1975

Immediately as the dingo was listed as threatened wildlife under the FFG Act, its unprotection under the provisions of the Wildlife Act 1975 was Gazetted by the Victorian government. Pure and listed dingoes were unprotected on all private lands and on public lands within the shaded areas of the state, indicated below, within a 3 kilometer area at the interface of public and private land.



A more instructive indication of the area where dingoes are subject to unprotection is provided by the map below, which shows the 3 kilometer boundary across eastern Victoria (blue line), where the greater part of lethal control in Victoria is conducted. This map under-represents the area of unprotection because in instances where there is a small parcel of private land, there is a 3 km circular area of unprotection surrounding it (6 kms in diameter), and such areas are numerous.

Map 1 – Three klm unprotection boundary in Eastern Victoria



Although subject to periodic review, and has once been reviewed, it is functioning as an ongoing unprotection order.

Section 7A of the Wildlife Act 1975

The provision of the Wildlife Act relied upon for dingo unprotection was section 7A. This allows for unprotection of wildlife taxa in order to protect property and animals. The focus of the then Minister for Environment (the Hon. Gavin Jennings) at the time of the initial unprotection order was the protection of farm stock from predation.

7A Governor in Council may declare protected wildlife to be unprotected in an area of Victoria

**S. 7A(1) amended by No. 87/1997
s. 42(Sch.
item 2(a)).**

- (1) Whenever it appears to the Minister that a taxon or kind of protected wildlife is causing injury or damage to—
- (a) any building, vineyard, orchard, garden or other property;
 - (b) any crop, grass, trees or other vegetation; or

**S. 7A(1)(c) amended by No. 87/1997
s. 42(Sch.
item 2(a)).**

- (c) any taxon or kind of animal (including fish)—

in an area of Victoria, the Governor in Council may upon the recommendation of the Minister by an Order published in the Government Gazette declare that taxon or kind of wildlife to be unprotected wildlife in the area and for the period specified therein.

Defining the dingo out of existence

The relegation of all dingo hybrids to 'wild dog' status

Aa fundamental deficiency in the dingo threatened species listing and its inclusion under the Wildlife Act was that it created a lethal legal distinction between 'pure' dingoes and dingo hybrids that had no ecological basis. Dingo hybrids remained delegated to pest animal status under the Catchment and Land Protection Act. The distinction is ecologically meaningless because it ignores the issue of apex predator ecological function. Nore does the distinction adequately reflect the taxonomic reality of what is being either protected or destroyed. The distinction is a legal fiction that in practice undermines dingo conservation, as well as ignoring ecological reality.

The widespread and persistent use of the term 'wild dog', including by government agencies in Victoria, to refer to dingo hybrids (no matter how small the degree of hybridisation) simply obscures the genetic reality of what is being routinely destroyed under the pretext of 'invasive pest animal' management.

The institutionalised fiction that dingo hybrids, in being 'wild dogs', are an 'invasive pest species' desensitises the public to the reality that their government actively encourages and orchestrates the routine killing of a native animal. At one level, this demonizing narrative, through sheer assertiveness and constant repetition, serves to supplant rational, factually based policy and management. At another level, this lockstep approach to the 'wild dog' narrative facilitates the manufacture of public consent for something that would otherwise

be perceived as odious and unacceptable. In this case, it is the ongoing wholesale destruction of a native animal - the dingo.

A particularly worrying aspect of the 'wild dog' myth is that it encourages recreational hunters to kill dingoes in the mistaken belief that they are helping to remove invasive pests and are thereby performing an ecosystem service.

The genetic reality

As it is important for identifying a serious flaw in the current Wildlife Act relating to apex predator conservation, the genetics of Victorian dingoes is given detailed consideration.

The fixation on 'purity' in relation to dingo conservation has obscured the genetic reality that so-called 'wild dogs' in Victoria are predominantly dingo in genetic composition and that they continue to be ecologically important.

The false distinction between dingoes and 'wild dogs' has facilitated misleading claims that dingoes no longer exist in Victoria, only 'wild dogs', and that Victorian farm stock are being killed by an introduced, 'invasive' predator.

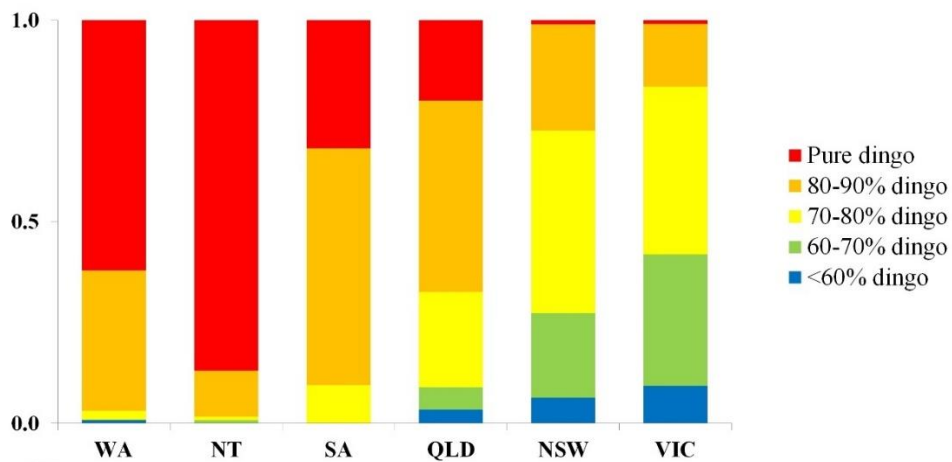
The term also implies that 'wild dogs' (predominantly dingo hybrids) present a similar threat to biodiversity and native animals as do foxes and feral cats and need to be similarly lethally controlled.

At around the time of the threatened species listing, the most comprehensive study of dingo genetics across Australia, including Victoria, was conducted by Dr Danielle Stephens in 2011. Dr Stephens' findings were seized to justify the continued lethal destruction of alleged 'wild dogs'. Such justification, however, was based on a selective and superficial presentation of the Stephen's findings. Unfortunately, the June 2012 Dingo Threatened Species Action Statement, reported Stephens' findings in the following terms:

...using tissue samples from 514 canids killed by professional wild dog controllers around pastoral and public land boundaries, as contracted by the Department of Primary Industries over 2009/2010, **only about 1% of individuals were considered to be genetically pure** Dingoes... (Department Sustainability and Environment, 2012) (Our emphasis)

A closer examination of Stephens findings showed that the majority of samples were predominantly of dingo ancestry. Chart 1 is based on Stephens' findings.

Chart 1 Levels of dingo purity by state/territory



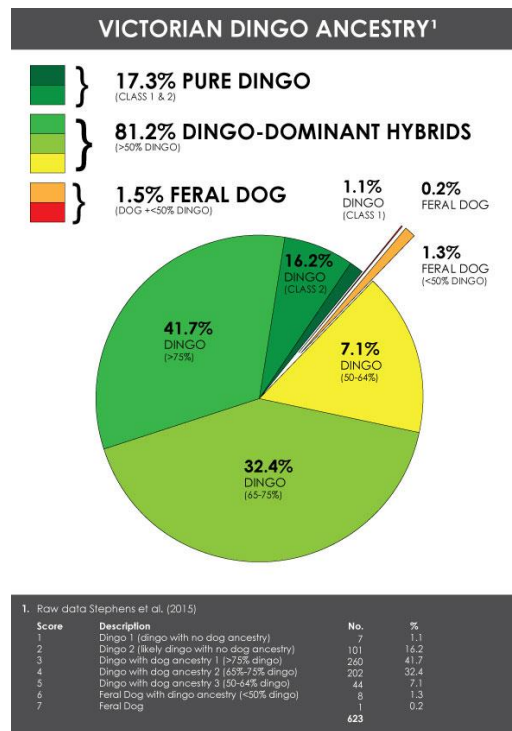
Source: Based on Stephens 2011; Victorian results based on 626 samples, predominantly from eastern and north-eastern Victoria

The chart also shows that an exclusive focus on the proportion of dingoes that may be considered ‘pure’ is misleading. A more nuanced assessment is more useful from a conservation and ecological perspective.

Chart 2 provides a more precise reading of Stephens’ genetic findings. First, the proportion of the sample that can be reasonably deemed to be pure is greater than that commonly presented. Because some microsatellite genetic markers used in the testing are shared by domestic dogs and dingoes, the first two categories of those listed in the chart can be combined to indicate the share that may reasonably be considered to be pure. These two categories combined indicate that 17.3% may be deemed pure, not 1.1%.

At the other extreme, the proportion of the sample with less than 50% dingo ancestry or no dingo ancestry is only 1.3%. What may be termed dingo-dominant hybrids account for 81.2% of the sample, with more than 50% dingo ancestry. Forty-one per cent were hybrids with greater than 75% dingo ancestry.

Chart 2 Genetic composition of Stephen's sample



Source: Based on Stephens et al. 2015¹

These data are consistent with the recent findings of Cairns et al. (2019) in north eastern NSW who identified that the majority of wild canids were predominately dingo ancestry and feral dogs (domestic dogs run wild) were virtually absent from the free-ranging canid population.

It is necessary to bear in mind the inherent limitations of the genetic technique involved, which appears to have been ignored in in defining the dingo for listing.

A cautionary note was expressed by the geneticist, Dr Allan Wilton, who developed the dingo microsatellite purity testing method which was used by Stephens. Dr Wilton (now deceased) is quoted at length on the limitations of the testing technique used:

Regarding DNA profiling for differentiating dingoes from dogs and hybrids, the testing is complex and it would be a mistake to use too constrictive a definition of what is a pure dingo. *It would be impractical if the definition is too strict and it would be scientifically invalid.*

The reason it may not be valid is that we cannot easily distinguish between hybridisation and region genetic variation using the test. The test relies on comparison to a reference group of dingoes. If this group is not representative of all dingoes, then any genetic differences will be interpreted as coming from dogs and animals from different geographic regions will be classed as hybrids.

An example of this is the Fraser Island dingoes. Some Fraser Island dingoes would be identified as hybrids under a strict interpretation of the results. Examination of the data show that they have some unique types at some genes and this is the reason for the

¹ Thanks to Ms Melinda Browning who prepared the chart

calculation classifying some of them in group 2 or 3 (which could be interpreted as hybrids).

There are other methods of analysing the data. The computer program... assigns individuals to populations based on their genetic profile. Again, it depends on what parameters are set to do the analysis how the answer comes out. If only 2 populations are allowed and only data from reference samples are used Fraser Island samples would be hybrids. But if 3 populations are allowed and the program assigns the samples to populations, Fraser Island forms its own distinct pure dingo group.

This illustrates the reasons to use a relaxed definition of dingoes when examining purity of animals in the wild. If the scoring alone was to be used, a cut-off of $3Q=0$ is recommended. Further analysis of the same data with assignment programs... is also recommended. (Wilton, private communication, July 2011) (Our Emphasis)

Note that the '3Q score of 0 referred to by Wilton represents a purity level of 75%.

This caveat should have been heeded for the framing of the dingo threatened species listing. As Wilton's comments suggest, at the very least the listing should have included dingoes that fall within the range of 75%-100% on the microsatellite test, as 'pure' for the purpose of conservation in the wild. By ignoring this important qualification, the Victorian authorities consigned a large proportion of dingoes in the wild to invasive pest animal status, to be lethally controlled.

Considered in relation to Stephens' findings above, if her sample is considered to be representative, approximately half the dingoes in the wild should have been designated as 'pure', rather than the mere 1% indicated in the Victorian bar in the chart.

Geneticist, Dr Kylie Cairns² has since corroborated Alan Wilton's caveat on interpreting the DNA testing results for dingoes in the wild. Cairns stated:

... applying too restrictive a definition of what a "pure" dingo is would be a mistake. This would be both impractical and scientifically invalid...

This is specifically because it is not possible to distinguish between hybridisation, regional variation and shared ancestral variation using the current dingo DNA testing methodology...

... a relaxed definition of dingoes should be used when examining animals in the wild. In defining what is 'pure' for conservation in the wild, I would recommend the use of a cut-off at $3Q=0$ and the use of additional analysis with programs such as STRUCTURE. A cut off at $3Q=0$ would mean that *dingoes that test 75% or more should be treated as 'pure' for conservation purposes in the wild.* (Cairns, May 2016) (Our emphasis)

A further consideration is that Dr Stephens' genetic testing results relied upon the use of a genetic benchmark derived from a sample of dingoes that was biased towards dingoes from Western Australia. This means that the results were likely to exaggerate the degree of hybridisation in South East Australian dingoes – including in Victoria. That is, the degree of hybridisation shown in the Victorian and NSW bars in Chart 1, and in Chart 2 above is likely to be overstated.

• ² Dr Kylie M Cairns is a research fellow at the Centre for Ecosystem Science in the School of Biological, Earth and Environmental Sciences, University of NSW.

A further relevant consideration is the ongoing process of evolution in the wild. Ongoing heavy selection pressure likely means that any hybrid variation from the ancestral type is quickly eliminated if it is not advantageous to survival in harsh conditions. In this regard, it is noteworthy that Tasmania, which does not have dingoes, has no feral dog problem as such. Domestic dogs generally cannot survive in the wild, which suggests that Victorian hybrids are qualitatively different from domestic dogs and are functioning as wildlife.

Excessive lethal control facilitated by unprotection

In this and the following sections, evidence is presented to show that the resultant lethal control in dingoes and high purity hybrids as a result of the unprotection order has been excessive.

In practice, the 3 kilometer unprotection area has not been strictly adhered to. Annual consultations with landholders (farmers) help determine where government lethal control is to be focussed for the forthcoming period. In a significant number of cases, lethal control is conducted well beyond the stated 3 kilometer limit prescribed in the Gazetted unprotection order. The means of lethal control include trapping, baiting (including aerial baiting) and recreational hunting (which includes provisions for a bounty).

It is also notable that the northwest of Victoria was included for unprotection, despite livestock farming being a marginal activity and in historical decline in that region in favour of grain cropping and other farming activities. In this region, including in the Big Desert National Park, significant numbers of dingoes are lethally controlled in response to very small stock loss.

Since being listed as a threatened indigenous taxon, and being unprotected within a significant part of the state, the extent and intensity of either governmental or governmentally sanctioned lethal control of dingoes has increased, rather than decreased. Lethal control has been extended to include aerial baiting in rugged, remote habitat on Crown land and the introduction of a so-called 'wild dog' bounty.

Recreational hunting

As noted, under current Victorian wildlife legislation, government employees can only kill dingoes on specified areas of Crown land, ostensibly to protect farm stock from predation. Even though dingoes are declared protected on remaining Crown land and government controllers cannot operate beyond specified control areas near to farmland, Victorian legislation nevertheless allows recreational hunters to kill so-called 'wild dogs' over vast areas of Crown land where government controllers are disallowed.

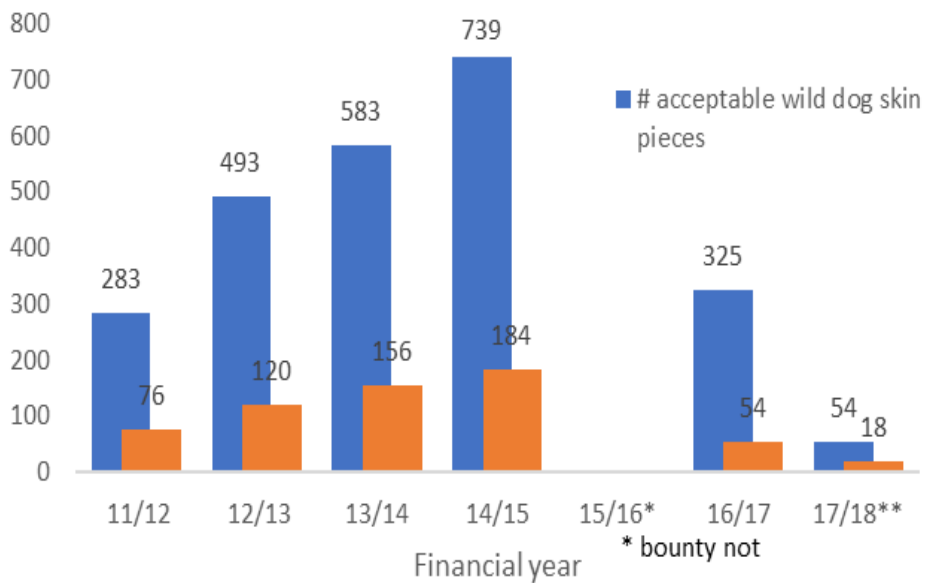
In reality, the visual differentiation between pure dingoes and dingo hybrids is virtually impossible and recreational hunters are killing threatened and protected dingoes with virtual immunity.



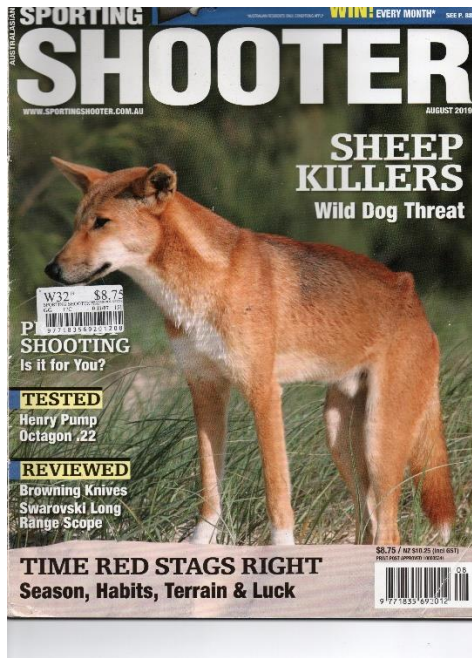
Although, the so-called 'wild dog' bounty is only legally available for scalps taken from within the 3 kilometer unprotection area, compliance is in practice non-existent. Pelts from dingoes killed beyond the 3 kilometer area can easily be presented as taken from the 3 kilometer zone. The bounty arrangements are open to fraud. The animals shown above, from social media posts, are almost certainly pure dingoes.

The number of dingoes killed, and the potential negative environmental impact, from recreational hunting is significant. The chart below shows the numbers of dingo/'wild dog' pelts submitted for the bounty payment between 2011-12 and 2017-18.

Chart 1 Wild dog bounty collection figures from 2011/12 to 2017/18



The 'wild dog' bounty commenced in 2011-12. The blue bars in the chart show the number of dingo scalps handed in on a yearly basis. Over 2000 dingo scalps were handed in over the period shown. To help put those numbers in ecological perspective, recent research by the Arthur Rylah Institute has shown that the density of dingoes in eastern Victoria is, on average, approximately 2.6 per 100 square kilometers. There are not that many dingoes out there, and that is exactly what you would expect from an apex predator at the top of the food chain. Therefore, 2000 odd scalps handed in over just several years can potentially have a significant negative impact on the size of the dingo population, pack structures and on apex predator environmental function.



Ground baiting

Table 1 provides an indication of the extensive scale of ground baiting aimed at dingoes in Victoria. It provides data for three selected years. With the exception of 'community baiting', which occurs on private land, the other statistics provided refer to lethal control on Crown land.

Table 1 – selected statistics on Victoria ground baiting programs

Selected 'wild dog' program data, Victoria, 2015-2016, 2016-2017 and 2018-2019					
	Fulltime 'Wild Dog' Controllers	Trap night capacity	DEWLP Targetted Ground Baiting		Community 'Wild Dog' Control Targets - private land
			Transects to be baited (km)	Est. No. Baits at 10 per kilometer	Baits to be laid in forthcoming period
2015-2016	19	57,750	2,271	22,710	33,450
2016-2017	19	57,750	2,131	21,310	37,584
2018-2019	18	57,000	1,965	19,650	8,555
Source: DELWP, selected wild dog program reports					
Trap nights is the number of traps set by the number of nights deployed.					

Looking at the 2015-16 data as an example, there were 19 full-time wild dog controllers deployed. In terms of trap-night capacity (the number of traps set by the number of nights deployed, there were nearly 60,000 in that year. There nearly 2,300 linear kilometers of ground baiting. At 10 baits per kilometer, that is nearly 23,000 baits. Community baiting on private land was forecast to be 33,500 baits for the forthcoming period.

Farm stock loss – the facts

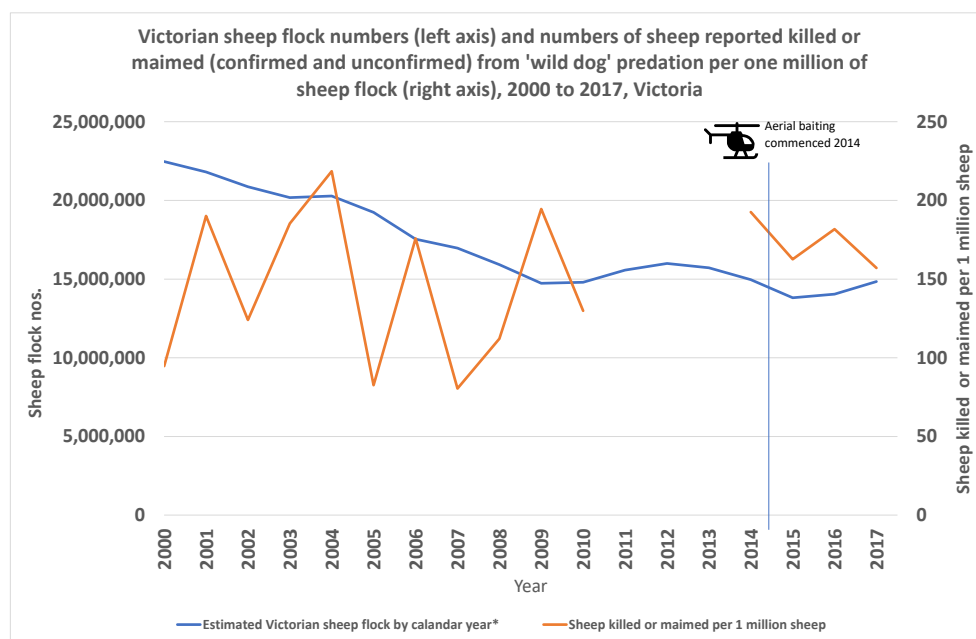
This section presents Victorian government stock loss data to show that the scale and intensity of lethal control, of both dingoes and their hybrids has been disproportional and excessive.

In February 2020, under Victorian Freedom of Information legislation, AFCAD Inc. acquired an extensive data set on farm stock loss (killed and maimed) to 'wild dog' predation, covering the years 2000 to 2019. This was the first time that this departmental data had been made available for independent scrutiny. Although the data classification used over this period was not altogether consistent, it was nevertheless possible to establish a trend in the scale of sheep lost to predation. This trend data was matched to Australian Bureau of Statistics agricultural data relating to the size of the Victorian sheep flock over the same period. The results are shown in Chart 2.

Although the annual numbers of sheep reported lost to predation vary annually, there is a clear downward trend over the period 2000 to 2017. The highest numbers reported were 4,147 and 4,431 in 2001 and 2004, respectively. The lowest numbers reported are from recent years: 1,241 and 1,237 in 2015 and 2017, respectively.³

The data show the numbers of stock reported killed or maimed relative to the size of the sheep reported killed or maimed per 1 million sheep in Victoria for the period 2000 to 2017.⁴

Chart 2



Stock loss rates per million of the Victorian sheep flock are extremely small. Victorian government stock loss data show that claims of stock loss to dingo/'wild dog' predation have been consistently exaggerated. In absolute and relative terms, the losses have been negligible. Long-term analysis of the data shows that, over the period 2000 to 2017, sheep losses were between approximately 100 to 200 in every one million sheep. Yet, the stated reason for the unprotection and widespread lethal control of dingoes, and so-called 'wild dogs', is to prevent farm stock predation.

³ The data presented relate to reported stock loss, not confirmed stock loss.

⁴ Data for the years 2011 to 2013 are not considered reliable, as this was a time of transition in data classification.

Aerial baiting for 'wild dog' control by the Victorian Coalition government was introduced in 2014 and it has been maintained by subsequent Labor governments. This was a major escalation in lethal control. The data confirm that the introduction of aerial baiting in Victoria in 2014 had no significant effect on stock loss from predation, although evidence indicates that it kills many dingoes (Robley et al., 2018).

It should be noted that reported predation of stock in western Victoria is economically negligible and the case for lethal control, including a bounty, in that part of the state is unwarranted.

Further, the decline in the size of the Victorian sheep flock over the past two decades has not been due to wild dog predation forcing farmers to give up sheep farming, as has been capriciously claimed. The reduction in Victoria's sheep population over recent years has reflected a changing emphasis within the industry from wool to meat and alternative farm management practices. It has also reflected changes in the international market for sheep products. A 2014 sheep industry report stated:

There has been significant adjustment in the industry over the last two decades, with the flock size falling by a third, from 23.4 million head in 1993-94 to 16.1 million head in 2012-13. (DEDJTR, 2014)

Conclusions and recommendations

In summary, the data and discussion above point to a number of serious deficiencies in the Wildlife Act 1975 in relation to the effective protection of Victoria's indigenous apex predator, the dingo.

- At the same time as being granted wildlife status under the Wildlife Act 1975 and threatened species status under the Flora and Fauna Guarantee Act, the dingo was unprotected across a significant area of Victorian Crown lands, under section 7A of the Wildlife Act. This unprotection has been effectively ongoing.
- At the same time as being granted wildlife status under the Wildlife Act 1975 and threatened species status under the Flora and Fauna Guarantee Act, the lethal control of dingoes has increased in extent and intensity. It is reasonable to say that, in practice, the dingo has no more protection today than before it granted wildlife and threatened species status.
- An examination of available government stock predation data over the period since the year 2000, shows that farm stock (sheep) losses to dingo/'wild dog' predation have been negligible at the state level.
- An ecologically based evaluation of the natural environmental function and value of dingo hybrids in defining 'the dingo' for conservation purposes under the Wildlife Act 1975 has not been undertaken, as the basis for differentiating between dingoes and so-called 'wild dogs'. The lethal distinction between dingoes and dingo hybrids, which elevates pure dingoes as wildlife and relegates dingo hybrids to 'invasive pest species' status has no ecological basis.
- Prominent expert advice that, due to the limitations of current genetic testing techniques, dingoes which test as hybrids between 75 and 99 percent dingo composition should be governed as pure for the purposes of conservation in the wild, were ignored. As a result, it is highly likely that pure dingoes have been relegated to pest animal status and unnecessarily subject to lethal control.

AFCAD therefore recommends that the new Act:

1. Ensures that hybridised offspring of indigenous taxa that hybridise with their domestic counterparts, as with the dingo (the dingo may be the only instance in Australia), are deemed eligible for wildlife status under the Act, on the basis of sound environmental analysis, such as ecosystem function.
(As the available genetic evidence shows that there are virtually no ‘feral dogs’ in Victoria, and virtually no dingo hybrids less than 60% dingo, all dingo hybrids should be eligible for inclusion as wildlife under Victorian legislation. Any arbitrary differentiation between dingoes and ‘wild dogs’ would thereby be avoided.)
2. Recognises the significance of apex predators, as keystone species for the maintenance of Victorian ecosystem resilience and stability.
(At present the Wildlife Act 1975 is blind to issues of ecosystem structure and the need to maintain ecosystem trophic integrity.)
3. Ensures that no native taxon, including the dingo, which is listed as threatened under Victorian biodiversity legislation, or federal legislation can be unprotected under Victorian legislation, in particular for reasons of agricultural protection.
4. Prohibits the recreational hunting of dingoes and their hybrids in Victoria.
5. Prohibits lethal control of dingoes (in principle all Victorian wildlife) in Victorian national parks.
(National parks should be a haven for Victorian wildlife, especially any taxa listed as threatened.)
6. Require a primary emphasis on non-lethal control of dingoes (potentially all indigenous wildlife) that present as a threat to agriculture, with lethal control as a last resort and only after non-lethal control methods have been shown to have been unsuccessful.
7. Ensures that lethal control of dingoes and their hybrids is proportionate to the scale of the actual threat to farm stock.
8. Ensures that any lethal control of dingoes and their hybrids for the purposes of farm stock protection, that is deemed necessary, is *reactive* and *not pre-emptive* – as a response to actual damage incurred, not imagined or expected.
9. Ensures that lethal pest management programs for invasive pest species (landscape level poisoning programs), such as foxes and feral cats, do not negatively impact on the wellbeing of dingo populations.