Management of common (Indian) myna birds

This information paper provides background information on the RSPCA's position on the management of pest animals in general and specifically on the control of common myna birds (*Acridotheres tristis*) also known as Indian mynas. It also provides guidelines for the humane trapping and killing of common mynas.

Management of pest animals

Many introduced and some native animals are classed as 'pests' because they have a negative impact on the environment or agricultural production. The RSPCA recognises that in certain circumstances it is necessary to control populations of these animals in order to reduce or remove their adverse impact.

Where such control measures are considered necessary, the RSPCA believes that lethal methods of control should only be sanctioned where no effective, humane non-lethal alternative control method is available.

Any measures taken to reduce or eradicate a specific population of 'pest' animals must recognise that these animals require the same level of consideration for their welfare as that given to domestic and native animals.

Control programs must have the potential to successfully reduce the adverse impact of the target animals. They must be conducted humanely under the direct supervision of the appropriate government authority. They should be target specific, not cause suffering to non-target animals, and should be effectively monitored and audited with resulting data made available for public information.

All control programs should adhere to the eight implementation principles outlined in the discussion paper 'A national approach towards humane vertebrate pest control' which are designed to ensure that control is necessary, effective and humane.

The common myna

Why are myna birds in Australia?
Common mynas are native to the Middle East, India and Asia and have established in many other countries including the USA, New Zealand, Turkey and South Africa. They were first introduced in Australia in the 1860s, primarily to control insect pests affecting agricultural crops including commercial vegetable gardens and cane fields (Invasive Animals Ltd 2014a). They are now well established in eastern Australia as they are very adaptable, thrive in tropical to warm temperate climates. They prefer to inhabit areas with little tree cover such as open parks, gardens and nest in highly modified structures in urban areas. However, they have also been sighted in grasslands and agricultural areas including plantations.

Do common mynas cause adverse impacts?
Before any measures are implemented, especially lethal control, evidence that common mynas cause significant adverse impacts must be demonstrated. Common mynas are implicated in causing the following impacts:

- Decline in native species due to competition for nesting sites and food
- Public nuisance - noisy behaviour, fouling of public places and backyards and large numbers roosting in suburban trees

However, common mynas are not listed as a significant threatening process for any birds listed on the priority list compiled by the Office of the Threatened Species Commissioner or for any other native bird species. Also, there is limited empirical data which quantifies and describes the public nuisance impact caused by common mynas.

Native bird populations
Despite the publication of relevant research in the past five years, there is insufficient evidence that common mynas cause a significant impact on the long term survival of any native birds. A study conducted in Canberra identified that common mynas primarily inhabit urban areas with relatively sparse vegetation compared to native birds who seek more densely wooded sites (Grarock et al 2013). However, in some locations it was found that common mynas competed for cavity nesting resulting in a reduced abundance of eastern and crimson rosellas.

A further Canberra study showed that despite some nest cavity competition by common mynas, overall there was no link between common myna abundance with that of native cavity nesting species (Grarock et al 2014). However, the study results showed a negative relationship with common myna birds and crimson rosellas and with gang gang cockatoos. Of particular interest, was the demonstration of a positive relationship with common mynas and eastern rosellas and with red rump parrots but no association with the little corella, sulphur crested cockatoo, kookaburra and Australian King Parrot. The authors stated that it is important that habitat restoration is included in management programs to reduce suitability for introduced species. It should be noted that crimson rosellas and gang gang cockatoos are not listed as threatened or endangered species. Advice to help protect native species includes protecting remnant vegetation, establishing backyard nest boxes for use by native species and confining cats (Invasive Animals Ltd 2014b).

Other studies have found similar as well as conflicting results to those above in terms of the abundance and impact of common mynas on native species. A study in Sydney confirmed that common mynas prefer highly modified habitats with artificial structures with palms and conifers being common roosting sites suggesting that these type of trees should not be planted for future urban developments (Old et al 2014). The study also found that common mynas may potentially impact local urban dwelling native bird species but were not considered to pose a threat to the overall survival of any native bird species. A conclusion drawn from this study suggests that control measures may be required only if significant nuisance or threat could be demonstrated in specific local urban areas and that careful urban planning can help diminish the presence of myna birds.

The findings from three other NSW studies also question the justification for culling common mynas on the basis that they are a significant threat to the survival of native species. The first study, which involved a survey of Sydney residents found that none of seven small species of native birds were negatively associated with common mynas but that the proportion of native vegetation was a significant factor affecting the density of native species (Parsons et al 2006). A second study which observed birds at multiple study sites in Sydney found that common mynas did not nest in tree hollows but preferred artificial structures and did not interfere with feeding of two native bird species (Lowe et al 2011). A further study concluded that in urban environments, interactions between exotic and native bird species is minimal (Sol et al 2012). This study further supports caution regarding the perceived impact of common mynas on native species in urban environments and that public nuisance is likely to be the main impact affecting residents.

Another but less significant claim for justifying culling programs is that common mynas spread avian parasites. Despite confirming the presence of parasites which cause avian malaria in both introduced common mynas and native noisey miners, the true impact on native birds could not be determined (Clark et al 2015).

Although claims are made that common mynas damage agricultural and horticultural crops, there is limited empirical evidence to demonstrate this as a being significant on a broad scale.

Management of common mynas

Although the RSPCA recognises that in certain circumstances it is necessary to control populations of pest animals because of the impact they have, in the case of common mynas, their impact on native plants and animals is not clearly understood. Scientific findings indicate that common mynas do not alone constitute a major threat to native species but that other factors play a significant role in affecting local populations of native birds such as land clearing, bushfire events and weed invasion. Common mynas are not listed as a key threatening process due to lack of scientific evidence that quantifies their impact (Invasive Animals Ltd 2014a). Justifying culling by claiming a significant impact on conservation grounds is not founded. Common mynas may have a limited

impact on local abundance of some native bird species but they are not solely responsible for the decline of any vulnerable species.

Furthermore, results from an analysis of bird survey and culling data from a community myna bird trapping program in Canberra showed that a sustained annual culling rate of 25 birds per km^2 would be needed to offset replacement through reproduction, survival and/or immigration of birds to a localised area (Grarock et al 2014b). This very high culling rate would be difficult to sustain.

Based on current knowledge about the impact and preferred habitat of common mynas, trapping and killing by community groups should not be encouraged. Rather, in agreement with a number of experts on this issue, efforts should be directed to enhance bird diversity in urbanised areas.

If, however, trapping and killing is to be conducted, the RSPCA believes that it should only be carried out as part of a government-supervised control program, which includes clear guidelines on humane procedures. Monitoring and assessment of any control programs must also be undertaken to provide information on any effects of culling on myna bird impacts, not just on myna bird numbers. In addition, other measures to protect native birds should be undertaken including minimising the impact on remnant vegetation caused by land clearing, providing natural vegetation and restoring natural habitat and providing suitable nesting sites where appropriate.

Trapping and killing of common mynas
When trapping and killing of mynas is conducted it must be carried out in accordance with nationally endorsed standard operating procedures (SOPs) produced by the NSW Department of Primary Industries and funded by the Australian Government and the Invasive Animals Cooperative Research Centre.

Prior to conducting any control activities operators must read and be familiar with the procedures outlined in the following SOPs:

Trapping of pest birds (BIR002)
Available at: http://www.pestsmart.org.au/trapping-of-pest-birds/

Methods of euthanasia (GEN001)
Available at: http://www.pestsmart.org.au/methods-of-euthanasia/

Bird traps must be constructed to allow birds to stretch their wings freely and adequate shade must be provided. Traps must also be inspected on a regular basis, preferably daily. If lure (or decoy) birds are used they must be provided with adequate food, water, shelter and a perch. Trapped birds must only be killed by humane methods with minimal delay.

Based on the SOPs, the RSPCA considers the following methods acceptable for killing trapped birds:

- Inhalation of carbon dioxide – only compressed CO2 gas in cylinders should be used so the inflow to the chamber can be regulated precisely.
- Cervical dislocation – when it is performed by trained and competent operators.
- Injection of barbiturate – when administered by an appropriately qualified person, e.g. a veterinarian.
- Inhalation of carbon monoxide - compressed bottled gas as well as cooled and scrubbed exhaust from non-vehicular petrol engines without a catalytic converter are acceptable sources of carbon monoxide.

Inhalation of the cooled exhaust of vehicular petrol engines with a catalytic converter (i.e. from cars manufactured after 2005) is NOT considered acceptable since levels of carbon monoxide drop off very quickly (within 30 sec) after the engine has started, and the exhaust may also contain potential irritants (Tidemann and King 2009). Inhalation of the cooled exhaust of older vehicles without catalytic converters would also have welfare concerns due to the high variability in the age and condition of engines and presence of contaminants as well as human safety risks.

More information on the use of carbon monoxide for the euthanasia of trapped birds can be found in the Trapping of Pest Birds SOP.

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