

PROCEEDINGS

NSW North Coast
Indian Myna Workshop

Coffs Harbour 23rd October 2007

Convened by the
NSW North Coast Indian Myna Action Group



October 2007

Department of Environment & Climate Change NSW



Compiled and edited by Dee Rogers and Brad Nesbitt*

*Department of Environment and Climate Change, Parks & Wildlife Division, North Coast Region

Workshop convened by NSW North Coast Indian Myna Action Group comprising

- North Coast Indian Myna Action Group members
- Department of Environment & Climate Change – Brad Nesbitt
- Ulitarra Conservation Society – Ron Smith
- Coffs Harbour City Council – Rachel Binskin
- Bellingen Shire Council – Ian Turnbull
- Bellinger Landcare – Colin Mathews
- RSPCA – Andrew Kelly
- Nambucca Shire Council – Philip Gall
- Clarence Valley Council – Martyn Swain
- NSW Game Council – Craig Henderson
- Coffs Harbour Landcare – Jenny Mulchrone



Table of Contents

Foreword	2
Program	3
Aims and Themes	5
Introduction	6
The Indian Myna, <i>Acridotheres tristis</i> Biology, Impacts and Management.....	7
Research	12
What does the myna bird like to eat? A study of food choice in <i>Acridotheres tristis</i>	13
The Flying Cane Toad: City Slicker or Urban Cowboy?.....	16
Community Engagement.....	19
Tackling Indian Mynas in CanberraSuccessful Community-Action Approach.....	20
Bellingen Shire - Myna bird trapping program partnership.....	26
On ground control	29
Coffs Coast Indian Myna War.....	30
Indian Myna Management in Warringah Local Government Area.....	32
Clarence Valley Council Common Indian myna Control Programme 2006– 2007	35
Myna Welfare	37
Carbon Monoxide DVD	41
Workshop Forum	42
Myna Workshop Theme 1: Best Practice Techniques.....	43
Myna Workshop Theme 2: How do you measure success?	44
Myna Workshop Theme 3: Myna Welfare and Euthanasia.....	45
Myna Workshop Theme 4: Elements essential to successful programs	46
Biographical Notes	47
Contact List of Participants	49
Myna Workshop – Evaluation Form Summary	52
Myna Monitoring Procedures	53



Foreword

Brad Nesbitt - Parks & Wildlife Service NSW DECC

The workshop in Coffs Harbour in October 2007 is the first ever workshop dedicated to Indian Myna control in Australia. The decision to convene the workshop came about through meetings and control activities of the North Coast Indian Myna Action Group (NCIMAG). This group, formed in 2003, identified the need to adopt a strategic approach to this emerging problem and, after mapping the distribution of Indian Mynas in Coffs Harbour and surrounding areas, set about investigating “best practice” control techniques. For some years the Ulitarra Conservation Society had been trialling in Coffs Harbour a trapping technique originally developed by Chris Tidemann in Canberra. The knowledge gained from this work has formed the basis of most trapping in the North Coast region. At meetings of NCIMAG the same questions kept coming up: What is the best trap design, bait, location, time? What techniques have already been trialled and superseded? Are we reinventing the wheel? How do you monitor success?

To address these issues it was decided to organise a workshop to bring together representatives from groups working on Indian Myna control to combine and share their knowledge and experience. The workshop touched on many of the issues to do with Myna control, but it is clear from these proceedings that much still remains to be learnt. Presentations at the workshop showed that Indian Mynas are wily and adaptable birds and, as such, procedures to monitor and trap them are likely to vary depending on the location, density and behaviour; as is the answer to the question: What is the impact of this species? These proceedings are intended to provide a knowledge base on which we can build and a contact network of people and organisations working on Indian Myna control.



Program

Venue: Norm Jordan Pavilion, Coffs Harbour Showground, Pacific Highway

9.00 - 9.05am **Welcome and Registration**

Brad Nesbitt - Parks & Wildlife Service NSW DECC

Session 1 - Introduction

9.05am **Indian Myna Biology & Behaviour**

*Keynote Speaker - Dr Chris Tidemann - Visiting Fellow -
The Fenner School of Environment & Society Forestry, ANU*

10.00 - 10.20am **Morning Tea**

Session 2 - Research

Chair - Ian Turnbull

10.20 - 10.40am **What does the Myna Bird like to eat?
(Study of food choice in *Acridotheres tristis*)**

Suhella Tulsani - University of Queensland

10.40 - 11.00am **Indian Myna's - The Flying Cane Toad:
City Slicker or Urban Cowboy?**

Gail Spina - Griffith University

Session 3 - Community Engagement

Chair - Brad Nesbitt

11.00 - 11.40am **Tackling Indian Myna's in Canberra**

Bill Handke - President CIMAG

11.40 - 12.00noon **Bellingen Shire & Landcare Myna Partnerships**

Colin Matthews - Bellinger Landcare & Ian Turnbull - Bellingen Council

12.00 - 12.45pm **Lunch**

Session 4 - On Ground Control

Chair - Colin Matthews

12.45 - 1.05pm **Coffs Coast Indian Myna War**

Bill Handke - President CIMAG

1.05 - 1.25pm **Warringah Council Myna Program**

Richard Ali - Warringah Shire Council

1.25 - 1.45pm **Clarence Valley Council Myna Program**

Martin Swain - Clarence Valley Council

1.45 - 2.15pm **Myna Welfare**

Andrew Kelly - NSW RSPCA



Program ~ continued

2.15 - 2.45pm Afternoon Tea

Session 5 - Workshop Forum

2.45 - 3.45pm Concurrent Workshops

Brad Nesbitt - Parks & Wildlife Service NSW DECC

Workshop 1: Best Practice Techniques

Workshop 2: How do you measure success?

Workshop 3: Myna Welfare and Euthanasia

Workshop 4: Elements essential to successful programs

Session 6 - Demonstration

3.45 - 4.15pm **Trap building, euthanasia and more**

Ron Smith - President Ulitarra Society




Aims and Themes


Brad Nesbitt - Parks & Wildlife Service NSW DECC

1

Indian Myna Workshop 2007



Brad Nesbitt
Pest Management Officer
North Coast Region
Parks & Wildlife Division
Department of Environment & Climate Change NSW



2

North Coast Indian Myna Action Group

- Department of Environment & Climate Change – Brad Nesbitt
- Ullitarra Conservation Society – Ron Smith
- Coffs Harbour Council – Rachael Biskin
- Bellingen Shire Council – Ian Turnbull
- Bellinger Landcare – Colin Mathews
- RSPCA – Andrew Kelly
- Nambucca Council – Philip Gall
- Clarence Valley Council – Martin Swain
- Game Council – Craig Henderson
- Coffs Harbour Landcare – Jenny Mulchrone



3

Workshop Aims

1. Identify best practice techniques for Indian Myna control
2. Identify successful Government/Community/NGO partnership models
3. Discuss how best to share knowledge, skills and experience about Indian Myna control into the future



4

Workshop Themes



1. How do you measure success
2. Best practice trapping techniques
3. Euthanasia
4. Elements essential to successful partnerships

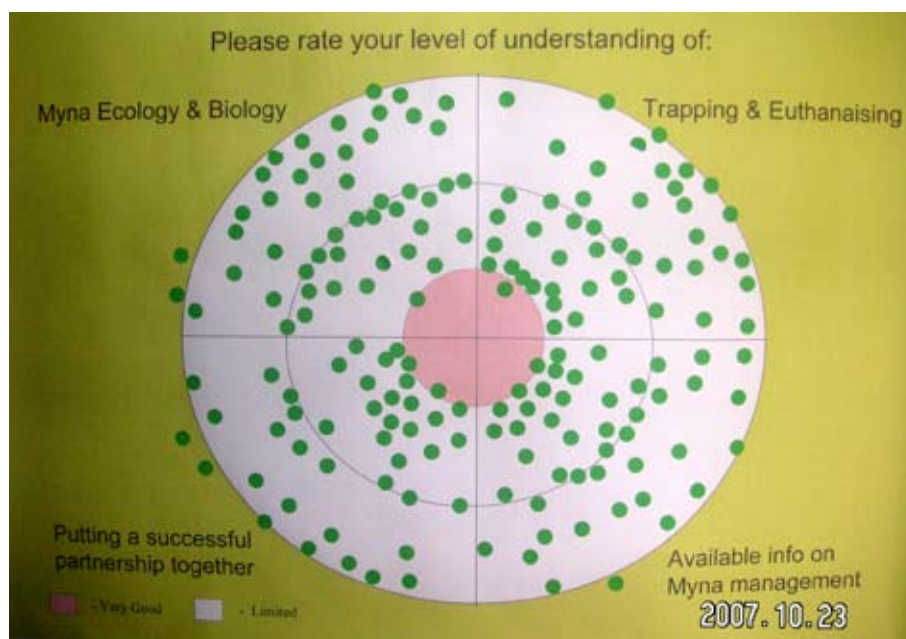


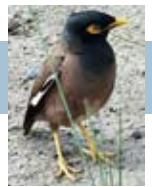


Session 1

Introduction

Level of understanding at
commencement of workshop





The Indian Myna, *Acridotheres tristis*

Biology, Impacts and Management

Christopher R. Tidemann ~ The Australian National University

This paper reviews available information on the biology of the myna, especially feral populations in Australia, their undesirable impacts, and prospects for control. The myna shows extreme adaptability in most aspects of its behaviour, learning by direct experience or observation of others. It has a highly sophisticated communication system and is long-lived. Mynas occupy habitats ranging from urban to rural, and temperate to tropical climates. Estimated densities of breeding populations range from >500 birds/km² in Cairns, Qld, to 2 birds/km² in Murrumbateman, NSW. Mynas do not enter forest (closed canopy), but readily occupy any form of woodland, within a short distance of a perennial water and food supply – and nesting opportunities. Mynas are obligate cavity-nesters, in tree hollows, the heads of palms or other enclosed spaces, e.g. roller-doors and roof cavities. Food intake is immensely variable, but the staple is pasture invertebrates, or human or stock feeds with a high protein content. The most invariant of myna behaviours across its diverse range is communal roosting, which is now being investigated as the best prospect for broad-scale control.

Mynas are an increasing problem in eastern Australia, and many other countries. Climatic modelling indicates that mynas will spread from

Vic, NSW, ACT and Qld to the other Australian states, with or without climate change. Mynas impact adversely on amenity, health and biodiversity, although these effects are not well quantified. An important advance in myna control, selective valve traps (e.g. Myna Magnet™ PeeGee™) can generate “holes” in dense myna populations. Smaller and simpler traps, especially without decoys, tend to remove only young, naïve birds in high density areas, and generate trap shyness in the breeding population. Simple, repeatable monitoring is essential to assessing the effectiveness – and desirability – of any control programme. Trapping, holding, drafting and euthanasia procedures need to be humane, and able to withstand public scrutiny. A prototype roost trap (Myna Mogul™), that will enable whole roosting flocks of mynas to be trapped, drafted and euthanased, is about to be tested at ANU. These traps will also be used to band and release mynas to answer some important unanswered questions about their biology.





The Indian Myna, *Acridotheres tristis* Biology, Impacts and Management ~ continued

3

Health

Amenity

4

- Predatory
- Aggressive
- Cooperative
- Hollow-nesting

5

biodiversity

6

Evidence?

- Multiple anecdotes (1960's +)
- Seychelles Magpie Robin (1997)
- Nestbox study Canberra (1997)
 - IUCN (2000)
- Nestbox study Melbourne (2005)

➢ **Removal trials needed**

7

1862 Melbourne
1969 Canberra

Breeding

??

8

...a growing problem

- **Amenity**
- **Health**
- **Biodiversity**

- Urban/Rural
- Point/Diffuse

9

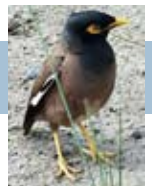
Can people power beat the myna?

Can we see the back of them?

10

Do mynas have Achilles heels?

biological	social
commensal	attitude
low mobility	distinctive
flock forager	unpopular
communal rooster	



The Indian Myna, *Acridotheres tristis* Biology, Impacts and Management ~ continued

11

Potential Management Mechanisms



- Fertility Control
- Biological Control
- Poisoning
- Habitat Management
- Restricting Food
- Trapping

12

Valve Trap



safe, selective, humane

13

Myna Magnet



Decoy birds



Animal welfare!

14

Communal roosts



15


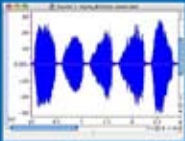
Roost trap

- management
- research



16

30 min distress roost deserted for 2 months

laser

17

Euthanasia

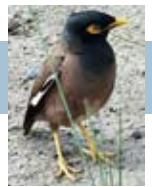
- Minimal fear
- Minimal restraint
- Painless
- Rapid unconsciousness
- Safe for operator
- Simple to use and maintain

18

Off-road 4-stroke petrol motors



10% carbon monoxide



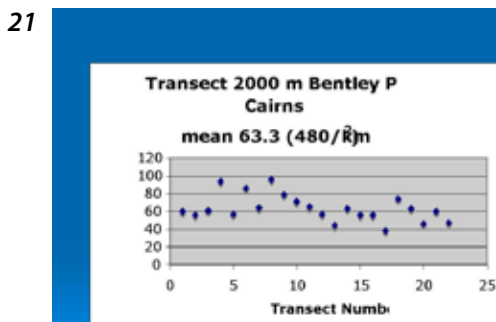
The Indian Myna, *Acridotheres tristis* Biology, Impacts and Management ~ continued

19 the importance of monitoring... before and after

- turn anecdotes to data
- establish credibility
- answer questions

20 The difference between anecdotes and data

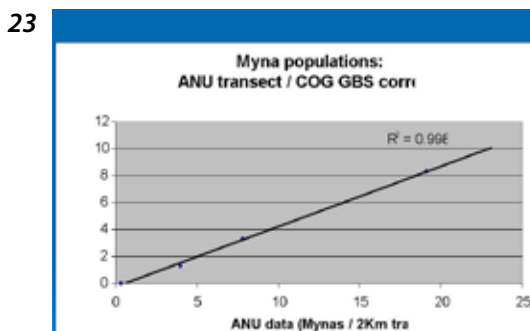
- Keep records
- Don't improvise
- Record daily
- Analyse monthly
- Do it consistently
 - Repetitions
 - Same method
 - Same route
 - Same time
 - Same weather



22

Myna Monitoring

Method	Effort	Timing
Area Count	2 hectares/ 20 min	Sunrise + 3 h
Transect Count	2000 m 40 min	Sunrise + 3 h
Roost Search	Suburb 60 min	30 min before/ 30 after sunset



24 Is Myna Minimisation possible?



Local control	Yes
Broadscale control	??
Eradication	No

25 Research supported by:

- Australian Rainforest Foundation
- Cairns City Council
- Canberra Indian Myna Action Group Inc.
- Canberra Ornithologists Group
- C'wealth Dept. Environment & Water
- Environment ACT
- Hermon Slade Foundation
- Invasive Animals CRC
- NSW Dept. Environment & Climate
- Warringham City Council



The Indian Myna, *Acridotheres tristis* Biology, Impacts and Management ~ continued

Questions

Have you thought of using fertility drugs in water to manage birth-rate?

Too expensive and hard to manage. Cannot ensure that only Indian Myna's drink the water.

What age bird is best to use as a decoy?

Juveniles are best as decoys; baby mynas are also ok if you are prepared to feed them. Adults are too wild .

Have you used net guns to catch them?

Birds caught this way get harmed in nets. Not humane. Also, birds not caught would adapt and teach others so it would only be effective for a short period as mynas are highly adaptive.

What about traps in roost trees?

Traps in roost trees also wouldn't work as when they roost they are not interested in feeding.

Comments

I am not aware of any Nest box design that will keep out mynas (starlings), but allow rosellas etc to breed.

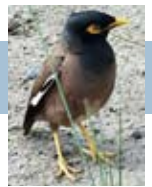
When trapping be careful not to educate them. Once caught they must not be let out again. Also removal should be done when other mynas can't see what is going on.

Maitland council put a net over a tree to prevent them from getting into a roost tree. The birds actually still got in and caught in the net so a tunnel system to get out and into a trap could be an option. This is also the premise of Chris' system which nets a tree and then funnels the birds into traps.



Session 2

Research



What does the myna bird like to eat?

A study of food choice in *Acridotheres tristis*

Suhella M. Tulsiani^{1,2} and
Christopher R. Tidemann²

¹Present Address: School of Veterinary Science,
University of Queensland, St. Lucia, QLD 4072

²Fenner School of Environment & Society, The
Australian National University, ACT 0200

We investigated food preferences of captive *Acridotheres tristis*, the Common Indian Myna, to inform management (e.g., trapping, baiting) of wild populations. Cafeteria style trials with myna birds in large aviaries indicated great adaptability

in food intake, but also a strong underlying preference for red-coloured foods, e.g. grapes, strawberries and red apples. The results suggest that the common myna is capable of making strategic decisions with food when given a choice; decisions, at least initially, appear to be reliant on the appearance and novelty of the food item. In time, birds adapted to feeding on foods with a novel appearance, or of a non-preferred colour. It is possible that myna's may also use reflectivity in the ultraviolet range (320-400 nm) to inform their food choices.

1

What Does the Myna Bird Eat? A Study of Food Choice

Ms. Suhella Tulsiani
Dr. Chris Tidemann

2

Choice

- Solitary and Gregarious
- Ground-feeding
- Omnivore
- Generalist

3

Approach

4

Approach

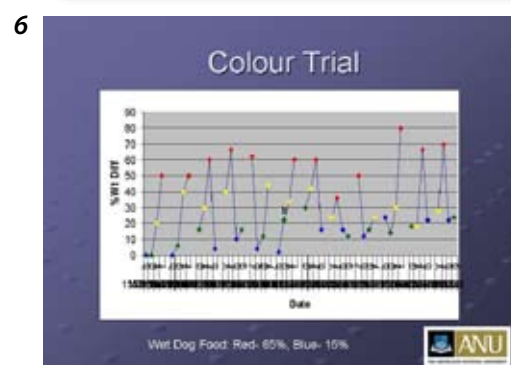
AM Presentation
PM Maintenance Diet

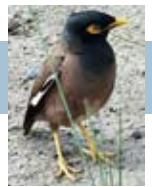
ISI-EnyEi - CH-Cl, E and C are the experimental and control samples respectively. I represents initial weight before trial and F represents final weight after trial (Metz & Keesing, 2001)

5

Food Trial

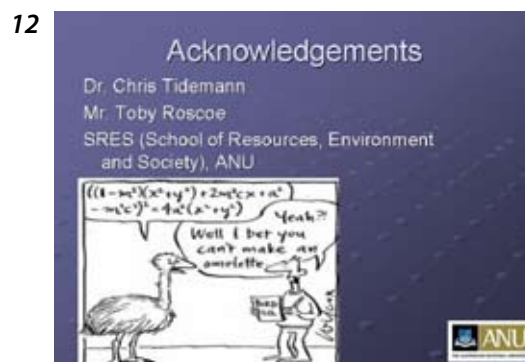
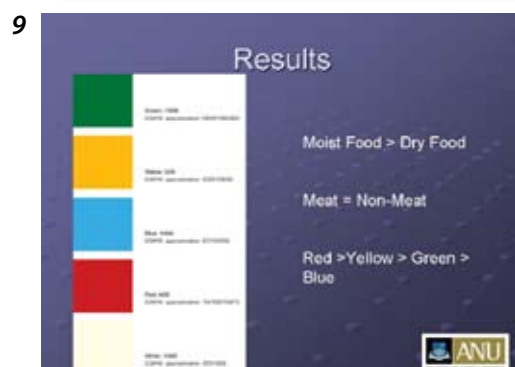
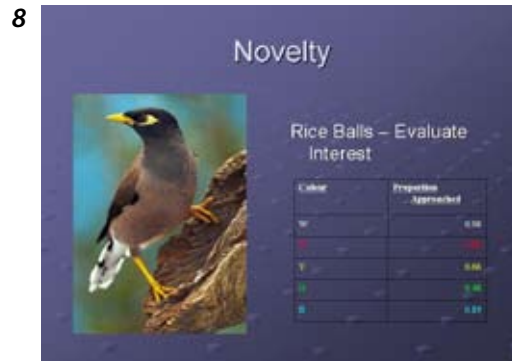
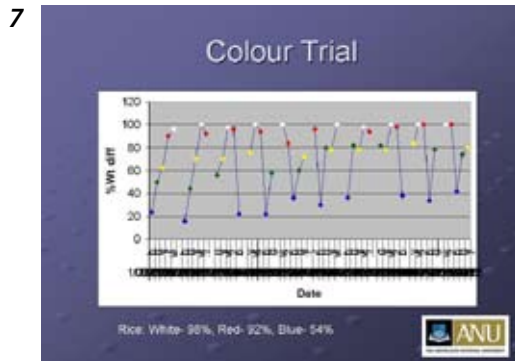
Item	Mean % Weight Diff
Wet Meat	20
Canned Tuna	20
Mealworm	20
Bread	3
Rice	11
Strawberries	20
Red Grapes	20
Green Grapes	11





What does the myna bird like to eat?

A study of food choice in *Acridotheres tristis* ~ continued



Comments

During the research several additional aspects were considered including the following:

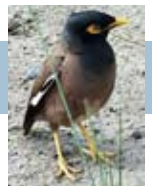
- calculating weight loss due to dehydration
- Camera mounted for unusual behaviour
- Looking out for dominance to exclude this behaviour from trial e.g. one bird monopolising all the food

Food was divided into 3 categories

- Meat
- Fruit
- Grain

A colour preference was noted

- Red grapes preferred to green
- Same with meat
- Coloured food was preferred



What does the myna bird like to eat?

A study of food choice in *Acridotheres tristis* ~ continued

This led to next phase of trial to see if colour influenced choice and red came out as the most preferred.

- Two of the most preferred food items were wet dog food and rice.
- Eating wet dog food may have been a learnt behaviour but rice was absolutely new.
- With the wet dog food they chopped it up into different pieces and used different coloured food dyes.
- Over 21 days the trays were rotated so there was no bias for position.
- Red was the strongest preference but by day 21 they were eating blue.
- This was repeated with rice, which was easy to manipulate with colours and the same pattern emerged as the dog food.

The third part of the test was to determine the ranking of coloured food. White and red were most preferred and blue the least.

- The colours were matched to the Royal horticultural society and CMYK to make sure they were consistent in each trial.
- They preferred food with moisture content - cooked gummy rice as opposed to rice soaking in water.
- When dry pet food was soaked in water it was not preferred as much as fresh wet dog food
- No distinction was made between a meat and non-meat item.
- Absolutely anything was eaten within the pattern of colours

They didn't like blue food. It took 5 days before they tried it. It seemed that the novelty value of blue food which was being presented to them in a number of ways eventually won out and by day 3 or 4 they'd give it a try and learn that it was okay and would continue. So by the end of the trial all the food was eaten.

Other conclusions were:

- Eradication not practical
- Resource removal is very good to minimise the impact at a local level.

- Birds do have an aversion to certain colours. Studies have been done to see if birds can distinguish between colours and can see beyond the human range and into the UV range.
- Red and white most preferred
- Green and yellow – mediocre
- Blue – initial aversion and then they get used to it

The study didn't take into account:

- dominance and only 4 or 5 birds were used.
- High nutrition and high energy foods were not considered as a reason for myna's picking certain colours and types of food.
- And the obvious preference for moist food is only anecdotal.

Questions

Was there any notable difference between starlings and myna in the food trials?

- Starlings took a back seat to myna's
- Well integrated but not many starlings compared to mynas
- Proportion of birds probably played a part so hard to say.

How many food colours were used?

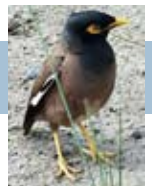
- Four different foods colours were used
- 50 grams of food to 1 gram of colour – this was the standard for all the trial.
- The colours were visibly matched on each food type.

Were the myna's used in the trial wild?

Birds were wild but had been living in the aviary for some time. They had quite a bit of human contact so Suhella disappeared each time they were being fed.

Was there a preference for live worms or dead?

Didn't show up the trial. When given a choice there appeared to be no preference.



The Flying Cane Toad: City Slicker or Urban Cowboy?

Gail Spina ~Centre for Innovative Conservation Strategies ~ Griffith University

gail.spina@griffith.edu.au

The Indian or Common Myna (*Acridotheres tristis*) has been in Australia for almost 150 years and has increasingly gained a reputation as an urban bird. However, its ecological niche evolved among the rural farmlands of the subcontinent and the species is equally at home in the rural or urban environment - it is the modifications to the natural environment that are important to the myna's success.

The majority of studies conducted on the ecology and impact of mynas have been undertaken in mostly urban environments and where myna populations are already at high density. These results may not always translate effectively to areas of emerging colonisation, or to areas of predominately agricultural or rural land use.

Based on studies conducted in South East Queensland, and focusing on the Sunshine Coast and hinterland, this paper looks at two key factors that need to be considered when developing management plans in regional areas where the rural/urban interface is rapidly starting to blur.

Firstly, the impact of land use change on myna dispersal within rural and peri-urban areas; and secondly, the value of understanding the ecology and behaviour of the myna at the emergent phase, when key resource selection variables can be more readily identified, social systems are more evident and more critical to the species' local survival, and myna behaviour is quite different to the behaviour displayed in high density populations. The potential to translate these into management strategies will be discussed.





The Flying Cane Toad: City Slicker or Urban Cowboy? ~ continued

- 5 Pilot Study Outcomes**

 - Resource Selection:
 - Roost sites
 - Landscape change and dispersal
 - Community responses
 - Implications for Management
 - Preliminary Outcomes raise questions for further research
- 6 What We Found Emerging Populations**

Research Challenges

Finding them!

 - roost sites
 - public awareness

Catching them!

 - Behaviour – social and communication systems
 - trapping
- 7 Where We Found Them**

 - Urban, Peri-urban and Rural populations
 - small long term stable rural roosts
 - 50-70 birds
 - mixed urban roost sizes
 - 12 – 250 birds
 - new, medium and long term roosts
- 8 Myna Dispersal and Landscape Change**

 - rapid development and urbanisation
 - mixed land use:
 - new urban areas interspersed with rural land use and farming
 - anecdotal evidence:
 - myna colonisation within 1-2 years of significant development and rapid population increase
 - consistent with 1940's post war spread
- 9 Myna Dispersal and Landscape Change**

Where are the source populations?

 - local farming and rural properties?

Why do they disperse alongside development?

 - Pathways
 - Resources
 - Highly Modified Environments
- 10 Roost Sites**

 - 35 roost sites
 - Roost sizes between 12 – 250 birds
 - Wide range of structures:
 - Natural – figs, palms, pencil pines
 - Man made – sheds, pergolas
- 11 Roost Sites**

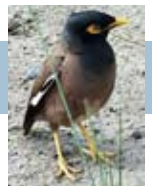
Resource Selection

 - Undercover
 - Surveillance
 - Passing traffic
 - Proximity to food source
 - New roost sites based around nest sites
- 12 Community Engagement**

Public Reporting

527 public responses

 - 76% had experience of high density myna populations
 - Of the rest, 83% noisy miners, 6% other
 - 2% farmers (mostly retired)
 - 67% over 50



The Flying Cane Toad: City Slicker or Urban Cowboy? ~ continued

13



Comments

We did a small food preference trial also and found that myna's were very comfortable with all foods.

Pilot Study was undertaken in the Sunshine Coast and Hinterland which has a lot of similarities to the north coast of NSW with increasing pressure from urbanisation.

Public Reporting – phone call for myna sightings. Most people in this area don't know a myna bird.

Identification of roost sites and measuring of variables indicates if there are preferences for areas. Roost sites also give populations count.

Finding mynas was challenging – when you're looking in areas it is difficult on private land to investigate.

Because public awareness is not there reporting was fairly erratic. There are still low densities so the mynas are cautious and alert.

They pass information on very quickly – in 31 traps 12 birds were caught and only ever 2 at time. Roost site trappings were from 12-15 up to 50 or 60.

We found them deep into the hinterland. Farmers said they had been there a long time and they were stable.

Environments

They are commensal with development. Bird baths, pet food, stand alone trees, water. We provide exactly what they want in environments where we change from rural to urban.

Roost Sites

- 35 roost sites – took a long time to find.
- Roost sizes between 12 – 250 birds (mostly around 50-60)



Resource Selection

- Undercover – like to see out but not have things see in. sheds, palm trees.
- `Passing traffic – don't like foot traffic but don't mind vehicle traffic. So industrial estates are good, retirement homes
- `Proximity to food source – all next to produce farm or food source. Within 100m there was a place where they could all have a last minute feed before roosting.
- New roost sites based around nest sites.

Big chunks of population not engaged

- Seek out source populations prior to development and try to do some management before they spread
- Urban Design – tree planting that they don't provide all their resources.
- Community Engagement
- Education – Indian myna/noisy myna
- Reporting, monitoring, resource management – make it easy to report etc.

No noticeable interaction of sparrows with mynas in the environments where this research done.

Questions

Country energy have been reporting Indian mynas. Are you working with them?

Dialogue has started with them. Need to be on a property at the correct time to see them. You can go to a place 20 times and never see them so timing is important. But they are talking.

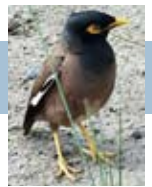
Would decoy bird be good to use for monitoring and trapping?

They haven't been good in the trial but may have been the wrong birds - they scared them away.



Session 3

Community Engagement



Tackling Indian Mynas in Canberra Successful Community-Action Approach

Bill Handke, President - Canberra Indian Myna Action Group Inc.

Indian (or Common) Mynas — *Acridotheres tristis* — were released in Canberra in the 1960s: some one hundred years after first arriving in Australia. They are now spread across all Canberra suburbs and in the urban nature reserves and have become a threat to native wildlife — particularly hollow-nesting birds / small mammals and endangered / vulnerable endemic insects. As well, their habit of occupying and fouling back yards, shopping centres and school yards mean that the general community sees them as a major nuisance, and their domineering nature — which results in driving small native birds out of domestic gardens — is loathed.

The Canberra Indian Myna Action Group Inc (CIMAG) was formed in April 2006. Structured as a community-action group, it has been highly successful in reducing mynas in domestic back yards. (Back yard trapping has a profound local impact, but this needs to be supported by broader activities to have a landscape effect).

CIMAG has a broad Strategy for tackling mynas around three main elements:

- raising public awareness that Indian Mynas are a serious environmental threat and a potential human health risk, not just a backyard nuisance
- informing the community / business and government agencies on how to reduce mynas' feeding, breeding and roosting opportunities — thereby reducing their numbers and spread
- a humane trapping program.

The community-based approach has been the key to CIMAG's success and is a model for wider application. A community-based approach enables a broader and more concerted, concentrated and sustained effort than a highly centralised and controlled approach.

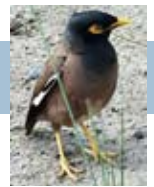
The main interest and involvement by most

of the 340 CIMAG members has been in the trapping program. Mass participation in trapping requires traps being easy to operate, and people having a simple, cheap, practical and quick method for disposing of trapped birds. With small, effective, easy to build and manage traps, some 12,000 mynas have been removed from the Canberra area by CIMAG members. Where back yard trapping has been intense, mynas are now rarely seen, and members report native birds have returned to gardens and rosellas are back in back yard nesting boxes and tree hollows.

Other important aspects of CIMAG's approach have been its establishment of good networks with the ACT Government and surrounding local government agencies, with the RSPCA, with academics / researchers at the Australian National University and the CRC for Invasive Animals, and with like-minded conservation & community groups. Its activities are promoted through the local media — radio and press — a regular Bulletin, public presentations and through a website and chat-room.

Community-action needs to operate on a sound scientific basis. Research and monitoring activities are seen by CIMAG as important to the long-term effort: in gaining public acceptance, in refining the strategy and activities, and to provide supporting information and knowledge that enhance public education.

As with most community-action groups, challenges emerge: how to main the enthusiasm of members; how to recruit new trappers in new areas; how to keep track of trapping activities and how to monitor the effectiveness of activities.



Tackling Indian Mynas in Canberra Successful Community-Action Approach ~ continued

1



Tackling Indian Mynas in Canberra: a Successful Community-Action Approach

Bill Handke
Canberra Indian Myna Action Group Inc

2

Indian (Common) Myna *Acridotheres tristis*

- Native to Indian sub-continent
- 12 cm tall
- aggressive / territorial
 - but roost communally
- opportunistic feeder
 - meat, food scraps, pet food, seed, berries, chicks, insects
- long lived: 12 years or more
- breeds Oct – March



Public can be confused with Starlings, Blackbirds, Noisy Miners

3

The Myna Invasion

- Introduced Melbourne 1862
 - then to north Qld
- Brought to Canberra in 1968
- Now across all Canberra suburbs and urban nature reserves



4

CIMAG

(Canberra Indian Myna Action Group Inc.)
Patron: Dr Chris Tidemann

- Objective:
 - protect native wildlife from the threat posed by Indian Mynas
 - & reduce their nuisance in urban areas
- Strategy:
 - 3 core elements
 - raise public awareness
 - distribute public info — on how to reduce feeding, roosting & breeding opportunities
 - humane trapping programs
- Community-action approach
- Supporting scientific research



5

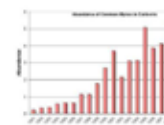
Myna Abundance in Canberra



6

Indian Mynas in Canberra

- Est. at 250 per km²
- now in the iconic grassy woodlands
- high numbers around schools, shopping centres, cafes



7

Why we are concerned # 1

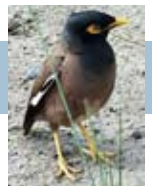
- Major threat to native wildlife
 - taken over nesting hollows of native birds and arboreal mammals
 - feed on:
 - eggs, chicks & insects
 - drive small birds out of gardens
 - in ACT a particular threat to:
 - parrots — esp. endangered Superb Parrot
 - endangered, threatened, endemic insects
- Degrading woodland ecosystems
 - by reducing ecosystem services by other birds



8

Under threat





Tackling Indian Mynas in Canberra Successful Community-Action Approach ~ continued

9

At Serious Risk



10

Also affected ?



11

Nesting targets



12

A strange place for a nest



13

Why we are concerned # 2

- Human health risk
 - bird mites: *Ornithonyssus bursa* & *Dermanyssus gallinae*
 - cause dermatitis, asthma, severe irritation and rashes
 - problem from nests in roofs
 - droppings: *Psittacosis* & *Ornithosis*, *Salmonellosis*, *Arboviruses*
 - cause pneumonia, gastro
 - concern at outdoor cafes, factories, food warehouses
 - potential vector for "bird flu"
- Fire risk
 - scrappy nests in roof cavities



14

Contents of myna nest



15



"We can make a difference"

The CIMAG Mantra

- Needs a concerted, concentrated, co-ordinated & sustained effort
 - doing nothing = decline in native wildlife
- Effort at household, commercial and govt level
 - backyard trapping has positive local impact
 - but needs additional effort to have landscape impact
 - reduce feeding opportunities
 - reduce nesting and roosting sites
 - trap at roosting sites and in public spaces
 - esp. nature reserves

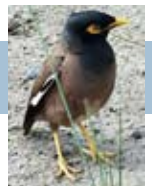
16

CIMAG Community-action # 1

Approach based on public participation:

- building networks with imp't orgs / prominent people
 - RSPCA, ANU, COG, ACT Govt, local councils, Landcare / Catchment Management groups, gardening groups
- an aware and concerned public
 - program of public awareness raising
 - media, high profile "champions", public presentations, website, bulletins
 - tap into public loathing of mynas
- sense of worth in activities / contribution
 - public to believe actions will make a difference
 - need to see results





Tackling Indian Mynas in Canberra Successful Community-Action Approach ~ continued

17

CIMAG Community-action # 2

Large-scale participation needs:

- easy, practical and low-cost activities
 - complicated and costly obligations a turn-off
- simple, effective, easy-to-operate traps
 - members own and manage own trap
 - disposal method needs to be simple, but quick, painless & stress-free
- regular feedback to members
- continuous recruitment
 - recognise many members will "drop off"
- low administration load on organisation



18

Messages to General Public

- Reduce feeding opportunities
 - keep pet food inside
 - better waste control at schools, restaurants and shopping centres
 - stop direct feeding
 - eg at Aged Persons Hostels
- Reduce nesting opportunities
 - block up cavities in roofs
 - maintain vigilance on nesting boxes
- Reduce roosting sites
 - remove unsuitable shrubs / trees
 - eg. dense exotic pencil pines, palm trees
- Plant suitable gardens
 - reduce open space (lawns)



19

Tackling the problem — Actions

- Spreading the word — messages to general public
- Backyard trapping
 - positive local impact = return of native birds
 - 12,400 mynas removed by CIMAG trappers at end Sept 07
 - Protocol on Animal Welfare: RSPCA agreed
 - Collaborative arrangement with RSPCA on disposal
- Trapping in public spaces and at roosting sites
 - Dr Tidemann / ANU research on roosting trap
- Supporting research
 - PhD project
 - euthanasia research
 - monitoring



20

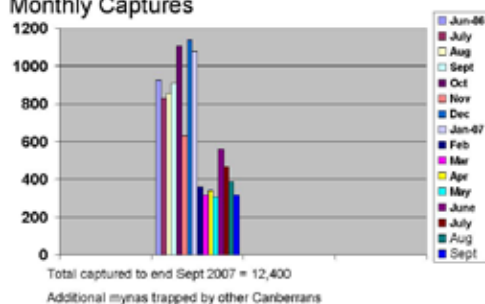
Traps



21

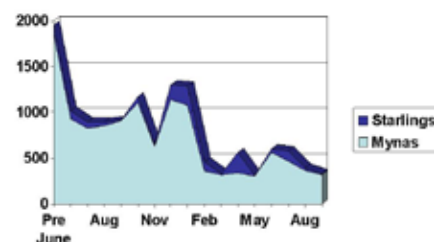
CIMAG Trapping

Monthly Captures



22

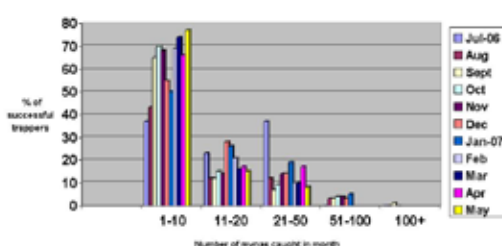
Myna / Starling ratio



23

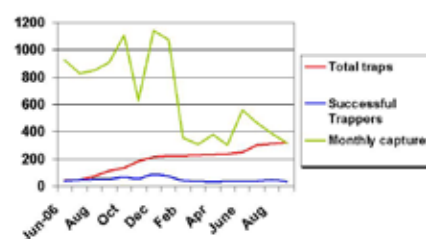
Indian Mynas removed

• Trapper success



24

Total traps vs Successful trappers

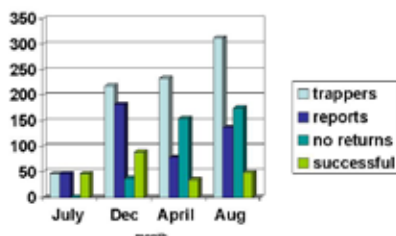




Tackling Indian Mynas in Canberra Successful Community-Action Approach ~ continued

25

Trapper Interest



26

Reasons for capture drop-off

Possibly:

- trappers have caught all / most in area
- trappers lost interest
- trappers away / busy
- birds become wary of traps
 - still high capture in virgin areas
- less mynas = less food competition
 - no need for birds to put themselves at risk
- food preferences change — fruit etc
- seasonal variation in numbers



27

The impact of trapping

Mt Taylor — Kambah side

	Park gate	Backyard	2km Circuit Walk
2 Mar	14	10	41
10 Mar	12	10	38
16 Mar	15	8	30
13 Apr	0	4	20
23 Apr	0	6	22
25 Apr	0	8	24
1 June	0	11	9
2 June	2	4	7
6 June	0	0	4
10 Aug	0	0	5
19 Aug	0	1	4
23 Aug	0	0	0
17 Sep	2	2	2
11 Oct	4	2	0
14 Oct	2	0	3

28

CJ Dennis

The Singing Garden — the Indian Myna

Gimme the town an' its clamour an' clutter;
I ain't very fond of the bush;
For my cobbles are coves of the gardens and gutter —
A tough metropolitan push.
I ain't never too keen on the countryfied life;
It's the hustle an' bustle for me an' me wife.

So I swagger an' strut an' I cuss an' I swagger;
I'm wise to the city's hard way.
A bit of a bloke an' a bit of a bragger;
I've always got plenty to say.
Learned thro' knockin' about since my people came out
From the land at the back of Bombay.

When out in the bush I am never a ranger;
There never ain't nothin' to see.
Besides, them bush birds got no time for a stranger;
So town an' the traffic for me.

I sleep in the gardens an' loaf in the street
An' sling off all day at the feller I meet.

An' I swagger an' scold an' strut an' I swagger,
An' pick up me fun where I can.
Or tell off me wife, who's a bit of a nagger,
Or scrap with the spinners for scan.
A bonzer at bluffin', I give you my word.
For, between you an' me, I'm a pretty tough bird.

"Dert"

Newell, 7 January 1973, Number 25 in the Bush Birds series.

29

CIMAG Contact Details

Website:

www.indianmynaaction.org.au

Email:

handke@grapevine.net.au
president@indianmynaaction.org.au

Chatline:

chat@indianmynaaction.org.au

Email News System:

news-subscribe@indianmynaaction.org.au

Phone:

02 6231 7461

30



31

Acknowledgements

Dr Chris Tidemann, ANU

Monitoring Data: Canberra Ornithologists Group (COG)

Photos: Geoff Dabb, David Cook, Mark David, Andrew Tatnell,
James Rolevink, Stuart Harris, Debbie Claridge and
Chris Tidemann, MynaMagnet

Central Coast Indian Myna Action Group Inc

MynaMagnet



Tackling Indian Mynas in Canberra Successful Community-Action Approach ~ continued

Comments

Canberra Indian Myna Action Group Inc – large scale community action happening.

Questions

How much are your members prepared to pay for trap?

They make traps and charge \$60 which includes a \$10 donation.

Commercial traps are available – MynaMagnet \$400, MiniMyna \$180-190. Some people will spend that sort of money but most are reluctant. Councils, Landcare and other groups buy them.

The PeeGees trap that we make up is simple to make and the materials cost around \$40 and would take an afternoon.

When you are trying to get a mass involvement you can't expect people to make a big financial outlay.

Is there any data on re-colonise?

No- but it takes time

4 people in an area trapped over 500 in 12 months: first 4 months got around 250 and then there was a lull before they came back in.

What is most effective in bait?

Dry dog food – "Pedigree Mini Meaty Bites with Mincemeat" - they like the meaty ones.

If the bait gets wet discard it because they won't go near it. Assume it has lost its odour.

Does the size of the backyard have anything to do with success?

No – they have been caught in apartment courtyards.

Size of trap is not a hindrance – most caught in the compact PeeGees trap has been 24 birds in 24 hours.

If you use a decoy you get more quicker.

Mostly mynas in Canberra backyards. Some people have reported that where they have removed Indian Mynas, Starlings come back in.

Most people trapping get between 1 and 10 birds a month

320 people trapping

Where people have been trapping for a while, the trapping success is at a low rate: where people trap in new areas, they are getting many more.



Bellingen Shire - Myna bird trapping program partnership

Dr Colin Mathews¹ and Ian Turnbull²

¹*Bellinger Landcare Inc,
1a Oak St, Bellingen, NSW*

²*Bellingen Shire Council,
PO Box 117 Bellingen, NSW*

A Myna bird trapping program has been running in Bellingen Shire since 2005. The program has been coordinated through a partnership between Bellingen Shire Council and the local Landcare umbrella organisation Bellinger Landcare Inc.

The partnership evolved from a shared interest in Myna control by Council's Vegetation Officer Ian Turnbull and local Landcare Coordinator Colin Mathews who have been members of the Coffs Harbour and Bellingen Indian Myna Action Group since its inception in 2004. Council and

Landcare have successfully worked together on other joint natural resource management programs in the past (e.g. coastal weed control) and the shared interest in natural resource management and community involvement lead naturally to the development of a partnership in Myna bird control.

The success of the partnership has depended on each organisation bringing skills and resources to the program.

Challenges for the future of the program include maintaining and increasing the momentum of community interest in trapping and servicing the need for traps. Ideally a dedicated part time project officer should be funded to support the program.

1

2

Trapping program started in 2005 as response to community concerns on Indian Myna impacts on native birds


Program evolved out of shared interest in Myna control by Council Vegetation Officer and local Landcare Coordinator.

Previously worked on other natural resource management projects together

3

Partnership features:

Different organisations – different skills and resources

Bellinger Landcare 

Network provides contact point for community

Awareness raising – newsletter/press/events

Maintains sightings and contacts database

4

Bellingen Shire Council 

Financial and physical resources

Trap and euthanasia equipment purchase

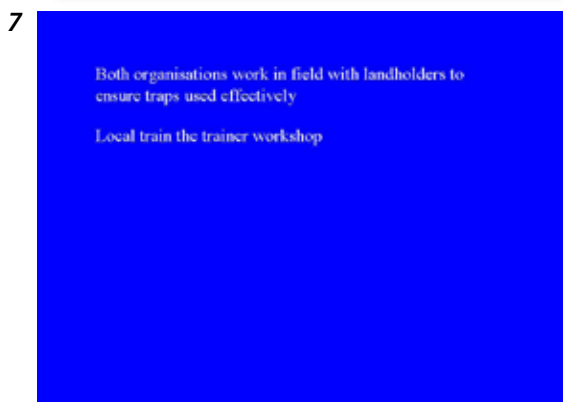
Resources for local Rotary Club to build traps

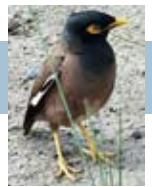
Trailers for moving traps

Front desk referrals to database



Bellingen Shire - Myna bird trapping program partnership ~ continued





Bellingen Shire - Myna bird trapping program partnership~continued

Comments

- No local champion like Bill in Canberra
- Different environment to Canberra – don't have large mobs here – small only and no culture of hate developed yet as they are not too much of a problem.
- Most of the early sightings/concern were from people who had left Sydney and recognised them in Bellingen area.
- Bellingen Landcare Network includes people interested in biodiversity issues. Others interested in myna control and impact.
- Bellingen Landcare maintains sightings and contacts database for shire with an excel spreadsheet. People ring either Council or Bellingen Landcare with details of how many and where they have been seen. They have an idea where the flocks are and target an area at a time.
- Council provided resources for local Rotary Club to build traps quickly and cheaply – provided netting etc they built 9 traps
- Council provided trailers for moving traps – for large traps so they don't have to be dismantled.
- Council front desk referrals to database – exchange of information between Council and Bellingen Landcare
- A local train the trainer workshop was run jointly – to make traps, ensure correct bait, euthanasia,
- It takes a couple of hours to take trap out to site and ensure landholder is up to speed with process for trapping and euthanasia – a significant time allocation and not sustainable for either Council or Bellingen Landcare without additional funding to pay for this time.

Challenges for future

- Maintaining and increasing community momentum –
- Increasing number of birds trapped – per trap day. Juveniles not caught

- disappointing return for effort so far. Need better understanding of why birds are not being caught, monitoring so they can see where going
- Funding for part time project manager – no local champion. Funding sought by other groups to get a dedicated person.
- You need to have shared goals and interests
- Different and complimentary skills by partner organisations
- Raise awareness
- Communicate a lot.

Questions

Do you charge for traps?

- No charges for using trap from council.
- It is a free service
- Environmental levy could be a possible source for using traps

How did you build the traps?

- Ian approached the Rotary group
- A Rotary member had Indian myna's on his property
- Said they had no traps so council provided materials and he built the traps.

Elaborate on flooding area with traps

Theory is to put them all in one place before the birds learn that they are dangerous.

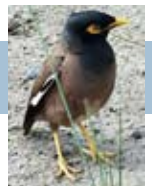
From the community point of view you can build a focus area. Clearing specific areas at a time. It's a complicated issue and might be better discussed in workshop – spreading them all over the place is not the issue; the issue is how many are left to breed.

Issue of Mynas learning is just one issue.



Session 4

On ground control



Coffs Coast Indian Myna War

Ron Smith ~ President ~ Ulitarra Society

**PO Box 518
Coffs Harbour NSW**

History of Indian Myna invasion

The first recorded sighting of Indian mynas in the Coffs Harbour occurred in August 2002. By 2004 sightings were reported from the entire local LGA Government area as well as in adjoining council areas.

Action to control the birds was commenced immediately. The first birds were sighted but almost two years had passed before a trap was obtained and the first birds were captured.

Early trapping efforts

We commenced our trapping with one large early model of the "Myna Magnet" trap. We placed it near sheds and foul pens where mynas were feeding and could not catch a single myna. By chance we set the trap up out in the middle of the paddock and caught our first birds. The key to success was to set the trap up out in the open.

We managed to get an article on Indian mynas in the local paper to which there was a huge response from the public. Which resulted in a long list of people waiting for the trap. In 2006 we were sent a copy of the plans for the Pee Gee trap and also contacted Bill Handke who was helpful to us.

Engaged and Educate the Public

The Ulitarra Conservation Society in conjunction with Coffs Harbour Regional Landcare had been setting up displays at annual fairs so a myna display was added to theses and again received a good public response. We also speak at meetings of other groups such as service clubs etc. We slowly built up a network of people who will trap mynas in their area.

Observing, Experimenting, Modifying

One of our members who is keen bird observer spent a lot of time studying the movements of the birds. He soon found a roost tree and studied the birds morning dispersal and evening return. All of our large capture sights have been near roost trees. We find that during the winter months flocks will suddenly leave an area or suddenly arrive in an area that previously did not have mynas. In the spring and early summer months we keep a watch on the large old gum trees in farm land areas. These are the trees where Rosella parrots have always nested in the many hollows. Mynas have been observed attacking the Rosella's and taking over the hollow.

Euthanasia of Birds

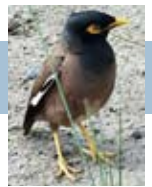
We find the best way to euthanasia birds is to transfer them to a small cage with no perch. By placing the open door of cage and trap together the birds readily transfer from one to the other and huddle together on the floor. We then pull a large garbage bag over the cage, place the hose in and use a tie around hose and bag. We trickle the gas in slowly and the birds go quietly to sleep.

Problems

The cost of gas bottle rental is our biggest problem. We rent five bottles at a rental of \$140 each per year = \$700 p.a. Since we started transferring birds to the small cages the cost of the gas is very little. Ibis have made trapping impossible at some sites.

The good news

We are definitely winning the battle. Every time we place traps in suitable locations we catch the mynas. Often the last two or three won't be caught or leave the area. May be the oldest more cunning birds? In areas where large numbers were captured, few birds have returned within twelve months.



Coffs Coast Indian Myna War ~ continued

Comments

- Ulitarra society started observing. Then after two years they contacted CT and got some funding from DECC and CHCC.
- Big traps hard to use – a lot of effort without much success – need to be in the open and once they were in the open it worked ok.
- PeeGee trap more mobile and increased success rate.
- Myna traps added to fairs with posters. Huge response. Go to 3 full day fairs throughout the year.
- One large trap with a 100 names of people wanting to use them. The PeeGee trap allowed more traps to be used and have almost caught up with back log.
- Finding a roost tree (often a fig tree) provides the most success for capture. The birds have a radius around it (estimated at around 1k) and there is a lot grass and lawn areas surrounding it – caught 200 birds at one site and 35 and the other site. Big numbers only collected around roost trees. They leave the trees in the morning and go off in little groups. At non-roost sites there are only 2 or 3 birds caught and this is believed to be the edge of the roost area. Patterns may be different in other areas as mynas are new to this area.
- Community ringing with info on how to get rid of them. Have 25 traps – 20 PeeGees and 4 big ones.
- Ulitarra owns the traps and they take them to the people who want to trap mynas and work out the best place to put it. They also make arrangements for Euthanasia (either collection or disposal on site).
- Do letterbox drops but still have more enquires than they can handle.
- On hobby farms there are quite a few mynas in smaller groups. Farmers here are very involved in trapping and Landcare. Seem to be more aware. Landcare is a big network with hands on type people and very useful for trapping mynas.
- They have built up a network of trappers and give them as much support as they can. They have been putting traps in even if there are only 2 birds. They generally catch them within a few days.
- They do use decoy birds and use the top half of Myna Mogul to hold decoys.
- They catch more birds in the traps that don't have decoys when there is more than one trap. The decoy brings the birds into the area. They do use traps without decoys and are also successful.
- They have caught around 1000 birds now.
- They are winning – in the areas where they have caught large numbers. They have only a few birds in those areas and they don't seem to readily return. Only successfully trapping for the last 12 months.
- Still plenty in the area. Most times now when they trap they always seem to get the birds. Open sites are better but there are exceptions.
- Experimenting with different trap designs. Park areas have lots of birds reported – the new design works quicker for these areas which is important to do before the general public are out and about using the areas.
- Their trap designs are easy to make but time consuming – it is a variation on the PeeGee trap but with folding wire and no sharp edges.
- Try to have a central gas bottle and the wrapping working around it.

Questions

Are the decoys successful because of visual or call?

Calls – quite territorial. Keeps 5 birds – they cost a lot to feed. Every time he gets down to 2 he puts another 3 in. So decoys may be different to the ones you're trying to catch.

Have you tried audio tapes with calls?

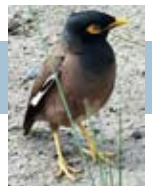
No

How do you deal with Ibis problems?

Ibis will always get caught in the myna traps so better off removing the traps if there are Ibis

What food do you use?

Use dry dog food – same as Bill – pedigree mini meaty bites with mince meat. Plus water. Put food trap and water in shade.



Indian Myna Management in Warringah Local Government Area

Richard Ali ~ Pest Species Officer ~ Warringah Council

**725 Pittwater Road
Dee Why NSW 2099**

Warringah Council LGA is located in the Northern Beaches of Sydney and covers an area of approximately 153 sq. km comprising of bushland, waterways and coastal areas (beaches and headlands). A quite unique and beautiful environment with approx. 138,646 residents. Residents of Warringah are subject to an environmental levy the Environment and Stormwater Special Rate (ESSR) and through processes of the rate report reported Indian Myna birds as a major community grievance in terms of biodiversity and amenity impacts. Council initiated survey and trapping programs in the early nineties with minimal and disappointing results and as such, have had difficulties in resolving ratepayer inquiry up into recently.

In 2005 Council regained momentum with Indian Myna issues by acquiring newly developed traps (Dr Tidemann type). Council engaged contractors to address a large roosting problem area in the Dee Why CBD where large roosting colonies of Indian Mynas impacted on local business and general public through noise, scavenging and defecation. The trapping was marginally successful only catching 35 birds in two weeks however public awareness was through media and visibility.

Council have a very successful community trap loan scheme for the management of foxes, rabbits, cats and possums in place and acquired 12 (myna magnet) traps and distributed them to ratepayers with significant problems. Ratepayers could borrow traps if they had >10 Mynas regularly visiting their properties to make the set up and training feasible. Council staff collect the birds and euthanase them accordingly. Community trapping is going well with > 720 birds being euthanased to date. However, Council is looking for ways to improve the coordination and implementation of community/volunteer trapping.

Warringah Council continue to raise awareness of Indian Mynas through media, inter agency meetings. Council are part of a large multi agency group the urban feral Animal Action Group (UFAAG).

Currently Council have linked with Dr Chris Tidemann (ANU) in further trapping (point trapping) and deterrent experiments, using our infamous Dee Why roosting area. The research project namely can point myna problems be minimised through trapping ?

The target area is comprised of outdoor eateries and a large supermarket, among other businesses, coexist with a large myna (and starling) roost (of around 300 birds), centred on 3-4 *Lophostemon confertus* trees, 10-15 m in height at the western end of Oaks Avenue. Problems arise because of noise from the roost (> 100 dB) and fouling of eating areas, parked cars and shopping trolleys stacked outside the supermarket. Pigeons also present a problem in this area but have been addressed previously through trapping with minimal problems. In this trapping trial the old circular prototype trap with decoy birds will be used in an attempt to reduce the number of mynas using the area. The trap has been placed on a flat roof section above shops and eateries. Pre trapping monitoring was undertaken by walking and observing a set transect in the local area. Indian and noisy mynas were recorded. The roost colonies were difficult to count as the roost assemblage was too large, and spread through too many trees, to count individuals accurately, but sound level recordings were made as a surrogate, with a Bruel and Kjaer 2250L meter. Free feeding was undertaken for two weeks whilst monitoring trialling a variety of different foods watermelon, bread, cake sponges, dog food meal worms etc. Local foods were also trilled with success e.g. scraps were collected from a pie shop experiencing problems. Trapping has only commenced recently with twenty mynas being caught in seven days to date.



Indian Myna Management in Warringah Local Government Area - continued

1



Managing Indian Mynas in Warringah

Richard Ali

2

Background

- Pest Species Officer, (CALM)
- Warringah Local Government Area (LGA)



3

Pest Birds

- Pigeons
- Magpies, Butcher Birds and Noisy Mynas.
- Ibis
- ducks and geese
- Starlings



4

- The current Indian Myna situation
 - habitat
 - feeding/ food sources
 - breeding
- impacts



5



6

- Community inquiry/response
- ESSR (Environment and Storm Water Special Rate)



7

Trials and Tribulations

- In 1998 Council engaged consultants.
- Trap acquisition
- In 2005 trapping - contractors

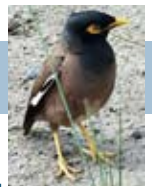


8

Community Trapping

- Trap Loan Scheme
- Variety of trap types available
- Council collect and euthanase birds.
- Reasonable success





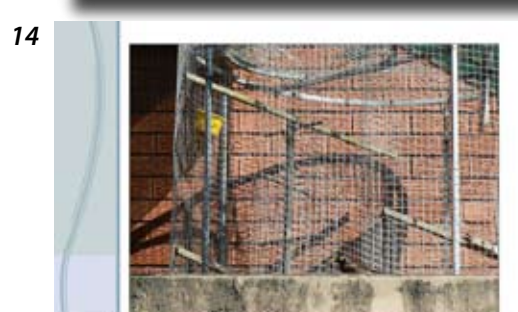
Indian Myna Management in Warringah Local Government Area ~ continued



10

Research Project

- *Can Point Myna Problems be Minimised with minimised by Trapping?*
- Joint project with Dr Chris Tidemann ANU, Canberra.
- Café/ business sector (Dee Why)



15

Future direction

- Improved trapping through community/ volunteer organisation.
- Urban Feral Animal Action Group.
 - ~ 14 land management agencies Sydney North Region.
- Establish links with other/groups agencies
- Encourage/train contractors and major hire companies to provide services.

where there are no opportunities to put traps on the ground and alternative food sources are so success is sometimes limited. Mynas are very people friendly and not frightened by anything – lights noise etc.

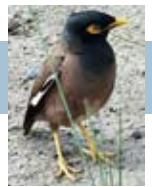
Questions

Where do they trap?

Council have a trap loan scheme servicing ratepayers in backyard situations. Council also conduct their own target programs in the LGA. Trapping is often in really busy urban areas

What funding does it utilise from environmental levy. Is it sufficient?

\$10,000 spent a year towards mynas plus a bit of external funding. It would go a lot further if they could action the community into building traps and form an action group similar to the CIMAG model, encouraging more individual ownership.



Clarence Valley Council Common Indian myna Control Programme 2006– 2007

Martyn Swain ~ Environment Officer (Ecology) ~ Clarence Valley Council

Common Indian myna populations exist in low to medium numbers scattered throughout the Clarence Valley LGA. Populations are concentrated near residential, rural residential and cane farm lands or where there is available agricultural or domestic food sources. Public concern has prompted Ian Tiley Council Mayor, to start a control program through the Sustainable Environment Section of the Clarence Valley Council.

Clarence Valley Council working closely with the Department of Environment Conservation and Climate Change have together reintroduced an Indian myna information brochure and have provided myna information outlets at field days and have used local media to promote the effect mynas have on biodiversity throughout the LGA.

The U3A group at Yamba was the first group in the valley to take up the mass construction of traps using the "Pee Gee's Starling, Sparrow and Myna Trap" design with materials supplied by Clarence

Valley Council. EnviTE have since constructed 36 traps under their skill program for Clarence Valley Council to loan to the public.

A Council data base has been established to record trap recall contact details, trapping success rates and other information for the Clarence Valley Council Common Myna Control Program

Trapping results indicate that myna birds are very selective, intelligent and learn quickly. Not all traps have caught birds over the 6 month trapping period. Those people that caught numbers of myna birds were strategically placed, well baited and in a quiet and passive situation with no predators or aggressive control techniques included. Sites that have been successful through trapping have observed a reduction of myna birds and increase of native species including the Pheasant coucal *Centropus phasianinus* not seen in a Yamba residential area for several years.

Further investigation into passive baiting and trap timing is necessary. Some cane growers have also expressed a need to passive bait myna birds feeding behind cane harvesters to reduce large core populations congregating during harvesting periods.

Clarence Valley Council will continue to loan traps to the public and explore options for mass capture or passive baiting in cane fields in cooperation with the Department of Environment Conservation and Climate Change and local cane growers of the Clarence Valley Council LGA.

1

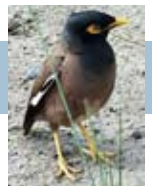


2



3





Clarence Valley Council Common Indian myna Control Programme 2006– 2007 ~ continued

Comments

Direction came down – what are you doing about Indian mynas.

Didn't cost much – traps \$17 each – but no one had any time.

20 traps made through U3A

Needed a database to record information. Trained front counter to collect info and get traps back.

EnviTE - Provided them with \$600 for materials and they made 36 traps

EnviTE are in most NSW LGA's – this program was under sheet metal work.

Put out media releases – involved talking about NPWS who were also involved. They produced a standard release and customised.

Had a couple of field days – NPWS took traps and brochures along. This generated a lot of phone calls and traps have been handed out.

They lend the traps out – front counter ladies hand them out

Euthanasia – CO2 bottles stationed at McLean dog pound and Grafton. They pay for the rental and the dog pound people look after the euthanasia

Trapping success – rings every 3 to 6 months to see what is happening. Varied results.

Interest from rotary group – through the media releases. They own cane farms and they see 50-60 birds behind the harvesters and wanted to know what they could do to catch them there. Opportunity behind cane harvesters. Will talk to DECC.

Originally brought in for cane insects and still do congregate in cane fields so an opportunity to catch them there.

Questions

Do you send out any forms to get information back?

Only by telephone – have just started and put the info in a spreadsheet. Dates, catches, no hard data or monitoring. Will look at forms particularly in the major towns.

Build a Christmas tree – with a net at the top that could be dragged over the roosting

Do you get the traps back - Gold coast have found that if they don't charge a fee that don't get them back?

No – seems okay in the Clarence Valley Council area.

To catch incorrect birds indicates that people aren't using the correct food

Any research being done on the myna carcass?

No good to research as they have been trapped by eating dry dog food and that is there stomach content.

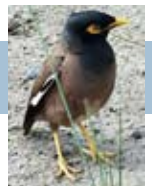
Are they being euthanased at home because of the distance to travel to bring them in?

Yes. The exhaust system might be the best option.

Mid north coast – transferred to a plastic box – requires little CO2

Mid North Coast has lots of problems at dairy farms and race courses – does anyone have any more information on this?

No



Myna Welfare

Andrew Kelly ~ Mid North Coast Inspector ~ NSW RSPCA

PO Box 34, Yagoona NSW, 2199

The RSPCA recognises that wild populations of introduced animals can adversely affect natural ecosystems, endanger native plant and animal species, jeopardise agricultural production and can harbour pests and diseases. The RSPCA acknowledges that in certain circumstances it is necessary to reduce or eradicate populations of some introduced animals.

The killing of animals should only be sanctioned where no successful, humane non-lethal alternative method of control is available.

Any measures taken to reduce or eradicate specific populations of introduced 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 be proven to be necessary and potentially successful at reducing the impact of the target animals.

The RSPCA believes that trapping and killing of Indian mynas should only be carried out as part of a government-supervised humane control programme. The program should have clear, measurable aims which include assessment of the success of the programme in reducing the ecological impact of mynas in the target area. Individual trappers should record and report their activities back to a central supervising agency.

Trapping carried out on an ad-hoc basis is not supported by the RSPCA as it is ineffective in reducing and maintaining the adverse impacts of mynas in the long term, and does not usually allow for monitoring and assessment of the success of the control program.

In NSW all trapping and killing of mynas must be carried out by trained personnel in accordance with the codes of practice (COPs) and standard operating procedures (SOPs) produced by the NSW Department of Primary Industries and funded by the Australian Government Department of the Environment and Heritage. Trappers must read and be familiar with the

procedures outlined in the SOPs for **Methods of euthanasia** (GEN001) and **Trapping of pest birds** (BIR002), prior to conducting any control activities. Copies of the COPs and SOPs are available for download from the following site:

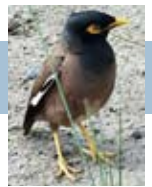
<http://www.environment.gov.au/biodiversity/invasive/publications/humane-control/>

Councils, Government and Non Government organisations should recognise their legal and ethical responsibilities in relation to trapping programmes and ensure all staff and volunteers are appropriately trained.

ANIMAL WELFARE CONSIDERATIONS

Impact on target animals

- Trapped birds are likely to suffer from distress when confined and they can sometimes be injured while trying to escape from the trap or during capture or restraint prior to euthanasia.
- Trapped birds must only be killed by humane methods with minimal delay.
- Traps must have sufficient height, length, and breadth to permit the bird to stretch its wings freely.
- When a trap is in use, it must be inspected on a daily basis. At each inspection any birds caught in trap should be killed quickly and humanely. Regular inspections will help to prevent captured birds being harmed by other captured birds or by predators outside of the trap (currawongs, crows ect..).
- If Lure (or decoy) birds are used they must be provided with adequate food, water, shelter and a perch. The Lure bird/s must be removed when the trap is not in use. Traps containing lure birds must be inspected regularly. Maintaining the same lure birds may be more appropriate if individual animals become habituated to captivity within a couple of days. Lure birds that show signs of prolonged distress should be euthanased.
- When cage traps are left in the open but not in use, they must be rendered incapable of holding or catching birds e.g. door secured in open position. Food should be removed when the trap is not in use.



Myna Welfare ~ continued

- Adequate shade is essential for the humane operation of the trap. Shade material (e.g. shadecloth, tarpaulin, plywood ect..) can be incorporated into the trap during construction or added during trap setup. Waterproof material will also provide protection during extremes of weather.
- Where possible, trapping should be avoided in adverse weather conditions.
- Captured birds must be approached carefully and quietly to reduce panic, further stress and risk of injury.
- To minimise the animal welfare implications of leaving dependant nestlings and chicks to die from starvation it is preferable not to undertake trapping during the nesting season. If trapping must occur during nesting, reasonable efforts should be made to find nest hollows containing young birds so they can be killed quickly and humanely.

Impact on non target animals

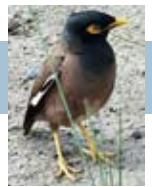
- Traps are not target specific; therefore other species, usually birds, may be caught.
- To reduce the impact on non-target species, traps should be placed in areas that are frequented by the target species. Free feeding can assist in identifying the likelihood of capturing non-target species, and appropriate areas for capture.
- Using lure birds or taped-recordings of target bird calls may help to minimise non-target bird capture and improve trap success.
- Non-target birds caught in traps must be visually inspected for injuries and signs of illness or distress before release. Stressed birds will close their eyes and may also hunch-up their necks and maintain a stiff and unusual looking posture. A rapid heart rate, loss of feathers, change in body temperature, trembling or shaking may also be observed. Birds should be dealt with as follows:
 - ◇ Birds which are unharmed should be immediately released at the site of capture. If a bird has been handled, do not release it into mid-air. Turn it right side up and allow it to sit on the ground so that it can become oriented.
 - ◇ Birds which are suffering from thermal stress should receive appropriate attention. A bird suffering from thermal stress can initially be placed in a suitable quiet holding area which provides warmth or shade to allow recovery before release. Honeyeaters and heat stressed birds may drink water while they are being held in the hand.
- ◇ Birds that are unable to fly may be suffering from a slight strain to the wings. Place them on a perch in good cover and they will usually recover rapidly.
- ◇ Birds with treatable minor injuries that cannot be immediately released or those failing to recover from thermal stress should be presented to a veterinarian or a registered wildlife carer for treatment.
- ◇ Birds that have injuries which are untreatable or which would compromise their survival in the wild should be euthanased using one of the following approved techniques.

EUTHANASIA

There are many issues to consider when deciding on the best method of euthanasia, equipment available, number of birds, type of trap, proximity to town, financial viability experience of operator and public perception are just a few. Regardless of what method is used it must be humane and comply with individual State and Federal regulations.

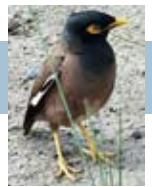
Trapped birds in NSW should be euthanased using one of the following methods:

- **INHALATION OF CARBON DIOXIDE** - When animals are placed into a chamber containing up to 70% CO₂ they lose consciousness very quickly due to the narcotic effect of the high intake of CO₂ on the brain without causing hypoxia. Death is caused by direct depression of CNS, respiratory and cardiac functions. One hundred percent CO₂ can cause severe dyspnoea (difficulty in breathing) and distress in conscious animals but this higher concentration is recommended for young chicks as they are more tolerant of CO₂.
 - ◇ Compressed CO₂ gas cylinders should be used so the inflow to the chamber can be regulated precisely.
 - ◇ Birds can either be (1) removed from the trap and placed into a container pre-filled with CO₂ or (2) remain in holding cages which will be enclosed with a material or plastic sack.
 - ◇ A continuous inflow of CO₂ should then be allowed to flow into the sack. A constant level of



Myna Welfare ~ continued

- CO₂ should be maintained for at least 3 minutes and anaesthesia will occur within 60 seconds.
- ◇ With birds inside the chamber, an optimal flow rate should displace at least 20% of the chamber volume per minute.
 - ◇ Carbon dioxide used in a sealed environment is suitable for animals up to 3kg.
 - ◇ Carbon dioxide is heavier than air so incomplete filling of a chamber may permit some birds to fly up to avoid exposure to gas.
 - ◇ Care must be taken to limit the number of birds in a chamber at any one time so as to maintain a constant CO₂ concentration.
 - ◇ Each bird must be verified as dead before removing it from the chamber. If the bird is not dead CO₂ narcosis must be followed with cervical dislocation.
 - **CERVICAL DISLOCATION** - This involves separation of the skull and the brain from the spinal cord by pressure applied posterior to the base of the skull. The brain stem –which controls respiration and heart activity –is consequently damaged, stopping breathing and reducing blood flow to the brain, leading to death. Studies in rats have shown that electrical activity in the brain persists for around 13 seconds following cervical dislocation. This may represent a period of remaining consciousness.
 - ◇ This technique requires mastering of technical skills to ensure that loss of consciousness is rapidly induced.
 - ◇ Carefully remove birds from the trap by hand or using a hand held net.
 - ◇ Dislocate the neck by taking the birds legs in the left hand (if right handed) and head between the first two fingers of the right hand with the thumb under the beak. A sharp jerk with each hand, pulling the head backward over the neck will break the spinal cord and carotid arteries.
 - ◇ Cervical dislocation is not suitable for birds larger than 3kg as it is difficult to pull the neck quickly.
 - **INJECTION OF BARBITURATE** - Act by depression of the central nervous system resulting in cardiac and respiratory arrest. This causes rapid euthanasia with minimal discomfort. The Intravenous route causes the quickest death.
 - ◇ Usually given by intraperitoneal route in smaller birds. For larger birds such as cockatoos, the intravenous route is preferred.
 - ◇ Barbiturates should only be administered by an appropriately qualified person e.g. a veterinarian or authorised officer.
 - ◇ Birds killed by this method may contain potentially harmful residues and should be disposed in a manner that will prevent them from being consumed by predatory /scavenger animal species.
 - ◇ Death of euthanased birds should always be confirmed by observing the following:
 - absence of movement
 - absence of rhythmic, respiratory movements
 - absence of heartbeat-feel the chest between thumb and forefinger
 - absence of eye protection reflex (corneal reflex) or 'blink'
 - ◇ If death cannot be verified, a second method should immediately be used to kill the bird.
 - ◇ Carcasses should only be discarded once death has been established.
 - ◇ Bird carcasses should be collected and disposed of in an appropriate manner in accordance with acceptable practices as required by local councils and applicable State/Territory or Commonwealth regulations.
 - **CARBON MONOXIDE** - The use of car exhaust fumes is not an acceptable method of euthanasia. While car exhaust does contain carbon monoxide, the concentration of this gas is not adequate to cause a rapid death. In addition, car exhaust is hot and contains other gases which are highly irritating to the respiratory track.



Myna Welfare ~ continued

REFERENCES

- RSPCA – Policies and Position Papers 2006 edition
- Trapping of Pest Birds - Trudy Sharp and Glen Saunders, NSW Department of Primary Industries.
- Methods of Euthanasia – Trudy Sharp and Glen Saunders, NSW Department of Primary Industries.

Comments

- NSW regulations may be different from other states and federal so only talking about NSW here.
- Killing is last resort.
- No use taking on a program if you know you're not going to win.
- Ad hoc trapping is not effective – doesn't allow for monitoring and ongoing planning.
- Trapped birds are likely to suffer from distress and are often injured.
- They must be killed humanely and within a minimum time
- They must be checked regularly so that predators can't get them
- Decoy birds must be treated with care and they will live a long time and provide a good service (food and water). RSPCA would like the decoys to be treated as pets and not neglected and replaced quickly. New decoys take time to adjust and all will suffer stress levels.
- If the trap is not being supervised it should have no food.
- It should be in the shade so they don't die of dehydration
- Avoid trapping in adverse weather conditions – it also doesn't work well
- Minimise during nesting season so the chicks don't die from starvation. If you are trapping during nesting season the nests should be located so the chicks can be killed quickly and humanely.

- Wrong birds caught must be released quickly – so traps must be set carefully and checked regularly.
- Decoys may increase success
- Tape recordings should also be investigated.

Questions

What is the minimum level of training?

What is considered reasonable in court if something went wrong?

A guide booklet would be good so that people can read and sign off on. Giving a trap without any information is not reasonable. Info on top of trap was good.

Is it necessary to get written approval from RSPCA?

No not unless you are contravening state laws

Is there a problem with leaving them in a trap for a few days if they are looked after?

No – but if they are stressed it is probably best to dispose of them

Can carbon monoxide be used?

RSPCA still need scientific info to sign off on this one

Chris is working on this at the moment and has been talking with scientific officer in the RSPCA.

Chris is certain that it can be used but more steps need to be outlined.

Mid North Coast use a small container and it is very effective. Stress levels in moving the birds into a smaller trap seem limited. Does this sound okay?

Hard to make comment without seeing the process.



Carbon Monoxide DVD

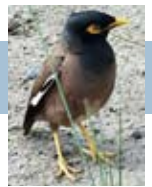
- From our perspective it is important to get a technique that is humane, easy to use and approved by the RSPCA
- Need to find an acceptable approach that satisfies the scientific officer for the RSPCA
- Gas is bubbled through the water to take out the nitrous oxide
- Birds in container – glad wrapped so you can see
- Gas is running and the birds were on the floor within between 10 and 15 secs
- Motionless within 40 secs
- Carbon monoxide is not stressing the birds, it is very quick and they were not flapping around or stressed at all
- DVD will be used as material to work up the scientific paper
- No noise from birds on DVD only sound of gas
- High toxic load when you first turn on a cold car and then it drops down
- Fuel changes will effect it – depends on age of car and a lot of other variables.
- If the vehicle has a low content it could cause stress to the bird.
- Survey with small mammals and birds
- Once the catalytic conversion cuts in there is virtually no carbon monoxide
- No diesels – respiratory irritant
- Important to bubble it through water to remove irritants
- It takes longer with CO₂ – maybe double the time
- Monoxide used to be the standard, but is presently banned by RSPCA and NSW DPI



Session 5

Workshop

Forum



Myna Workshop Theme 1: Best Practice Techniques

Facilitator ~ Colin Mathews ~ Landcare

What trap type(s) are effective?

- Portable small and light
- PeeGee the preferred option
- Circular modification is currently trapping birds very effectively. Advantage seems to be that the birds can see surroundings more clearly
- Need to be cheap and easy to make

What are the most effective trap locations?

- Regular visiting area for birds
- Middle of an open lawn because the birds need to see
- Short grass and no stock around. Short grass is a key thing
- An ideal location would be to have it within 200m of a roost tree. Watch at sunset and noise at sunset to locate these.
- Dog and animal management needs to be sorted out.
- Access to other sources of food for birds needs to be controlled to ensure they favour bait in traps
- Vandal free

What lures (or combination) work – e.g. Judas, feed based, audio, colour?

- Only feed them when there is a trap there
- Bait around the trap in the entrance and the walkways. Especially the first chamber.
- Dog food - dry biscuits Meaty Bites
- Cheese not as convenient
- Decoys are good but not always necessary. Young birds don't need a decoy. If you catch one leave it in to catch the others. Young birds generally are easier to trap.
- Stuffed birds don't seem to work too well
- Audio lures - not very effective. Some notice but not engaged. Experiment with colour - trap

Minimising non-target species

- Don't use bread and wheat as it will attract other birds.
- Also consider seasonal things – bowerbirds out November but not later in the season
- Timing during day
- No free feeding - not needed.
- Trap shyness - How to catch the last few elusive birds.
- Try to catch as many young as you can and then they won't breed. The last few will tend to move away and this is an issue. 99% of young will be caught.
- Engage potential hunters for the last few birds. They become aware very quickly

Key things

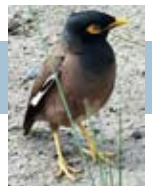
- Food and bait around access to trap
- Traps need food water shade and a stick for roosting
- Current PeeGee best design but will keep evolving.
- Needs to have low non target species attraction

Is there an optimal time(s) of the year to trap?

- Early morning first light best time to put trap out, but observe patterns for a few days.
- Bring it in at night – birds are very temperature sensitive
- It will also attract other animals (rats etc) if left out at night
- Let non target species go ASAP
- If there are still birds around keep trapping as the chances are that they will still go in

Season wise

- Nov-Dec - young birds are hatched and they are not as cunning. This is a key time of year.
- Flocks move in winter months
- Mynas pair in early summer



Myna Workshop Theme 2: How do you measure success?

Facilitator ~ Brad Nesbitt ~ DECC

Monitoring and recording - What data should be collected/recorded?

Need to establish the extent of the problem

- Media surveys – getting people to respond from newspaper surveys. Include sightings and roosts to identify hot spots.
- Need training to ID calls and confirm sightings

How do you monitor hot spots?

- Simple techniques that can be replicated
- Regional replication of agreed techniques – and across state from Canberra to Queensland

Option 1

Date ~ Number of birds seen ~ Time of day ~Vegetation

Option 2

Number of mynas seen within 100m of house. Survey first thing in the morning

Option 3

Transect counts

Option 4

- Detailed surveys – using people with skills, ornithologists, etc to identify populations
- Standardised research based monitoring and reporting using the same techniques and protocols

Control programs

Monitor the following

- number of birds
- number of traps
- number of birds trapped
- changes in myna population
- changes in impact – hollows used by mynas then natives (so you can actually monitor a specific change)

Data Collection, Sharing and Funding

Is there scope to bring it all together?

- An advantage would be a centralised system - using a web site with data entry form that can be completed by organisations involved in Myna control such as local councils, Indian Myna groups, CIMAG etc
- Ideal but could be expensive to set up and maintain

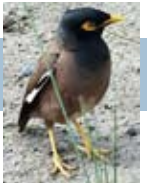
- At a regional level councils can collect this information – if all using same techniques data can be shared
- Internet system option could be used – Landcare have something that could be used.
- Interest of bringing groups together to share information. No conclusions but yes good to share information. Getting together on a regular basis especially for NE NSW and Queensland.
- Best ways to share this – formation of an umbrella group of affiliation of groups. Now thrown open to the floor to see –
- Birdwatchers groups - have annual count of birds. They would be good to align with for Indian myna counts.
- All the people here have internet access (even though the trappers may not). So templates can be shared – if we work on a broader level it will be easy to attract funding.
- All need to be able to access and add local info about our own areas.
- Hunter Valley, New England, Tamworth – starlings – but Indian mynas coming. So they are well within the area to be included.
- Doesn't need a geographical boundary – anyone on the east coast can share info – while some techniques might apply more regionally there is no need to a state boundary.
- Internet based best way to proceed.
- Gather all web sites today and see what is there and where we can go. So we are not reinventing the same thing over again.
- Forums work effectively – but distance is a problem for people further afield.

Where will the resources come from to have the single website?

- Make sure everyone who has a website links to the others.
- Some of us have quite a lot funding to do these sort of things so this should be shared around. Need to get it all together and use it.
- Starlings too different to include in this initiative – Chris' feeling is to take up with other groups dealing with starlings. Already industry driven

Other questions

- Who is responsible for monitoring?



Myna Workshop Theme 2: How do you measure success ~ continued?

- What monitoring techniques should be used?
- Who reports results?
- How do we share results and learnings with other groups?

Myna Workshop Theme 3: Myna Welfare and Euthanasia

Facilitator ~ Marty Swain ~ Clarence Valley Council

What are the approved euthanasia techniques?

- CO2 and cervical dislocation which requires experience and training
- Need to make sure people are well informed so that when the traps are given out they have all the information on the most humane disposal
- Some people who want trap may not want to kill the birds.
- Depending on the situation e.g. a long drive you could use cervical dislocation
- Firearms in rural situation
- Ethics of CO2 bottle – people using it need to be screened as well for ethics and motivation
- Need to consider work safety and OH&S
- Are there other possible techniques?

Who performs the euthanasia?

- Council - Pest officer or Ranger, Vets - centralised drop off locations (eg. Council Depot)
- Volunteers - Landcare, Lions, Rotary, Wires, private

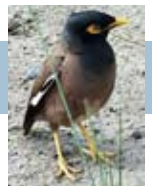
- Contractors - Pest Control Operators
- State Government - RSPCA - can provide support, information and funding
- Can't carry CO2 bottles in around – they need to be at centralised location.
- Depends on distance, travel, and training So needs to be considered on a case by case basis

Disposal of carcass

- Centralised drop off locations
- Council depo
- Vet
- Tip - landfill
- Private houses
- Or where ever CO2 is located
- Use of barbituates to kill mynas means they would need to be incinerated under a supervised disposal

Consider

- Non-target captures - take to vet or Wires to make sure they are okay
- Changing bait and location of traps, and monitor to avoid natives



Myna Workshop Theme 4: Elements essential to successful programs

Facilitator ~ Ian Turnbull ~ Bellingen Council

What elements make a successful partnership control program?

- Community pressure and support - they have to drive it. Landcare, CIMAG and other community groups important
- Relationship with government not so important
- Once community has got some drive they need some profile
- ID key stakeholders
- Share information and networking
- Start Small
 - Other people – Streets Ahead
 - Twitching groups
 - Trap building people – correctional facilities
 - Disabled workshops

FUNDING

- - Enviro funding
- - Council levy's for traps and to support community drive
- - CMA - educational

MEDIA

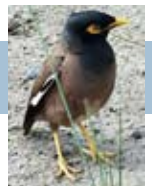
Finding impacts of mynas that people can identify with and getting that information out there (these birds have an impact on you because)

EDUCATION

- Stop feeding birds and other animals
- Budy up with other pests – cane toads/Indian myna/s

Regional / State Partnerships

- Aim – everyone on the north coast – umbrella organisation – what works what doesn't and get it out to everyone rather than duplicating
- Canberra's myna matters to get information out.
- Change websites to add regional information but general information is the same
- Field days a good way to get info out because of the lack of broadband
- Rates notices
- Utilise fenced public areas for traps - substations, water towers, schools in the holidays. Up to individual groups to see areas where this will work.
- Legislation not essential if you've got community drive
- Inform neighbours
- Noxious bird – not listed. Successful partnerships can happen without govt legislating. Just because it isn't listed noxious doesn't mean it goes away.



Biographical Notes

Chris Tidemann

Chris Tidemann has studied management of threatened and pest species of wildlife, often in concert with local communities in remote areas, since the early 1970's. He has developed traps for microbats (microharp, 1978) and flying-foxes (megaharp, 1993) – and pioneered the use of noise to herd flying-foxes (1999). Since the mid 1990's, Chris has directed the myna research programme at the ANU. Myna Magnet™ traps are a product of this work. The results from a long-term study of myna roosts are now being used to develop a trap to catch roosting flocks of mynas (Myna Mogul™). Chris retired from the ANU as Senior Lecturer in Wildlife Conservation and Management in 2006; he is now an ANU Visiting Fellow and the Patron of the Canberra Indian Myna Action Group.

Suhella Tulsiani

I am currently based at the University of Queensland, Brisbane conducting research towards a PhD on Leptospirosis transmission ecology in flying foxes and rodents. I have a Bachelor of Science and a Graduate Diploma of Resource and Environmental Management degree from the Australian National University, Canberra where I spent significant amount of time conducting and assisting with myna research under the supervision of Dr. Chris Tidemann. My research interests are broadly scattered around wildlife management, epidemiology and vertebrate pest ecology. In my spare time, I enjoy walks and hikes and pondering answers to rhetorical questions.

Gail Spina

Gail is based at the Research Centre for Innovative Conservation Strategies at Griffith University where she works as Program Coordinator and is completing a research masters in environmental science. Myna birds have been a major research interest for over 8 years focusing on emergent populations in South east Queensland. Other research interests include urban ecology, behavioural ecology, and human – wildlife interactions and wildlife

management. Prior to her science career, Gail came from a local government background where she worked in administration and policy development.

Bill Handke

Bill Handke is the founder and current President of the Canberra Indian Myna Action Group Inc. Before retiring from the federal public service in 2005, Bill was involved as a senior executive in developing federal government policy on a range of natural resource management issues. These included water resources management, forest management policy, Landcare, Natural Resource Management Policy, and the National Action Plan for Salinity and Water Quality.

Bill has a deep interest in the natural environment and in conservation which was his trigger for tackling Indian Mynas in the Canberra region.

Brad Nesbitt

Brad is Pest Management Officer with the National Parks & Wildlife Service North Coast Region for the past 13 years. He currently specialises in the control of introduced invasive animals in the NPWS North Coast Region including Coffs Harbour and the Dorriggo Plateau areas. He has worked in the field of conservation land management for over 25 years working with various other state, federal and territory conservation land management agencies.

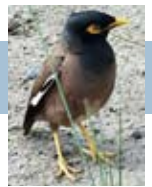
Colin Matthews

Colin has been Landcare Coordinator for Bellingen Landcare since 1999.

He has a background in botany and agricultural science and has had a long involvement with community groups.

Ian Turnbull

Ian works as Manager of Vegetation & Environment for Bellingen Council and has done for 9 years. This position involves weed and



Biographical Notes - continued

street tree management. Ian works on Council's coastline & estuary issues as well as a variety of other environment related activities.

Ron Smith

I have had a keen interest in the natural environment from the early age and have always been keen bird observer. I was first introduced to Indian mynas on my first trip to New Zealand in 1969 and was always glad that we did not have them here.

I was shocked when I sighted 3 Indian mynas just south of Coffs Harbour in August 2002. We immediately put our members on watch throughout the district and recorded sightings. Within two years they had spread throughout the entire Local Government Area. They could not have breed up to that degree in such a short time so we believed they mass migrated to our region. In recent years we have become quite effective at trapping mynas and some of our members have made quite an effort to observe their behaviours. Understanding their movements has helped us to be more successful in controlling their numbers.

I aim to share all we have learned at the workshop and I'm sure others there will be able to add to my understanding.

Richard Ali

Fourteen years working the pest plant and animal field in government agencies in QLD and NSW. Commencing in 1994 with the Department of Natural Resources, working in noxious weed and vertebrate and plague pest projects in rural and remote appointments throughout QLD e.g. Central Highlands, Gulf of Carpentaria, western channels and Cape York regions.

Currently working for Warringah Council, Northern Beaches, Sydney in a Pest species management role with a greater conservation/ biodiversity protection focus. This position provides challenges in planning and implementing noxious weeds and vertebrate

pest species management projects in urban high human activity areas. Successes have resulted from a combination of public education and an integrated approach, utilising old methodologies into built areas..

Martyn Swain

- B.App.Sc. Coastal Resource Management, University of New England
- Group leader - Operation Raleigh Expeditions, Cape York and Tasmania - NPWS combined Australian Armed Forces 1997 - 1990
- Ranger - Iron Range Cape York Peninsular QLD, Department of Environment and Heritage (DEH), 1990
- Resource Ranger - South East QLD, DEH, 1991
- Senior Ranger - South West QLD, DEH, 1992 - 1996
- Director - Land and Marine Management Strategies PTY LTD, NSW (Env. Consultancy and Land Restorations) 1996 - 2005/6
- Sheep and cattle Farmer & Family Support, Upper Corindi NSW, 2006
- Environment Officer (ecology) Clarence Valley Council 2006 - current

Andrew Kelly

I am a qualified veterinary nurse and zoo keeper; 20 years experience working with native, exotic and domestic animals. I have worked in medical research facilities, veterinary hospitals, wildlife parks and zoos. 8 years as an inspector with RSPCA NSW 5 years in Sydney—currently Inspector responsible for the North Coast Region.

I have a strong interest in native animals the environment and animal welfare.



Contact List of Participants

Name	Organisation	Address	Phone	Email contact
Richard Ali	DECC - Previously Waringah Council			richard.ali@environment.nsw.com.au
Stuart Boydlaw	DECC	PO Box 281, Glen Innes	0408 463 425	Stuart.boydlaw@environment.nsw.gov.au
James Bridesen	Ballina Council	PO Box 450, Ballina 2478	T 6686 1412 F 6686 9514	jamesb@ballina.nsw.gov.au
Lori Cameron	DECC	po Box 5081, South Murwillumbah 2484	02 6670 8606	lori.cameron@environment.nsw.com.au
Janet Court	WIRES	2/16 Warratah St, Scotts Head 2447	02 6569 8341	jecourt@tsn.cc
Mike Daniell	Private	PO Box 877, Coffs Harbour 2450	02 6652 2123	
Gareth Debney	North Sydney Council	PO Box 12, North Sydney 2059	02 9936 8224	gareth.debney@northsydney.nsw.gov.au
Cath Eggert	Hastings Landcare	PO Box 126, Wauchope 2466	02 6586 4465	hastingslandcare@midcoast.com.au
Peter Ellem	DECC	Dorrigo	02 6657 2309	peter.ellem@environment.nsw.gov.au
Terry Flanagan	TAFE South West Rocks	29 Rustic Lane, Hampden Hall 2440	02 6562 5575	floragro@tsn.cc
Paul Formosa	Woolongong City Council	Locked Bag 8821, Woolongong 2521	0242 253 638	pformosa@woollongong.nsw.gov.au
Peter Franklin	Nana Glen Landcare	PO Box 90, Nana Glen 2450	02 6654 3542	
Phillip Gall	Nambucca Shire Council	PO Box 177, Macksville	0408 654 897	phillip.gall@nambucca.nsw.gov.au
Tim Hamper	Gold Coast City Council	PO Box 5042, GCMC QLD 9729	07 5581 7647	jtyrer@goldcoast.qld.gov.au
Bill Handke	Canberra Indian Myna Action Group			handke@grapevine.net.au
Aaron Harber	DECC	PO Box 170, Dorrigo 2453		aaronharber@environment.nsw.gov.au
Stewart Harris	Sutherland Shire Council	Locked Bag 17, Sutherland 1499	02 9710 5733	sharris@ssc.nsw.gov.au
Barry Heatley	Maroochy Shire Council	PO Box 76, Nambour QLD 4560	0407 168 499	heatleyb@maroochy.qld.gov.au
Graeme Henry	Private	9 Anderson St, Coffs Harbour 2450	02 6652 5270	
John Holland	Tamworth Birdwatches Club	744 Daruka Rd, Tamworth	02 6767 1116	babsjohn@tpg.com.au
Jhil Kar	WIRES	PO Box 125 Bellingen 2454	02 6653 4806	jkar@magma. Ca



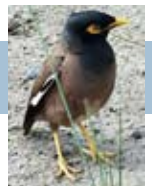
Contact List of Participants ~ continued

Name	Organisation	Address	Phone	Email contact
Andrew Kelly	RSPCA			akelly@rspcansw.org.au
John Kennedy	DECC	Grafton	02 6641 1518	john.kennedy@environment.nsw.gov.au
Colleen Kethel	Landcare Member	32 Hains Lane, Brierfield via Bellingen 2454	02 6655 1660	
Ramin Khosravi	North Sydney Council	PO Box 12, North Sydney 2059	0417 400 498	ramin.khosravi@northsydney.nsw.gov.au
Sean Leathers	DECC	Dorrigo	02 6657 2309	sean.leathers@environment.nsw.gov.au
Daniel Lewer	Hunter Land Management P/L	PO Box 776, Maitland 2320	0412 404 499	daniel@hunterlandmanagement.com.au
Martha Little-John	St Pauls - Kempsey College	4 Prince of Wales Av, South West Rocks 2431	0408 515 818	osbornemaxy@hotmail.com
John Martindale	Land Partners	29 Jane Circuit, Toormina 2452	02 6658 4767	
Colin Mathews	Bellinger landcare			belland@westnet.com.au
Fiona McCullough	Northern Rivers CMA	Gordon St, Coffs Harbour 2450	02 6653 0124	fiona.mccullough@cma.nsw.gov.au
Dave McFarlane	DECC	Lot 4 Tyson St, South Grafton	02 6642 3090	dave.mcfarlane@environment.com.au
Jenny Mulchrone	Coffs Harbour Regional Land	PO Box 1730, Coffs Harbour 2450	02 6651 1308	chrl@westnet.com.au
Brad Nesbitt	DECC - Pest Management Officer	PO Box 170, Dorrigo 2453	0429 069 336	brad.nesbitt@environment.nsw.gov.au
Max Osborne	Big River Environmental Services	4 Prince of Wales Av, South West Rocks 2431	0408 515 818	osbornemaxy@hotmail.com
Alana Parkins	Halliday's Point Tidy towns	PO Box 33, Halliday's Point 2430	02 6559 2979	alana.parkins@optusnet.com.au
Wal Pemberton	Private	21 Chestnut Ave, Sandy Beach	02 6656 2577	
Ken Pines	DECC	Northern Tablelands	02 6776 0012	ken.pines@environment.nsw.gov.au
David Pitt	Bellingen Landcare & WIRES	33 Billgara Rd, Westleigh 2120	02 9484 3011	dpitt2@bigpond.com
Susan Pollard	Clarence Valley Landcare	Po Box 28, Mallanganee 2469	0427 778 978	
Tony Prior	DECC	Dorrigo	02 6657 2309	tony.prior@environment.nsw.gov.au
Ingrid Pullen	Hastings Landcare	PO Box 126, Wauchope 2467	02 6586 4465	hastingslandcare@midcoast.com.au
Lyn Rees	DECC	Coffs Coast Area	02 6652 0900	lynn.rees@environment.nsw.gov.au
Helen Robbins	Wires Nambucca	10 Reed St, Nambucca Heads 2448	02 6568 6065	



Contact List of Participants ~ continued

Name	Organisation	Address	Phone	Email contact
Mark Robinson	Bioregen Ecological Assessments	520 South Arm Rd, Urunga	02 6655 7502	bioregen@bigpond.com
Shane Rumming	DECC - Biodiversity Conservation Section	Locked Bag 914, Coffs harbour 2450	02 6659 8234	shane.ruming@environment.nsw.gov.au
Tim Ryan	Nambucca Valley Landcare	72 High St, Bowraville	02 6564 7838	tryan@tsn.cc
Ron Smith	Ulitarra Con. Society	62 Convincing Ground Rd, Karangi 2450	02 6653 8249	hillview@tsn.cc
Sergio Spagnolo	Private	8 Ramornie Dr, Toormina 2452	02 6658 4488	
Gail Spina	Griffith University	CICS, Griffith University, Nathan Campus, Nathan QLD 4111	07 3735 7021	gail.spina@griffith.edu.au
Wayne Stevens	DECC	Lot 4 Tyson St, South Grafton	02 6642 3090	wayne.stevens@environment.nsw.com.au
Isabelle Strachan	Great Lakes Council	PO Box 450, Foster 2428	02 6591 7301	isabelle.strachan@greatlakes.nsw.gov.au
Martyn Swain	Clarence Valley Council		02 6643 0240	Martyn.Swain@clarence.nsw.gov.au
Jeff Thomas	DECC	Grafton	02 6641 1506	jeff.thomas@environment.nsw.gov.au
Chris Tidemann	Australian National University	Bldg 48; FSES, ANU ACT 0200		chris.tidemann@anu.edu.au
Suhella Tulsiani	Queensland University			s.tulsiani@uq.edu.au
Ian Turnbull	Bellingen Shire Council	PO Box 114, Bellingen 2454	0429 665 018	
Jason Tyrer	Gold Coast City Council	PO Box 5042 GCMC QLD 9729	07 5581 7647	jtyrer@goldcoast.qld.gov.au
Joy Van Son	Nambucca Valley Landcare	72 High St, Bowraville	02 6564 7838	tryan@tsn.cc
Dee Wallace	Coffs Harbour Landcare & Emerald Beach Dune Care	8 Schnapper Close, Emerald Beach 2456	T 6656 1008 F 6656 1008	
Lisa Wellman	Decc	PO Box 856, Alstonville 2477	02 6627 0214	lisa.wellman@environment.nsw.gov.au
Joyce Whiddon	Landcare Member	32 Hains Lane, Brierfield via Bellingen 2454	02 6655 1660	
Warryck White	Game Council/CH Landcare	20 Lloyd Close, Coffs Harbour 2450	02 6652 6461	warryck@yahoo.com.au
Bernard Whitehead	Saltair Flora & Fauna	401 Maria River Rd, Crescent Head 2440	02 6566 0742	tiffanywhitehead@activ8.net.au
Ian Yager	Halliday's Point Tidy towns	PO Box 33, Halliday's Point 2430	02 6559 2979	alana.parkins@optusnet.com.au



Myna Workshop – Evaluation Form Summary

Total returned - 28

Did the workshop meet your expectations?

Yes	27	partially	1	No	0
-----	----	-----------	---	----	---

Did the workshop help increase your networks with other Myna managers in your region?

Yes	22	partially	5	No	1
-----	----	-----------	---	----	---

Comments:

The no response indicated they already have a network in their region

Which session did you find most beneficial & why?

Chris Tidemann, Canberra Experience, Workshop, Behaviour , animal ethics, Gail Spina (a number had similar issues), Ron Smiths Practical session

List three things that you liked about the workshop?

Variety (breadth of items covered), research, participation, practical side of issue.

Please list any further information you require or questions you still have about mynas?

1. What is the best time to trap? (in relation to breeding)
2. Standardised data forms
3. Transport & administering CO2
4. Website
5. Delegate list
6. How to prioritise sites
7. Regular workshop/ Sydney Workshop
8. PG trap & modifications written up & disseminated.
9. Copies of other groups information sheets.
10. Standardised written up protocols.
11. Update on CO application to RSPCA
12. Map of hotspots in NRCMA region



Myna Monitoring Procedures

Chris Tidemann

The Australian National University

17 April 2008

Why is monitoring important?

If you want to make a myna control programme science-based and credible it is absolutely vital that you monitor myna numbers before and after implementing any control operation. Appropriate monitoring is as important as using appropriate traps. It is impossible to answer questions, such as “Is trapping reducing the density of mynas in my area?” without standardized monitoring. Remember that it is not the numbers of birds that you remove that is most important; what matters is how many are left once you have stopped, compared to how many there were beforehand. Without monitoring information you are doing little more than “collecting stamps.”

Which monitoring method(s) should you use and how often?

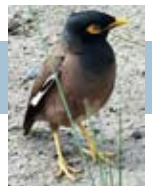
You should use one (or more) of the standard methods for estimating myna numbers summarised in Table 1 and detailed below so that the numbers you record can directly be compared over time – or with estimates from other areas. **Don't improvise.** These methods have been standardized through use over many years. All are simple methods to use and to keep standard. They require a minimum of equipment.

It is important to keep records of what method you use, when and where. Geocodes from a Geographic Positioning System are the best way of recording locations of surveys. Consistency is required: the same method should be used over the same route at the same time under the same weather conditions. How often? Ideally you should repeat the procedure until you get the same number at least twice. Numbers of birds seen will vary from day to day – that's the nature of these sorts of numbers, but if you repeat the procedures you'll find that they vary around a central average value or mean. If several people in the same area use the same methods it is possible to directly compare results – and effectively to survey a much larger area. It is particularly useful to have an “area coordinator” to track trends and data quality.

Table 1. Summary of methods recommended for assessing myna density.

Method	Area	Time Required	When?
(1) Garden Count	100 metre radius around house	Maximum # of birds once weekly	Sunrise + 3 hours*
(2) Transect Count	2000 metres x 100 metres	40 minutes	Sunrise + 3 hours
(3) Roost Search	Suburb	40 minutes per night	Sunset – 20 minutes and + 20 minutes

*or whenever you see large numbers of birds.



Myna Monitoring Procedures ~ continued

When should you do the monitoring?

Sunrise and Sunset times can be obtained from Geoscience Australia <http://www.ga.gov.au/geodesy/astro/sunrise.jsp>. The first three hours of daylight are generally acceptable for the first two methods, but recordings may be unrepresentative if there is much wind or rain. In tropical areas mynas may reduce their activity, ie be less observable, once it gets hot, which may be earlier than three hours after sunrise. The roost search window is also less in tropical areas, around 20-30 minutes total.

(1) Garden Count

This is by far the simplest level of count and doesn't require you to leave home to do it. It has been used by Canberra Ornithologists Group over many years in their Garden Bird Survey. The method is based on counting the maximum number of birds seen within a 100 metre radius of your house (an area of around 3 hectares) **at any one time** during a week. The first three hours of daylight are usually when you see most birds, but if you see a big flock in your garden at some other time of day – record it as your maximum for the week.

You can, of course, use this method at home or anywhere else that you spend a significant amount of time, eg at work. Geocode your study site with a Geographic Positioning System. Record the counts into a tally book, or better still into a spreadsheet such as Microsoft Excel. One garden on its own is unlikely to be representative of say a whole suburb. Try to encourage colleagues to do similar counts nearby so you can average counts across a suburb or other designated area. Note that the Sydney-based Birds in Backyards project also uses a Garden Bird Count, but the method is a little more complex and time restricted than the Canberra scheme – see website below.

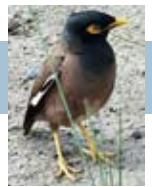
(2) Transect Counts

In areas with high myna densities belt (or strip as they are sometimes known) transect counts are a simple, repeatable way of assessing myna density. Because transects cover a much larger area than a garden count, they are likely to give more representative information about myna numbers. Transects should be around 2000 m long and around 100 m in width in open areas – narrower if visibility is low. You need to estimate length and width reasonably accurately from a map so that you can estimate the area searched, because once you've counted all the mynas in that area you can extrapolate to the number of mynas per km². Geocode the start and finish of your transect with a Geographic Positioning System. Transects need to be representative of the study area, but also convenient for you to traverse; circular routes are good so that you can leave your house or park a car and return to it at the end of the transect. Walking or slow cycling are good ways to count mynas on transects. Hand-held tally counters are useful (eg, <http://www.prospectors.com.au/p-3551-hand-tally-counter.aspx>). Record the counts into a tally book, or better still into a spreadsheet such as Microsoft Excel, which greatly facilitates calculating averages.

(3) Communal Roost Search

Locating myna roosts is best done in the 20 minutes or so either side of sunset, when mynas from surrounding areas progressively congregate near their communal roosts and eventually fly into a particular tree, or trees, where they settle for the night. Which tree is used may vary over seasons, but, if undisturbed, birds may return repeatedly to particular sites, sometimes over many years. Mynas also chorus, but more briefly, before they leave the roost in the morning.

The most effective method of locating roosts in new areas is by listening for roosting choruses while driving slowly in a quiet vehicle with the windows rolled down, or by bicycling; walking is too slow to



Myna Monitoring Procedures ~ continued

be very useful, unless the general location of a roost is known beforehand. If a vantage point enables an overview, it can be useful to watch for mynas flying toward a central area and then use car or bike to search it. Several search sessions, perhaps once a month, or season, are usually required to ensure that all roosts in the search area are located. Geocode the sites with a Geographic Positioning System. If all the roosts in a particular area can be located and the occupants counted it is possible to come up with an estimate of the total myna population in that area. Except during the breeding season, all the mynas in that area will roost in one or other of the communal roosts.

Once a “quorum” of birds has gathered in the roost tree(s) they begin their communal roost chorus, which, with a roost of >100 birds, can be very loud (>120 dB @ source) and heard >500 m away. Smaller aggregations make less noise, and tend to call intermittently, so are not as easy to detect as larger groups. Very small groups, <20 or so, may hardly chorus at all. Mynas may roost alone or with other species, such as European Starlings, Metallic Starlings and various species of Lorikeet.

The time available each day for searching by listening for roosting choruses is quite limited (as little as 20 min. in tropical areas, depending on the weather, time of year and the number of birds in the roost). The ability of observer(s) to hear the roosting chorus is compromised by excessive engine noise, wind noise created by the vehicle moving rapidly, as well as noise from eg. traffic and children playing and the prevailing weather conditions, eg rain on the roof of the vehicle. Chorusing time may be extended if the roosts are near high levels of ambient lighting, eg street lights.

The roosting chorus, ie the detection period, can be extended by 30 min or so after the usual “shut-down” time by call playback of a chorus recording, from eg a CD; this causes nearby roosting birds to respond. This is mainly useful for checking the presence/absence of mynas at pre-known sites.

Estimating numbers of occupants of communal roosts

With roosts of less than say 200 it is possible to get a good estimate of the number of occupants by direct counting, although this is complicated because birds may rapidly fly in and out of the roost repeatedly before settling down for the night. At least two tally counters (more with >1 species) are required to keep track of how many birds enter the roost and how many leave; the number of occupants is the difference between the two.

Websites with further information on bird monitoring methods

ANU Common Myna Homepage.

<http://fennerschool-associated.anu.edu.au/myna/monitoring.html>

Birds Australia

<http://www.birdsaustralia.com.au>

Birds in Backyards

<http://www.birdsinbackyards.net>

Canberra Ornithologists Group

<http://garden.canberrabirds.org.au>



Level of understanding at conclusion of workshop

