Report of a

Myna Management Training Workshop

DEC-MNRE, Vailima, Samoa

20-22 April, 2015

Placing assembled myna traps in the field. (Photo: DEC-MNRE)

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INTRODUCTION

The Division of Environment and Conservation of the Ministry of Natural Resources and Environment of the Government of Samoa (DEC-MNRE) is implementing a project as part of the Global Environment Facility - Pacific Alliance for Sustainability (GEF-PAS) Invasive Alien Species project funded by the United Nations Environment Program and executed by SPREP. The project identifies the need to determine realistic management goals and best management practices for myna species in Samoa and use them to write a management plan.

The three-day workshop delivered training on how to use the biology and ecology of the two myna species (*Acridotheres fuscus* and *A. tristis*) in Samoa to develop best management practices and how to map the distribution and abundance of the myna populations. The content was prepared in earlier discussions with DEC-MNRE and SPREP and finalised in interviews with the DEC-MNRE team and SPREP on 16 and 17 April.

The workshop was interactive and used the field experience of the DEC-MNRE Myna Management Team and the specialist knowledge of the instructors to summarise current knowledge and skills and identify any information gaps and training necessary to implement the next stages of the myna project. Workshop attendance information is in Appendix 1.

The topics covered, activities used and findings discussed during the workshop are presented below in Table 1. The schedule for the training is in Appendix 2. The workshop received a very favourable evaluation from participants (see below) although it was stated that three days was not enough for a training course such as this.

Joe Te`o delivering the DEC-MNRE presentation on myna bird work to date. (Photo: DEC-MNRE)

Table 1: Summary of workshop topics, activities practiced and resulting discussion.

Focus	Activities	Summary of workshop discoveries
Background to project	Discussion and flip charts DEC-MNRE presentation	• origin of project • invasion history • work to date • the future
Myna biology	2, 4, flip chart Presentation Group work Flip charts Discussion Group plenary	• two species common and jungle • jungle myna has a crest while common myna does not • eyes are very different between the two species • jungle myna is darker, common myna is brownish-grey • jungle myna has more orange beak • both species can often be seen feeding and roosting together • mostly seen in pairs or small groups • probably breeding 2-3 times a year - Jan/Feb, June/July, Sep/Oct • wet season probably best breeding season • nesting and breeding can occur on trees, mainly coconut, on house and building roofs (common myna at least) • nests are very simple and can be made of sticks/down/mangrove flowers/plastic • not sure about species differences in breeding activities or success • little is known about moulting • roost sites can be on coconut/ficus/togo vao (*Ardisia* spp)
Myna behaviour	Group work Flip charts Discussion	• birds are visible at 6-8am and 5-6pm • birds are usually seen near people or settlements • also seen on cattle, along roadsides, near homes • mostly see jungle myna, not common myna • common myna walks upright, always alert • jungle myna usually has head down • jungle myna will take bait first • jungle myna will also enter trap first. • mynas consume household food • fly 20m above the ground • birds are smart, brave and confident but very wary and alert • they can escape trap/cages • cats and dogs can't catch them • mix with native birds on the ground • friendly behaviour with some native species; Tulī (*Pluvialis fulva*), Ve`a (*Gallirallus philippensis*) • aggressive to Se`u (*Rhipidura nebulosa*), Miti (*Lalage maculosa*) and Segasegamau'u (*Myzomela cardinalis*) • mynas visit Faatoia with feral pigeons

Focus	Activities	Summary of workshop discoveries
		• disrupt and damage breeding sites for native birds • affect plantations/primary resources (especially banana, pawpaw) • forage about 2km a day (their resident territory or home range) • birds feed until 10 or 11 am
Areas of interest	Group work Flip charts Discussion	• birds consume rubbish materials, eg at landfills • birds drink water at sludge ponds • feeding places: farm/cattle/agriculture, rubbish dumps (municipal and village) • plantations: pawpaw, banana, mango, avocado • may feed and spread weed plants, eg panama rubber tree • roost sites: Moamoa, Tuanaimato, Apia Park, Maluafou College • presence/absence of mynas on Manono and Apolima Islands needs to be confirmed
Myna management	Check, repair and set up Tideman myna traps Presentation Discussion Flip charts	• there is political and community support for managing the myna population • more people are aware of mynas and are asking for help • the number of mynas has increased since 2004 survey • most common treatment method used is toxic bait (bread with Starlicide) • attempted to eradicate a roost at Tuanaimato during SIDS conference • traps do not catch birds in Samoa but do in other countries • 40 traps were purchased, 8 are currently serviceable • pre-feeding is not used. Toxic bait is applied to roadsides from the back of a moving vehicle. • birds can be caught in mist nets at landfill • no other methods (nest destruction, nest boxes, breeding disruption, aviaries) have been tried • a 20c/bird bounty did not work • counts are made of birds coming in to take toxic bait, but no pre-application counts are made • few dead birds are found • roost sites are not usually known • success of toxic baiting programme is not known • rice should be considered as an alternative bait (currently bread is used) if costs and time are saved • need a monitoring protocol to determine success or failure • dates of crop fruiting would help decide the best time for action

Focus	Activities	Summary of workshop discoveries
		• there are non-target issues, but the team is aware of them and tries to avoid baiting when non-targets are present NOTE: Agriculture want birds to remain as they are believed to control ticks on cattle. There is no evidence provided.
Monitoring	Presentation Estimating height Estimating distance Measurements Counts Calculating averages from more than one measurement or count Identifying bird species	• need for baseline information as a reference point • difference between estimates and measurements or counts • need for repetition to get accurate data • essential for estimates or counts before and after treatments – to know whether they worked or not
Estimating populations	Presentation Sampling (rope and stones) Estimates Counts Observations at Moamoa roost site Observations at Taifagata landfill Observations from back of utility vehicle at Taifagata sludge ponds	• estimates of total myna population in Samoa • estimates of the percentage of birds that need to be removed each year to stop the population increasing • bird identification • distance measurement must be perpendicular to road (angle of view from observer) • transects • point counts • survey team = driver + 2 observers + 2 recorders • data sheets will be prepared before survey begins
Analysing the data	Discussion	• 'Distance' computer software will be used to provide analysis
Interpreting and using the data	Discussion	• survey data will be used to identify the best areas and sequences for management action • this will allow a concentrated effort in the areas where the greatest change can be made
What's next?	Trial planning discussion	• trial should investigate cage traps as follow-up to toxic baiting • sludge ponds appear to be the best place for a trial • permissions and notification need to be arranged • interference from people, dogs, weather, etc., needs to be minimised • equipment/materials need to be prepared • scheduling is to be confirmed

RECOMMENDATIONS FROM THE TRAINING WORKSHOP:

1) more information is essential to determine the myna bird breeding and moulting seasons.

ACTION: when community people ring up to complain, the myna team to record whether birds are nesting, have eggs, or have chicks. Also record date and place. (Note: *some data already exist and can be analysed*).

ACTION: myna team to look for and record brood patches on any birds found after operations.

ACTION: myna team to assess a sample of birds found for stage of moult using moult chart (Appendix 3). A data sheet for recording this information will be provided separately.
ACTION: MNRE should ask Agriculture to provide fruiting times for crops that myna prefer.

2) more practice is required for estimating distance, identifying species and counting/estimating and recording number of birds.
ACTION: myna team to arrange to have more practice opportunities.

3) myna flight paths from major feeding sites, eg Taifagata Landfill, should be mapped.
ACTION: myna team should take compass bearings of large groups of birds arriving, or leaving, feeding sites. These directions can be plotted on a map and used to help identify roost sites.

4) roost sites should be identified and mapped.
ACTION: MNRE to engage schools/communities in identifying roost sites. Perhaps a bounty could be paid for each verified roost?

5) Agriculture Ministry wants birds to remain as they are believed to control ticks on cattle.
ACTION: Agriculture to provide evidence that mynas are effective control agents for cattle ticks.

6) broken/damaged Tideman traps should be repaired if possible (inventory of traps is in Appendix 4).
ACTION: myna team to repair as many traps as possible to working order.

7) rice should be considered as a bait alternative to bread.
ACTION: myna team to compare budgets to see whether costs and time can be saved by using rice instead of bread as bait.

8) more work is necessary to develop trapping knowledge and skills.
ACTION: Consultant to work with DEC-MNRE and SPREP to develop trial of trapping options.

EVALUATION
Participants decided on the positive and negative aspects of the course during a group discussion when the instructors absented themselves from the room. Participant's comments are in Appendix 5.

Participants discuss a survey strategy at the Taifagata Landfill site. (Photo: DEC-MNRE)

APPENDIX 1
Attendance at Myna Management Training Workshop

FirstName	LastName	Division	Position	20/04	21/04	22/04
Czarina	Iese-Stowers	DEC	Senior Terrestrial Biodiversity Conservation Officer		y	y
David	Moverley	SPREP	Invasive Species Advisor	y	y	y
Faafou	Leaupepe	DEC	Terrestrial Biodiversity Conservation Officer	y	y	y
Fini	Male	DEC	Casual worker	y	y	y
Joe	Te'o	DEC	Terrestrial Biodiversity Conservation Officer	y	y	y
Josef	Pisi	DEC	Senior National Parks &Reserves Officer	y	y	y
Kim	Keleti	DEC	Casual worker	y	y	y
Lesaisaea Niualuga	Evaimalo	DEC	Principal Terrestrial Biodiversity Conservation Officer	y		y
Moeumu	Uili	DEC	Senior National Parks &Reserves Officer	y	y	y
Posa	Skelton	SPREP	PILN	y		
Taupau Maturo	Paniani	DEC	Invasive Species Coordinator	y	y	
Taveuni	Malolo	DEC	National Parks & Reserves Officer	y	y	y
Vaatele	Anoifale	DEC	Casual worker	y		
Instructors:						
Bill	Nagle	Consultancy	Consultant	y	y	y
Gianluca	Serra	SPREP	GEF-PAS Coordinator	y	y	y
Stuart	Young	SPREP	Volunteer	y	y	y

APPENDIX 2
DRAFT timetable: Myna Management Training Workshop

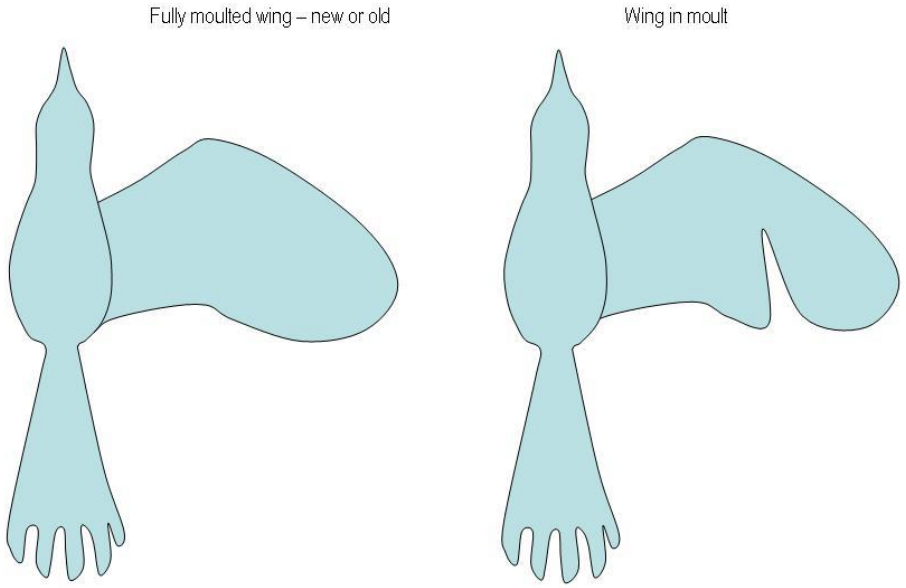
Mon 20	**Focus**	**Topics**	**Method**	**Leader**
0830	Introductions, etc	Relationship to mynas		Maturo
0900	Background to project	Genesis, work to date, GEF-PAS,	Discussion and flip charts	Niualuga Bill
0930	Myna biology 1	Personal observations What do we know? What do we need to know	2, 4, flip chart Group plenary	Bill
1030	**Break**			Maturo
1045	Myna biology 2	Species Breeding Moulting	Slideshow	Bill
1130	Myna behaviour	Species Foraging and other behaviours		
1200	Areas of interest	Rubbish dumps (municipal and village), roost sites, no-go areas	Discussion	Bill
1230	**Break**			Maturo
1330	Myna management 1	What has been tried already? What worked; why and how do we know? What was not successful; why not?	Discussion and flip charts	Bill
1500	**Break**			Maturo
1515	Myna management 2	Management methods • Pre-feeding • Trapping • Toxic bait • Other methods (mist nets, nest destruction, nest boxes, breeding disruption, aviaries) Myna behaviour Food sources/phenology Monitoring Non-target issues Political/social/funding issues	Discussion and flip charts	Bill
1630	**Finish**			Bill

Tues 21	**Focus**	**Topics**	**Method**	**Leader**
0830	Monday recap			Bill
0845	Myna management 3	Methods recap • Pre-feeding • Trapping • Toxic bait • Other methods (mist nets, nest destruction, nest boxes, breeding disruption, aviaries) monitoring program to assess		Bill

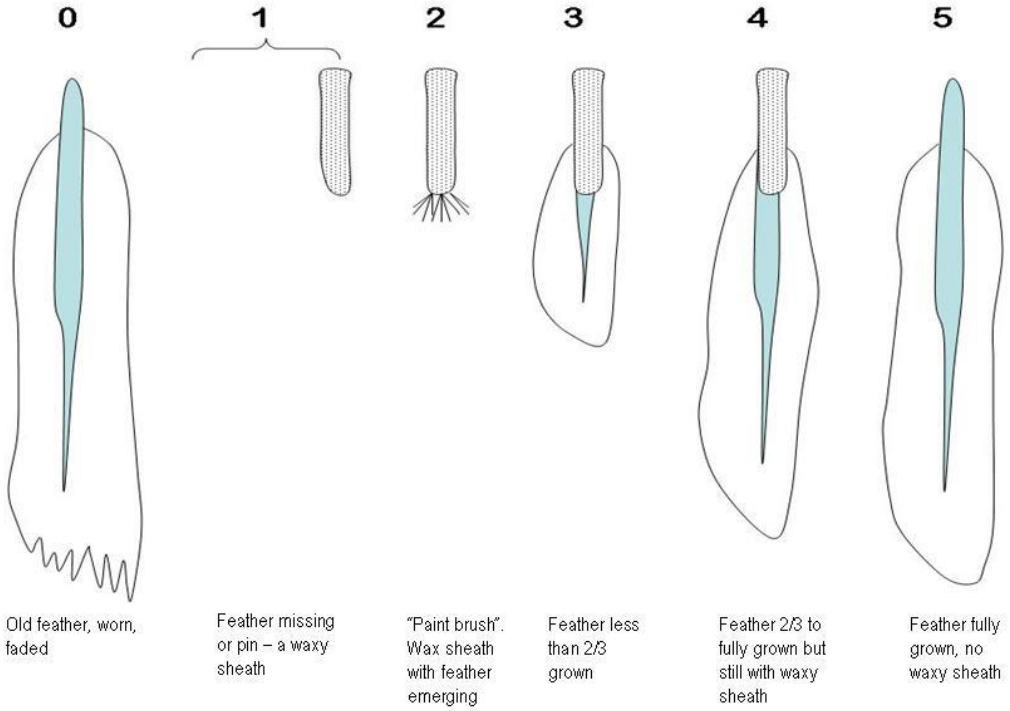
Tues 21	Focus	Topics	Method	Leader
		efficacy of management, trial planning		
0945	Monitoring 1	Baselines Counts and estimates Repetition		Bill
1030	**Break**			Maturo
1045	Monitoring 2	Before and after treatments – how do we know they worked?		Bill
1200	**Break**			Maturo
1300	Estimating populations 1	Permissions Notification Interference Point counts Transects Counts or estimates		Stuart & Gianluca
1400	Interpreting the data	Confounding		Stuart & Gianluca
1500	Break			Maturo
1515	Estimating populations 2	Demonstrations • Count • Survey estimate		Stuart & Gianluca
1630	**Finish**			Stuart & Gianluca

Wed 22	Focus	Topics	Method	Leader
0830	Tuesday recap			Bill
0845	Estimating poulations 3	Field survey practice		Stuart & Gianluca
1045	**Break**			Maturo
1100	Analysing the data			Stuart & Gianluca
1200	**Break**			Maturo
1300	Using the data			Stuart & Gianluca
1500	**Break**			Maturo
1515	What's next?	Trial planning Equipment/materials Scheduling		
1630	**Finish**			

APPENDIX 3
Wing in moult and moult scoring



Moult scoring



APPENDIX 4
Inventory of Tideman traps stored at Vailima

Item	Colour	No. Good	No. Faulty
Bottoms	brown	9	0
Tops	green	8	0
Lids	green	7	0
Doors	brown	8	4
Funnels	brown	16	9
Valves	green/silver	17	4
Perches1	green	9	0
Perches2	brown	20	1
Food tray	green	13	0
Water dish	green	20	2

Appendix 5
Evaluation comments from participants at Myna Management Training Workshop

What worked well?
Understood the characters and features of myna birds
Learnt more skills on how to trap myna birds based on Samoa's perspective/surrounding
Activities and exercises were logical and easy to follow
Know how to set up the Tideman traps as they are very new to most participants
Field visits (landfill and roost at Moamoa) were relevant especially the new survey/count method practiced today (22/4/15)
Estimating the distance of myna birds was very important and very good practice

What was not so good?
Not enough participants
Three days was not long enough

What else is needed?
More practice on transect method
More training days, three days is not enough
Energiser
More funds
New management method apart from what we have implemented already