

# Canberra Indian Myna Action Group Inc

Patron: Prof Tony Peacock

*National 2013 “Keep Australia Beautiful” Award Winner  
for  
Environmental Innovation & Protection*



## SUBMISSION TO ACT GOVERNMENT

### ON DECLARATION OF INDIAN MYNAS AS PEST ANIMALS

The Canberra Indian Myna Action Group Inc (CIMAG) proposes that the ACT Government include the Indian (Common) Myna (*Acridotheres tristis*) on the ACT List of Declared Pest Animals as a “prohibited pest animal” under the *Pest Animals and Plants Act 2005*. Under the Act, a Management Plan for the Declared Pest Animal is required to be prepared. In this Submission, CIMAG offers to assist in the development of the Plan and offers some preliminary suggestions as to what actions could be included in the control of the pest.

In support of the proposition to declare the Indian Myna as a “prohibited pest animal”, we make the following points.

#### **Background**

The Indian Myna is a bird naturally occurring in the Indian Sub-continent that was introduced into Australia in the 1860s in Melbourne.

The bird was introduced into Canberra in two locations (Kingston and Forrest) in the 1960s, and over the following decades spread across all urban areas. It is now extending its range into ACT peri-urban areas and, concerningly, into ACT Nature Reserves, including the iconic Mulligans Flat Nature Reserve, and approaching Tidbinbilla Nature Reserve.

The Indian Myna is an omnivorous, hollow-nesting, commensal bird, living in close proximity to humans. It is one of the three birds listed on the IUCN’s list of the 100 most invasive species in the world. The species has been observed dominating natural nesting hollows, evicting native birds, killing the chicks and destroying eggs (Byrd 1979; Jones 1996; Pell and Tidemann 1997a, b; Feare and Craig 1998; Harper et al. 2005). As a scavenger and forager around domestic properties, shopping centres and schools, its presence is conspicuous and it is well-known to Canberra residents.

#### **Supporting Argument**

The Indian Myna has a number of characteristics which render it a serious environmental, economic (agricultural / horticultural), human health and urban amenity threat. It is for this wide-ranging level of threat that the Canberra Indian Myna Action Group Inc proposes that the Indian Myna should be included on the ACT list of Declared Pest Animals.

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## ***Environmental Threat***

Scientific research (Tidemann and Pell 1995; Grarock 2012; Yim 2009; Clark 2016) have clarified the environmental threat posed by the Indian Myna.

### 1) Competition for Breeding Hollows.

Mynas out-compete native birds for nesting hollows, and thereby reduce the opportunities for native birds to breed. Chris Tidemann & Stuart Pell's 1996 research on myna competition for nesting hollows against Crimson and Eastern Rosellas on Oakey Hill and Red Hill, indicated that the myna was most dominant, winning 76% of the encounters. In the case of competition for nesting hollows against Eastern Rosellas, mynas won over 99% of the disputes (Pell & Tidemann 1996).

Mynas also affect native breeding opportunities by their tendency, presumably for competition purposes, to block a number of hollows nearby to the one which they are utilizing.

Kate Grarock's PhD research in 2010-13 involving 240 nesting boxes in 15 reserves adjacent to Canberra suburbs to assess myna competition for nesting hollows identified that, further to the direct competition as found by Pell and Tidemann, mynas also interrupted and evicted rosellas that were already occupying nesting boxes. Rosella breeding events in up to 19% of nesting boxes were interrupted by mynas evicting the rosella and taking over the box.

Moreover, Ms Grarock's analysis of the Canberra Ornithologists Group's (COG) 32 year Garden Bird Survey (GBS) data, indicated that as Indian Myna numbers increased they had a deleterious impact on the abundance of a number of hollow-nesting native birds. Ms Grarock found a significant negative relationship between the establishment of the Indian Myna and the abundance of the Sulphur-crested Cockatoo, the Crimson and Eastern Rosella and the Laughing Kookaburra. After Indian Mynas became established in the Canberra environment, Sulphur-crested Cockatoo abundance reduced by an estimated 60.7 birds per km<sup>2</sup> each year; after Indian Myna establishment, Crimson Rosella abundance declined by an estimated 60.3 birds per km<sup>2</sup> each year, while after Indian Myna establishment, Laughing Kookaburra abundance reduced by an estimated 60.2 birds per km<sup>2</sup> each year.

*Conclusion: Accordingly, Indian Myna impact on rosella breeding success is quite significant: they stop rosellas from accessing nesting hollows and also interrupt and evict rosellas from hollows once they have started to breed. This has had a significant negative impact on the abundance of certain hollow-nesting native birds.*

### 2) Impact on native bird abundance

#### Impacts on Hollow-nesting Species

As mentioned above, mynas have had an adverse impact on the abundance of certain native hollow-nesting birds: eg, Sulphur-crested Cockatoo, Laughing Kookaburra, Crimson and Eastern Rosellas. A concern is the risk that mynas pose to the rare incidences of Superb Parrot breeding in the ACT. The Superb Parrot, formerly listed as nationally endangered, has in recent years been recorded breeding in ACT Nature Reserves (eg Mulligans Flat): the increase in myna numbers adjacent to and within Mulligans Flat Nature Reserve puts future breeding of this rare bird in the ACT at considerable risk.

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## Impacts on Small Bird Species

Indian Mynas prey on small birds, kill their chicks and destroy their eggs. Ms Grarock found a significant negative relationship between Indian Myna establishment and the abundance of small bird species: these were the Superb Fairy-wren, Striated Pardalote, Spotted Pardalote, Brown Thornbill, Buff-Rumped Thornbill, Speckled Warbler, Eastern Spinebill, Willie Wagtail, Grey Fantail, Silveryeye, Grey Butcherbird and Magpie Lark. As myna numbers across the ACT built up, analysis of the COG GBS data, indicates there has been a corresponding and related decline in the abundance of these small birds.

The decline in small birds and the disruption to rosella nesting as myna numbers increased is commonly observed and reported by Canberra residents.

*Conclusion: Local native bird species are at risk from mynas' aggressive behavior.*

## 3) Vector for Fatal Bird Disease

Research by John Yim (2008) and Nicholas Clark (2016) indicates that the introduced Indian Myna poses an environmental threat to native birdlife because it is a carrier of avian blood parasites with potential for fatal disease to native birds.

Yim (Bsc Vet, Sydney University 2009): There are three main genera in avian haemoprotozoa namely; Plasmodium, Leucocytozoon and Haemoproteus which are all blood parasites. They belong to a group of protozoans known as apicomplexans which are responsible for notable diseases such as malaria and toxoplasmosis. Yim's analysis found that haemoprotozoa fatal disease had only been detected in Australian native bird species (in Sydney). In recent years there have been a substantial number of unexplained native bird deaths, Tawny Frogmouths in particular, which are surmised to have been caused by haemoprotozoa fatal disease. Yim found that there had been no instance of Indian Mynas being affected by this disease. As the derivation of avian haemoprotozoa is thought to be Asian in origin, mynas were thought to be immune to the disease, but act as carriers. As such, Indian Mynas would pose a disease risk by passing on haemoprotozoa fatal disease to native birds, and derive a further competitive advantage through their increased resistance.

In most recent research Nicholas Clark (Griffith University 2016) has confirmed Yim's thesis that mynas pose a disease risk to native birds.

Clark identified that myna were capable of spreading the avian malaria parasite, Plasmodium relictum which ultimately destroys red blood cells by reducing oxygen circulation. The study looked at more than 260 mynas caught across south-east Queensland, together with published data on more than 3,000 mynas and native birds across the region: 40 percent of mynas carry the parasite in south-east Queensland.

Parasite carrying mosquitoes spread the parasite to birds which, in turn, passed it to other birds. Researchers from Griffith University also discovered that some of the mynas in south east Queensland were also carriers of more exotics strains of malaria. This puts native birds at an increased risk of infection.

Malaria parasites are common in Australian birds but through the use of genetic techniques Clark has discovered they are more diverse than originally understood. These malaria parasites seem to have little effect on the mynas but could be harmful to native birds as they come in contact with each other.

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Due to the well-known direct aggression by mynas towards native species and their invasion of occupied nests, there is plenty of scope for cross-species contamination.

*Conclusion: Accordingly, Indian Mynas, while being themselves unaffected, have the potential to spread fatal bird disease to local native birds. This has the potential to significantly affect, even decimate, the local avi-fauna.*

## **Economic Impact**

Indian Mynas are a horticultural and viticultural pest. Australian Government publication “Managing Bird Damage to Fruit and Other Horticultural Crops”, by Tracey, Bomford, Hart, Saunders and Sinclair, 2007, states that “Mynas cause considerable damage to ripening fruit, particularly grapes, but also figs, apples, pears, strawberries...”.

Myna damage to grapes is well known in the viticulture industry in the Canberra region, particularly the Murrumbateman area. Mynas also cause economic losses to apple growers in Pialligo. The financial cost to the local horticultural sector in the Canberra region has not been quantified, but elsewhere up to 30% of some horticultural crops can be affected by pecking.

*Conclusion: Indian Mynas pose a not insubstantial economic risk to the local viticulture industry and to the horticultural sector in the ACT region.*



Mynas in Murrumbateman vineyard

## **Human Health Risk**

Indian Mynas are heavily infected with a range of bird mites, a number of which are communicable to humans. The most common are *Ornithonyssus bursa* (Tropical Fowl Mite) & *Dermanyssus gallinae* (Red Mite). These cause dermatitis, asthma, severe irritation and rashes. The most common pathway to human infection is from myna nests in roof cavities and the handling of the birds. Mynas also can have a range of blood-borne parasites and their droppings can carry Ornithosis, Salmonellosis, Arboviruses, Plasmodia which can cause pneumonia and severe gastro.



Tropical Fowl Mite infestations on people

The human health dimension of infection with bird mites or blood-borne parasites from Indian Mynas is not often mentioned, but should not be downplayed. As mynas are commensal birds, living in close association

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with humans, they frequently nest in the roof / ceiling cavities of houses and schools from which parasites can emerge to infect humans. They can become serious pests around school playgrounds, outdoor cafes, and shopping centres, and the possibility of infection from their droppings or faecal dust is not inconsiderable. School children can be particularly at risk as mynas congregate around school yards where children eat lunch.

*Conclusion: The risk to human health, particularly school children, is a matter of concern that needs to be taken into account in assessing the merit of declaring an animal a “pest species”.*

## **Public Amenity Loss**

Indian mynas cause a loss of public amenity: it is much of the basis for these birds being widely loathed by the general Canberra community. Amenity loss results from:

- a. the loss of peace and quiet because of the raucous calls of mynas, singly, in groups and at their roosts. Roosts of many hundreds of birds are extremely loud at dusk, and if located near domestic housing can be most disturbing. The fouling underneath roost trees and structures can be considerable;
- b. the fouling of patios, balconies, and barbeque areas. This is a serious concern to Canberra residents. This is even more so now given the new knowledge of the human health risks posed by mynas.
- c. displacement of native birds in people’s backyards. Canberrans, living in the “bush capital” have a close and strong psychological association with the natural environment and native birdlife. The loss of small birds, rosellas etc from their gardens is a severely felt loss and a constant complaint when mynas are around in numbers.



**Myna fouling of patio table**

*Conclusion: the loss of public amenity is a significant aspect of the need for mynas to be included on the List of Declared Pests. The loss of amenity detracts from the elements which contribute to Canberra being a “Liveable City”.*

## **Community Activity**

CIMAG was formed in 2006, and over that time just over 2000 people from Canberra and the nearby region have become members. The objective of the group is to reduce Indian Myna numbers by: a) undertaking public education activities on the threats posed by this pest bird and on the measures to reduce its feeding, breeding and roosting opportunities; b) a humane backyard trapping program; c) assistance with scientific research; d) and by supporting similar groups and local councils across eastern Australia to establish similar myna control programs.

With over 1900 people using backyard traps, the Group has reported capture numbers of 57,200 Indian Mynas and over 8,700 Starling as at end May 2016 in the Canberra region. Over the ten year period, mynas have been reduced from the 3<sup>rd</sup> most common bird in Canberra to the 18<sup>th</sup>. The change has been remarkable.

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CIMAG is currently undertaking a project to disrupt myna breeding in the Gungahlin interface with Mulligans Flat, Gorooyaroo and Kinleyside Nature Reserves and within those reserves. This project could provide a template for dealing with mynas in other reserves.

However, while community backyard trapping has had a significant impact on the numbers of Indian Mynas that are observed and recorded in surveys across the ACT, there are still many “hot spots”. Many of these relate to areas where we have not had concerted trapping efforts (due to access constraints), such as around shopping and industrial centres, schools, the zoo, horse adjustment paddocks, nature reserves, the airport etc.

## **Development of Pest Animal Management Plan for the Indian Myna**

As indicated in the introduction, CIMAG offers to assist in the preparation of a Pest Animal Management Plan for the Indian Myna. We would envisage that the Management Plan for this bird would include actions that would assist in the control and reduction of this pest bird.

It is CIMAG’s submission that such actions could focus on those areas where trapping has been restricted because of practical and logistical reasons. The Management Plan could specify, for example, that schools – because of the health risk associated with mynas feeding / defecating on school grounds – undertake myna control activities (ie trapping – CIMAG would assist) during school holidays; that shopping centres, restaurants and cafes must ensure that the covers on refuse bins / skips are shut during the day to reduce mynas’ access to food scraps; that cafes must promptly clean up outdoor tables once customers leave to again reduce easy access to food scraps; the managers of buildings - government and private - must implement actions to reduce mynas roosting (by erecting roost spikes, contracting pest management companies to use avi-paste poison on roost sites etc); that if householders wish to feed wild birds they must adopt responsible bird feeding practices which avoid feeding if mynas (and other pest birds – eg pigeons) are around, and to avoid leaving feed available throughout the day.

## **In Summary**

The Indian Myna has a number of characteristics that render it suitable to be included on the ACT List of Declared Pest Animals as a Prohibited Animal under the Pest Animal and Plant Act 2005.

CIMAG is willing to assist in the development of the Pest Management Plan that is required following such a declaration.

Bill Handke  
President  
Canberra Indian Myna Action Group Inc.  
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