

COMMUNITY ACTION CAN MAKE A DIFFERENCE: THE CANBERRA INDIAN MYNA STORY

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INTRODUCTION

The Indian or Common myna bird (*Acridotheres tristis*), also sometimes referred to as a Mynah, is a member of Sturnidae family (starlings and mynas) and was introduced into Australia in 1862 to control insect pests in Melbourne market gardens, and then Sydney and north Queensland shortly after. Since their introduction, Indian mynas have expanded across much of eastern Australia and have spread inland as far as Albury, Dubbo, Tamworth and Toowoomba. Despite close proximity to Melbourne, Indian mynas have only been recorded at one location in Tasmania, namely Devonport (Figure 1). At the other end of eastern Australia, mynas are now by far the most common bird in Cairns, almost to the total exclusion of small native birds.

In the year 2000, Indian mynas were recognized as one of the World's 100 Worst Invasive Species by the World Conservation Union (IUCN) (Lowe et al., 2000). There are only two other birds on this list – one being the Common Starling to which it is related. They have been introduced to many parts of the world and are a serious environmental threat in Australia. The impacts of Indian Mynas on native wildlife are now well known from international experience – these are particularly stark on islands such as in the Pacific Ocean as it is now in Cairns. They are predominately omnivorous, and have adapted well to life in urban landscapes and occur in open woodlands.

Indian mynas were deliberately introduced to Canberra in the 1960s – some 100 years after being first introduced into Australia – and have spread widely throughout the region. Like many other communities across Australia, the arrival and rapid increase of myna numbers triggered community concern and a growing desire by many to take action to reduce myna numbers. As anecdotal evidence of myna bird impacts developed, a number of research projects and community-driven initiatives to control mynas emerged. From research on mynas in the Canberra district in the early 1990s, several

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studies discovered communal roost sites scattered across the city in residential areas and nature reserves.

During the 1990s and 2000s, Australian National University researcher, Dr. Chris Tidemann, commenced research on Indian mynas in the Canberra region, investigating their habits, breeding behaviour and the trial of a variety of control techniques. Tidemann's "Myna Minimizer" trap gained considerable publicity and sparked further community efforts at controlling the birds.

Early work by Tidemann in the trial of various trapping techniques has led to the development of what can now be considered a crucial tool in the control of mynas nationally. In addition, other traps have been developed, and are available for wide-scale field application by communities and local government. Most notable is the PeeGees trap developed by the Canberra Indian Myna Action Group, Inc.

In April 2006 the Canberra Indian Myna Action Group Inc (CIMAG) was formed to harness community concern about myna bird numbers, and act on the threat posed by myna birds in the Canberra district. The aim of CIMAG was to empower the community and undertake local control to reduce the impacts of Indian mynas through a coordinated trapping program.

Since its inception, CIMAG has become a large-scale grass-roots community action group, with a strong interest in reducing myna numbers and the threat they pose to native birds and mammals. CIMAG's momentum continues to grow, as does the success of its action.

IMPACTS OF INDIAN MYNAS

For many years the direct and indirect impacts of myna birds remained largely unquantified and concerns about their pest status hinged on anecdotal evidence and overseas experiences. Now, the environmental, economic, human health and social problems caused by mynas are becoming better understood.

Myna birds are a notoriously aggressive species and often display strong territorial behaviour. They are regularly seen competing with native wildlife for nesting hollows and food resources. Their aggressive behaviour can monopolise nesting hollows (Bomford and Sinclair, 2002) and displace native birds leading to reduced breeding success of native species (Pell and Tidemann, 1997). They are known to destroy the eggs and chicks of other birds, and are capable of evicting large birds such as kookaburras.

Mynas have also been known to displace large arboreal hollow-dependent fauna, such as brush-tailed possums (Alison Russell-French pers. comm. 2007). Breeding males are known to defend foraging areas.

As mynas became established in the Canberra region, declines were being reported in native bird life. Regular monitoring of bird species across the region by the Canberra Ornithological Group (COG) revealed a decline in species richness and the abundance of native birds as myna populations spread deep into suburbs and colonised a network of open grassy woodland nature reserves.

Economic impacts are also becoming increasingly understood although there are no estimates of the total economic cost they cause. While costs may not have been quantified, mynas are now being increasingly seen as pests in orchards, vineyards and food production industries (Tracey et al., 2007).

They cause considerable damage to ripening fruit, particularly grapes and other soft skinned fruit - figs, berries, plums, mangoes etc - and to cereal crops where these occur near towns and cities, and stock feed, leading to food wastage and lost income. They are also increasingly causing damage to community gardens, depositing faecal matter in shops and work places, and have been known to spread weeds in other countries (Pimentel, 2000).

Restaurant and cafe owners often experience problems from myna birds scavenging around restaurants, cafes and outdoor eating areas, and occasionally inside shops or supermarkets. Mynas may scavenge food directly from plates of patrons, and have been known to occasionally attack people, although this is uncommon. Faecal dust from their droppings can harbor a range of pathogens and viruses (*Chlamydophila psittaci*, *Salmonella* spp., arboviruses) that can cause a range of human ailments, while the bird mites (*Ornithonyssus bursa* and *Dermanyssus gallinae*) which infect them and migrate from nests in roofs into houses can also cause a number of human health problems. Faecal deposits may foul water supplies (e.g. rainwater tanks).

Notwithstanding this, the costs of the problems and damage caused by mynas in Australia remain largely unquantified.

Myna bird nests can be a serious hazard. Nests are often constructed of large volumes of grasses and plant material and as a result can present a fire hazard if built in roof cavities near electrical wiring or ceiling light fittings. Nesting material has also been known to block roof gutters and cause flooding in roofs (Martin, 1996; Clarke et al., 2001). Mynas are often a nuisance to pet owners and will attack pets, steal pet food and foul water bowls, and they may present a more serious risk to commercial or domestic bird keepers if they transmit mites or disease.

In eastern Australia, myna birds have become a major urban nuisance. Regular community questionnaires conducted by the Invasive Animals CRC frequently reported mynas as being one of the most disliked introduced species in Australia.

To many people it is their raucous and persistent calls, their extremely noisy communal roosts, their fouling of patios and backyard decks, their “in-your-face” presence and strutting in backyards, schools and shopping centres and their displacing of small native birds in gardens that is annoying and the basis for much public loathing of the bird.

THE CIMAG COMMUNITY-ACTION MODEL

Initial community concern stemming from the high numbers of mynas across Canberra transformed into a wave of enthusiastic citizens eager to take action to control mynas. The formation of the Canberra Indian Myna Action Group (CIMAG) in 2006 led to a concerted and coordinated program of public awareness-raising, community education and trapping.

The group initially comprised many individuals with a strong interest in bird life and conservation. But the group now comprises a much wider cross section of the community - from those concerned about the threat posed by mynas on the native wildlife to those who are primarily concerned at the loss of amenity caused by the birds.

CIMAG has since grown to become a remarkably successful community-action group consisting of 1300 members. The Group now contains enthusiastic retired volunteers (hence the term ‘the killer grannies’), and a suite of research, education, pest control professionals, and field naturalists.

The Group operates as a non-profit association of like-minded individuals who are interested in working, individually or collectively, in implementing an agreed CIMAG Strategy to tackle the Indian Myna problem in Canberra and the surrounding region. The Group keeps informed of developments via an email network and has a managing Committee.

CIMAG has developed a strong network and partnership with local groups (birdwatchers, gardening groups, landcare etc), academic institutions, the local RSPCA, media outlets and ACT government agencies to spread the message and recruit members.

CIMAGs strategy to control myna numbers includes a number of elements:

1. increasing public awareness of Indian myna birds as a serious environmental and health threat, not just a nuisance;
2. providing information to the public on how they can help limit the spread of Indian mynas by reducing their feeding, breeding and roosting opportunities;
3. implementing a humane reduction program;
4. supporting scientific research into myna impacts, behaviours and control methods; and
5. assisting in the establishment of other community-driven action groups.

The CIMAG approach has become a model for community action for communities and local governments that want to undertake environmental pest control activities that require large numbers of people operating in simple, low-cost ways. However a refinement of the pure “community-only” approach of CIMAG is more suitable for communities outside of the ACT. In the states, where local government has a closer link to communities than state government and is the focus of community pressure to deal with pest species, CIMAG promotes an integrated community-local government approach. Under this approach, local government facilitates the formation of a community-action group (by providing initial publicity, calling a public meeting - at which a CIMAG person will often speak - giving tacit support) and encourage the community to establish groups with local coordinators. These groups then organise to make, own and manage the traps, while the local government might provide euthanising facilities. This approach relieves local government of the high cost of owning, maintaining and operating traps, and the attendant public liability risks.

The Group recognizes that its endeavours are unlikely to eliminate Indian Mynas from the Canberra environment. However, it has demonstrated that a concerted, coordinated and sustained effort by the community can have a significant impact on a pest species.

RESULTS – EVIDENCE THAT CIMAG MAKES A DIFFERENCE

Ecologists have argued about the potential impact a community control program can have on the population of Indian mynas in Canberra. However, the CIMAG results are compelling reading. Before CIMAG was established in April 2006 with a few trappers, mynas were the 3rd most common bird in Canberra (according to the Canberra Ornithologist Group’s Garden Bird Survey 2005-06). The data from the COG weekly surveyors indicated that on average each surveyor saw 5 mynas at any one time each week of the year within 100 metres of their backyard. After a few years of trapping - with a known minimum of 35,000 mynas removed by trappers - mynas were down to the 14th most common bird in the Canberra region. The 2009-10 Annual Bird Report of COG indicates that in the 2009-10 survey period, garden bird surveyors were now only seeing on average 1.7 mynas at a time per week across the year. This remarkable success is due to the high number of CIMAG members with traps -

almost 1000 traps have been given to people in the community. Many more are known to exist as the trap is easy to build and the plans are on the CIMAG website. The current capture figure of 37,200 is a known minimum number of mynas removed from the Canberra environment, as not all CIMAG trappers report their monthly capture figures and many non-CIMAG trappers do not report their captures.

It is this success story that has inspired other communities and local governments to adopt a community-action approach to controlling mynas. There are now 26 similar groups operating across NSW with two in Victoria.

While Canberra may never be rid of mynas, it is evident that a significant dent can be made on Indian Myna populations, thereby helping to protect our native birds and small mammals.

The difference is very noticeable.

MYNASCAN

An increase in community participation in local myna control programs has led to an increased need for tools and technology to support groups in controlling the species. The MynaScan community website is a newly developed citizen science project that allows anyone with internet access to record and map sightings of myna birds, myna damage and control activities in their local area. It can be used anywhere in Australia, and provides a range of informative background material and species identification aids.

MynaScan participants can record sightings and examine real-time data made from other people in their area. The website allows map printing, data exporting, basic queries and reporting. This information can be used to support targeted on-ground control actions, and can be used to share information across a network of myna bird controllers.

Real-time reporting of myna bird sightings can help to inform others of the status of the problem at any given time, and can be used to identify and act on emerging issues. The MynaScan website assists communities, local government, and pest controllers to control myna birds and reduce the problems they cause.

MynaScan is freely available for local communities anywhere in Australia that presents real-time data from the Australian public. Data currently recorded in MynaScan includes:

1. Sightings of myna birds and the number of birds seen;
2. Measured damage caused by myna birds or problems caused (e.g. scavenging food);
and
3. Local control actions, such as trapping.

Facilities to record breeding and roosting sites, track and record the precise location of myna bird traps that are shared among community members, and automated reporting evidence back to community participants and project partners are currently being developed. In its first three months, MynaScan collected over 1100 myna bird sighting records across four states/territories.

DISCUSSION

The Canberra Indian Myna Group (CIMAG) model of community action for pest animal control

appears to be an effective one. Indian mynas have become less common in the Canberra region during the time that the Group has been actively trapping. At the time CIMAG was formed and began its trapping activities, some ecologists argued that the numbers likely to be removed could not make a sufficient difference to the total Indian myna population to make a meaningful difference to myna numbers. They speculated that CIMAG's activities would only remove the "doomed surplus" of Indian mynas and not impact on the breeding population. Results to date tend to indicate this is not the case.

CIMAG trapping is having an immediate impact on overall myna numbers, as indicated by the COG Garden Bird Survey data. The authors speculate that by removing actively breeding animals and a high proportion of the juveniles - future breeding birds - from the population, then the total population will be affected over the near term. Trapping activities to date have been backyard-based, and trappers readily acknowledge that removed birds are eventually replaced by new birds and trapping must be repeated. For any long-term impact to be realised, the authors consider that the trapping effort needs to continue and to be more landscape-based, and any tendency for mynas to become "trap shy" needs to be countered.

A second controversy associated with community action is the humane dispatch of birds. CIMAG addresses this issue in a number of ways:

- Canberra RSPCA will euthanise trapped birds on request without charge (by injection of barbiturates);
- CIMAG maintains a supply of CO₂ and where a member is unable or unwilling to dispatch birds, CIMAG can organize dispatch; and
- Each member signs a Code of Practice for trapping whereby they undertake to treat birds humanely (ie. check traps regularly and dispatch birds quickly; provide shading and water for trapped birds).

Most CIMAG members dispatch birds themselves with carbon monoxide from a car exhaust. The method is extremely fast and birds exhibit little or no distress. The method is accepted in the Australian Capital Territory but other jurisdictions may not do so. Research at the Australian National University by Dr. Tidemann indicated that carbon monoxide from a cold petrol engine was the preferred method of disposal, being quicker and with no apparent distress to the birds.

Longevity of the trapping effort is often discussed as a possible limiting factor. That is, because birds return, CIMAG members may eventually give up. To date, CIMAG has grown each year and members appear to derive considerable satisfaction from seeing native birds return to backyard hollows. Research is underway at the Australian National University to determine the impact of backyard trapping on biodiversity in adjacent nature parks. The results of this work will be of considerable interest to CIMAG members. If suburban backyard trapping is shown to have a positive benefit on biodiversity in the surrounding nature parks, this is likely to act as a significant stimulus to further community action.

The apparent success of community control of Indian mynas in Canberra should not be used to promote any type of community control of pest species. Each situation is likely to be different, depending on the population targeted, the size and longevity of control measures and a range of other factors. Peacock (2007) concluded that community control of cane toads (*Bufo marinus*) in the Victoria River area of the Northern Territory had not slowed the western advance of the species. Norris (2011) showed that angling competitions for common carp (*Cyprinus carpio*) were not very effective as a direct form of carp management. Population reductions in his study were in the range

of 0.5% - 1.8% for angling competitions compared to a reduction of 8.3% - 16.1% for electro-fishing.

Competition angling was found to be nearly 100 times less effective in terms of carp removed per man-hour than electro-fishing. The CIMAG experience shows that each situation warrants careful consideration and monitoring of results in order to justify continued action. Culling of animals causes obvious concern for some in the community, so it is important that the purpose be well understood. The fact that CIMAG appears to be preferentially removing breeding animals and Indian mynas relative commensal relationship with humans are probably critical success factors.

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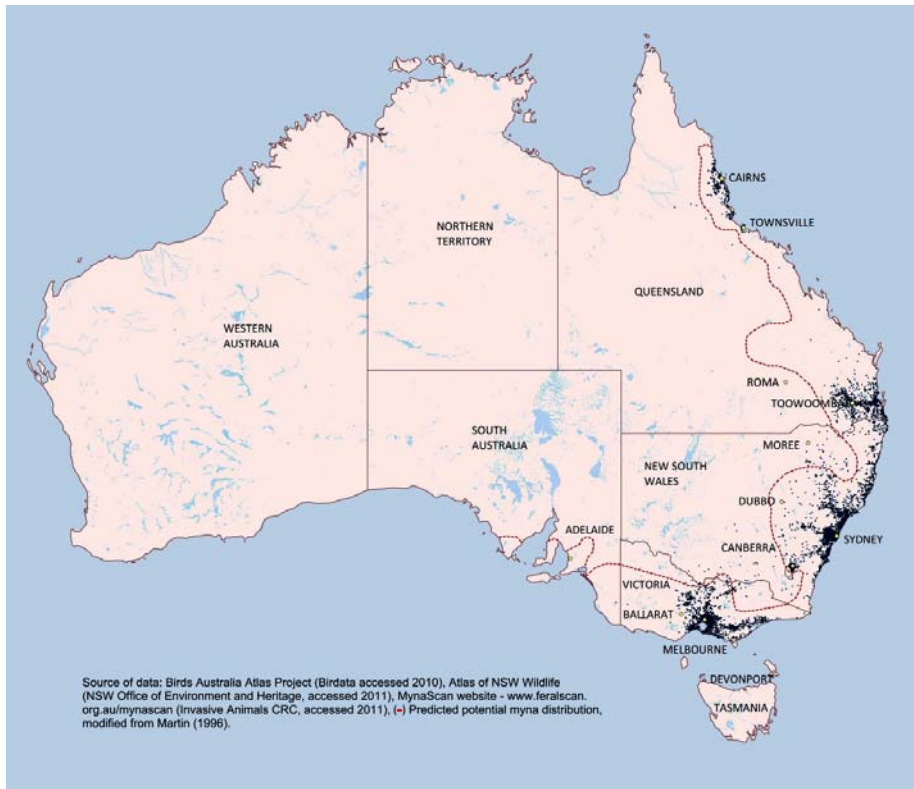


Figure 1. Known extent of Indian myna birds throughout Australia mid-2011. Sources: Birds Australia Atlas Project (Birddata, 2010), Atlas of NSW Wildlife (OEH, 2011), MynaScan (Invasive Animals CRC, 2011), and Martin, 1996).

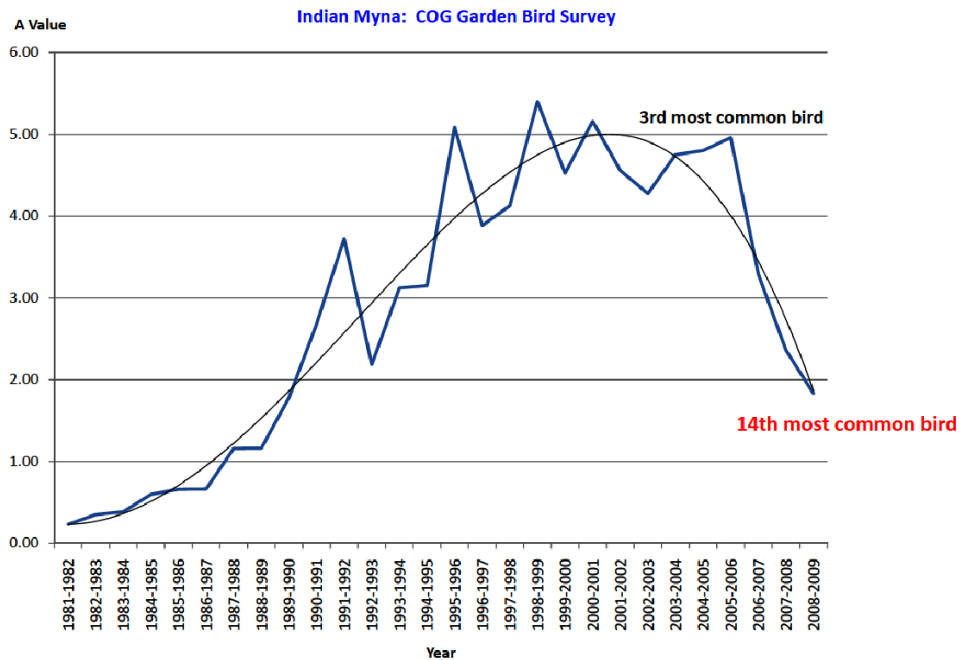


Figure 2. Reduction in Indian myna birds in the Canberra region. Canberra Ornithological Group annual backyard surveys.

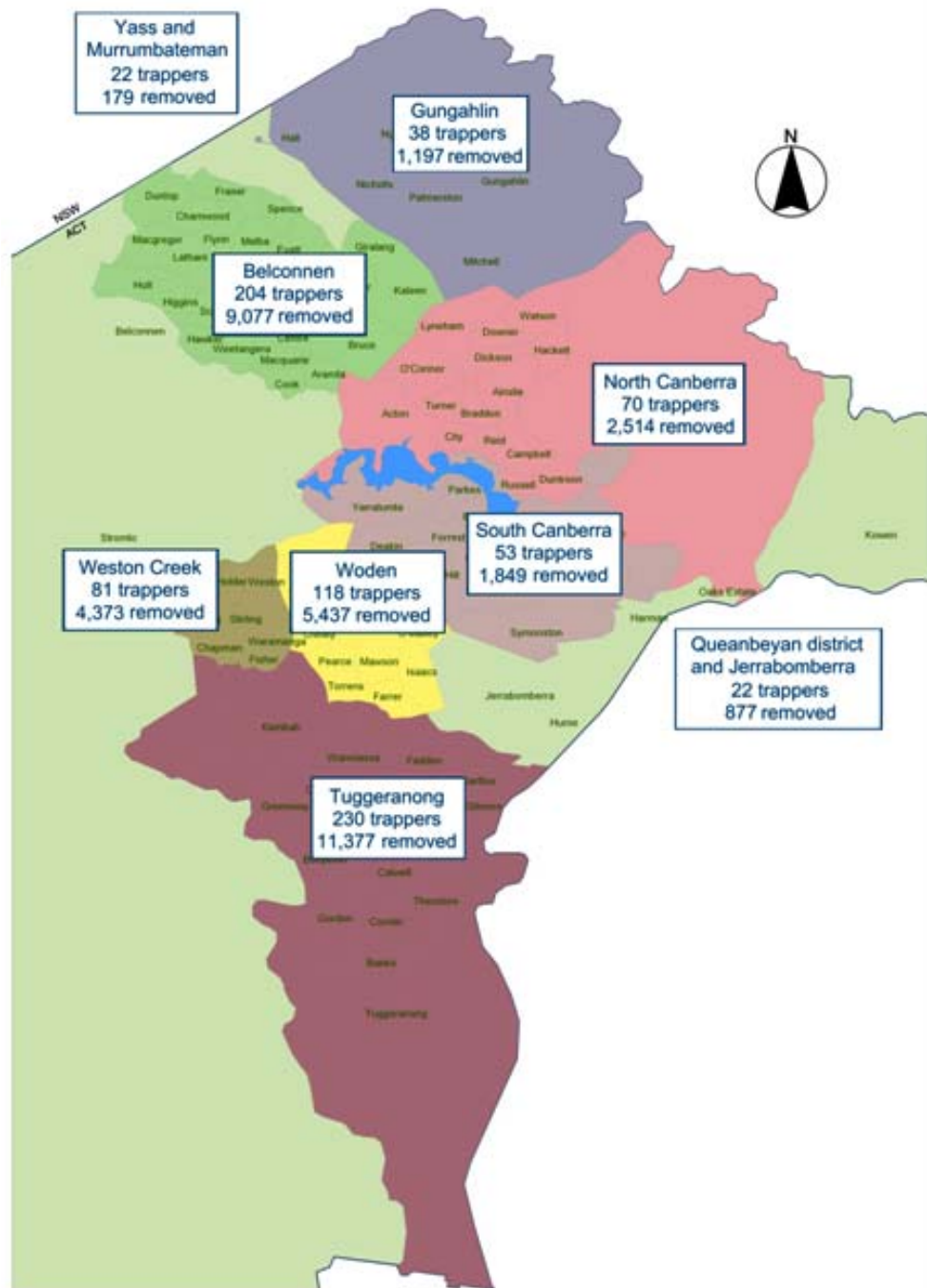


Figure 3. Trappers and birds trapped Canberra region.