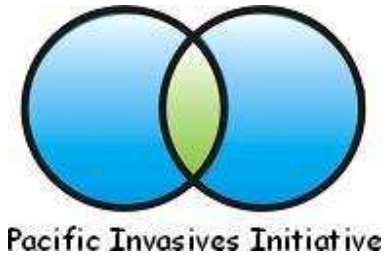

Protection of Tokelau Fakaofo from myna bird (*Acridotheres* spp.) invasion

(a project supported by the Pacific Invasives Initiative)

Report of a Feasibility Study, 12-16 May 2006

Prepared for: Taupulega Fakaofo, Tokelau

Prepared by: Bill Nagle; Project Coordinator, Pacific Invasives Initiative.
The Pacific Invasives Initiative is a programme of the Cooperative Initiative on Invasive Alien Species on Islands coordinated by the Invasive Species Specialist Group of the World Conservation Union (IUCN).

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Protection of Tokelau Fakaofo from myna bird (*Acridotheres* spp.) invasion – a Feasibility Study, 12-16 May 2006

SUMMARY – Twelve common mynas (*Acridotheres tristis*) were reported to have flown ashore from a ship visiting the atoll of Fakaofo in Tokelau in May 2004. Mynas were not present in Tokelau prior to this date. In January 2006, the population was estimated at 40 birds. Because of problems with mynas reported from other Pacific Islands, Taupulega Fakaofo (Fakaofo Council of Elders) placed a bounty of $NZ200 on each bird. This failed to result in removal of the mynas and the Taupulega decided on an eradication project as a precautionary approach.
An eradication feasibility study in May 2006 identified three jungle mynas (*Acridotheres fuscus*) on Fale motu. Adjacent motu and a seabird breeding island were also searched for myna populations, but none were found. It is assumed the mynas came from Samoa, but the invasion pathway was not able to be determined.
Eradication was deemed to be feasible, and because of the isolation and limited resources of Tokelau, a decision was made to begin immediately. An operational plan was prepared and local officers were trained in the use of cage and nestbox traps. Bread baits with the narcotic alpha-chloralose were laid and one bird was caught and used as a call-bird in a cage trap. The project is continuing.

1. Introduction

Implementing agency:
Taupulega Fakaofo (Fakaofo Council of Elders), Tokelau.

Funding Agency:
Critical Ecosystem Partnership Fund; James Atherton, Pacific Grants Manager

Feasibility study team:
Bill Nagle; Project Coordinator, Pacific Invasives Initiative, New Zealand
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Peleni Peleni; Quarantine Officer, Fakaofo, Tokelau

Community Participation Adviser:
Karen Johns; Pacific Invasives Initiative, New Zealand

The problem:
Myna birds (*Acridotheres* spp.) are recognised globally as an invasive species (Lowe, Browne, Boudjelas & de Poorter, 2004); at best a nuisance in towns and villages and at worst a pest of agriculture and biodiversity. In 1906 birders were using the example of myna in the Pacific as a reason to guard against foolishly transplanting species (Grinnell, 1906), although in India, their native range, mynas are regarded as useful pest controllers and are often kept as pets.

As late as April 2004 mynas were not known to inhabit the three Tokelau atolls and were only recently identified on Fakaofo atoll, Tokelau (http://www.fakaofo.tk/). Reports in January 2006 indicated that about 12 common mynas (*Acridotheres tristis*) travelled on a ship from Samoa to Fakaofo in May 2004 and that the current population numbered about 40 birds.

Common (*A. tristis*) and jungle (*A. fuscus*) mynas are members of the Sturnidae or starling family which were deliberately introduced into many Pacific island countries as biological control agents for insects that were damaging crops (e.g. stick insects (*Graeffea crouanii*) on coconut plantations). In most cases, that was not successful as stick insects irrupt occasionally on islands where mynas are present (Parkes, 2006).

Mynas do not feed solely on insects, are scavengers, and have been shown to adversely affect other birds by direct and indirect predation and interference in many other countries (Feare & Craig, 1999). Common mynas prey on seabird eggs (Byrd, 1979a) and the omnivorous habit of both species means they will also eat fruit.

Mynas are communal birds with effective communication systems and are normally found in disturbed areas. They are commensal with man and live close to human settlements where their noise and fouling can disturb lifestyles. They are generally regarded as pestiferous and their aggressive behaviour has been identified as a threat to birds native to areas where they have invaded. Little is known about the effects they have on other animals and insect and plant ecology.

The solution:
The first response to any new invasion should be made by local people. To do this they need:

1. Awareness that the 'new' species is indeed invasive, which is generally something local people will know. On Fakaofo, the mynas were called the 'Samoan' birds as people had seen them in Samoa and knew they were not part of the biodiversity of Tokelau.

   Support for management of the mynas was based on local knowledge of both the indigenous biodiversity and the effects of mynas in Samoa.
2. The capacity to manage the new invasion, or if this is not possible, access to advice on what to do. Bird snares have been used in the past in Tokelau to capture waders (Wodzicki & Laird, 1970), but there are no passerines in the atolls.

   Capacity to use new tools and techniques was developed with environment and quarantine staff from the office of Taupulega Fakaofo.

Project goal:
Fakaofo Atoll to become and remain free of myna birds. Due to their recent arrival a precautionary and rapid response was warranted; a new invasion and a relatively small population presented an opportunity for a successful eradication.

Local, national and international importance of project:
The area of this study is Fakaofo, Tokelau's most populated atoll and the location of the only known myna population. Fakaofo is located about 500 km northwest of Samoa and is the second largest of Tokelau's three main atolls at 4 square kilometres. Fakaofo's closest neighbor and Tokelau's largest atoll, Nukunonu, lies 64 kilometres northwest while the northernmost atoll, Atafu, lies about 156 kilometres northwest.

The most populated motu (islet) is Fale with an adjacent piggery. Other people live on Fenua Fala to the north of Fale. A motu used for solid waste disposal is to the south of Fale, and Palea a motu on the eastern side of the lagoon, has been described as "the outstanding bird island of the Tokelaus" (Wodzicki & Laird, 1970). All four of these motu were searched for mynas, and observations of other motu were made.

Tokelau is identified as Key Biodiversity Area No.156 in the 2004 CEPF Ecosystem Profile for the Polynesia-Micronesia Hotspot. Information on Tokelau biodiversity is incomplete, but the Green (Endangered) and Hawksbill turtles, and the Bristle-thighed curlew (Vulnerable) are on the IUCN Red List and the Coconut crab is believed to be threatened. It is unlikely that mynas would affect these species, but the precautionary principle should apply.

Taupulega Fakaofo initiated this project in response to concerns about the vulnerability of the Tokelau atolls to invasive species. Atoll systems are very sensitive to change and a number of invasive species (e.g. rat (*Rattus exulans*), yellow crazy ant (*Anoplolepsis gracipiles*), rhinoceros beetle (*Oryctes rhinoceros*), cat (*Felis catus*)) are present in Tokelau.

Mynas are a problem in many parts of the world (Lever, 1987), and are a growing problem as they spread through the Pacific (see Appendix 1 in Parkes, 2006). Lessons learned from this project will help others plan for myna management especially to intercept and deal with new populations. Taupulega Fakaofo is partnering with Taporoporo'anga Ipukarea Society of the Cook Islands which is also developing a myna management project and sharing information will help both organisations.

In Apia, Samoa, the point of departure for most vessels travelling to Tokelau, both jungle (*A. fuscus*) and common (*A. tristis*) mynas are present. Both jungle and common mynas were observed in Apia in 1988 and those birds are believed to have come from American Samoa to the east. Interisland ferries may have been implicated in spreading mynas in Fiji (Watling, Rinke & Talbot-Kelly, 2001), and the role of international and interisland shipping has to be considered as part of the myna invasion pathway, but cyclones and severe storms may also be involved. The distribution of mynas in the Pacific is a much-discussed topic (see for example McAllan & Hobcroft, 2005).

Scaling up

An eradication of a new invasion will show the value of rapid response to invasive species. This lesson will be valuable for other nations facing the threat of myna establishment.

Of particular importance across the Pacific is the role of prevention of invasion. Tokelau has Biosecurity Rules which, among other things, at 7(1) (iv) and (v) gives owners, captains and passengers of any conveyance arriving in Tokelau the duty to prevent any goods being landed or animals making contact with other animals (including birds) without permission of the Biosecurity Officer. Schedule 2 (Rule 8(7)(e)) prohibits the importation of live birds except for those permitted in Rule 8(7)(a), chickens and ducks from Samoa.

A review of biosecurity rules and their implementation across the Pacific may help both upscaling and outscaling of this project.

Management of risks and constraints:

1. Community acceptance of myna management - mynas were not introduced to Tokelau as a method of biological control (as they were on some other Pacific Islands) and removal of the myna is unlikely to be detrimental to the agricultural aspirations of the people of Fakaofo.

2. Land tenure - the many motu (islets) that make up Fakaofo are under traditional ownership and the Taupulega control island life. Effective consultation was necessary to ensure all likely motu were surveyed for mynas.
3. Accessibility - Fakaofo can only be reached by ship and because of the demands on the shipping service (e.g. medical emergencies), there is no assurance that an eradication programme's schedule can be adhered to. Planning for contingencies is important.
4. Baseline information - the remoteness of Tokelau and lack of biological surveys mean that issues such as non-target species need special attention.
5. Use of firearms and toxins - restrictions on firearms and toxins limit the tools available for invasive species management. Firearms are not permitted on Tokelau. Because of pollution problems from chemical runoff in the past, the Taupulega will not allow toxins on Fakaofo without rigorous testing.
6. Invasion pathways and reinvasion – it was not possible to determine how the mynas arrived on Fakaofo. There was suggestion that birds had been brought to Fakaofo as pets, but it was not possible to verify this.
The role of ships can not be discounted. However, observation of the port of departure (Apia, Samoa) for three evenings and mornings did not provide evidence of mynas roosting on board. There are many myna roosts in trees near the Apia waterfront and it is probable that the communal nature of mynas means they would prefer the tree roosts to overnighting on a ship. As a precaution, the captains and crews of vessels travelling to Tokelau (and indeed to all Pacific islands) should be asked for their cooperation in checking for avian stowaways.
Cyclones and severe storms may also result in birds being blown from one country or one island to another.

2. Environmental

Assessment of the effects of the invasive species

Three full days on the atoll did not give enough time for detailed study. The birds were seen to take food put out for pigs at both morning and evening feeding times. Some villagers complained of mynas eating ripe bananas. Harassment by mynas of seabirds (white terns and black noddies) in the village was not observed, although an attack on a myna by a white tern was observed (the myna flew off). Mynas were observed eating eggs (possibly lizard) laid in a fallen coconut tree.

Of concern was the finding of a nest with eggs in the ceiling of an unoccupied house. This had been found by children and the eggs were destroyed by a member of the Taupulega. The date of discovery was not determined, but the mynas are obviously mature enough to breed and the population could increase quickly. Jungle mynas can have a clutch of 3-6 eggs and can breed twice in a season (Feare & Craig, 1999). This is similar to common myna (Telecky, 1989).

Assessment of the biodiversity benefits of the project

Inadequate baseline information makes it difficult to clarify the advantages to other species on Fakaofo atoll. The precautionary principle should apply.

Identification of any potential negative environmental effects of the project

The prohibition on toxins removes the possibility of leaching or runoff. The use of non-lethal cage and nestbox traps allows release of any non-target species. Pelagics and waders were the only birds seen. No other passerines are recorded in Tokelau.

Consideration of how project benefits may be sustained after the project is completed

Raising awareness of invasive species and training local government staff in bird identification and trapping methods will ensure that the current and any future invasions can be managed.

3. Technical

Identification of specific techniques for addressing the IAS that are legally appropriate and suitable in a Pacific Islands context, and which maximise environmental sustainability

Initial planning in Auckland, New Zealand, and later trials in Apia, Samoa, had been based on three independent reports that the mynas on Fakaofo were common mynas (*Acridotheres tristis*). However, observation of the birds identified them as jungle mynas (*Acridotheres fuscus*). This discovery caused some concern as trapping equipment for the two techniques described below was prepared for *A. tristis*. Jungle mynas are physically smaller (78g♀–94g♂) than common mynas (111g♀-143g♂) (Ali & Ripley, 1972) and are thought to be more secretive in their behaviour, although some workers (e.g. Freifeld, 1999) do not separate the two species.

Simple trials were conducted with Ministry for the Environment staff at Vaiala, Apia where a Tidemann Trap (Tidemann, undated) was tested. The trap had been used in Apia with limited success and was kindly offered for the Tokelau project. Bread baits with the narcotic alpha-chloralose (Spurr & Eason, 1999) were also tested. Jungle mynas entered the baited trap, but common mynas did not. Both jungle and common mynas ate the bait but only jungle mynas were narcotised by the alpha-chloralose. A bulbul (*Pycnonotus cafer*) that also succumbed expired overnight. This may be a body-weight response as jungle mynas are smaller than common mynas and bulbuls are smaller again.

Both the jungle mynas that entered the trap freely and the ones that were put in while under the influence of alpha-chloralose, were able to back out and escape. The Tidemann Trap was not taken to Tokelau. Alpha-chloralose was considered effective although work is still needed to determine palatability and rates of active ingredient. A second trial with alpha-chloralose ended prematurely when a pack of dogs suddenly appeared, scared away the birds (mostly jungle mynas), ate all the bait and disappeared as fast as they had arrived.

A bounty of $NZ200 per bird set by Taupulega Fakaofo had not resulted in successful eradication. The Taupulega was asked to remove the bounty as bounties are not a successful invasive species management tool.

Assessment of options and confirmation of the technical feasibility of the preferred management approach and activities

The prohibition on toxins and firearms limited the options available for myna management on Fakaofo. The two techniques proposed were: (1) a walk-in funnel trap (Fig. 1) which works when baited, but is more effective if a call bird can be used; (2) artificial nestbox traps (Figs. 2 & 3). New Zealand experience (Wilson, 1973; Tindall, 1996) has shown that *A. tristis* favours nest boxes over “natural” nest sites. Pairs of birds also spend a lot of time investigating boxes as the breeding season approaches, offering many chances per pair of successful trapping.

J. Millett (pers. comm.) recommends using fishing line nooses at the entrance of artificial nest boxes as one of the best ways to kill low-density populations of mynas, i.e., the remnants of controlled populations where avoidance behaviour has been learned, or new populations where other more direct methods (poisoning or shooting) are not available.

Identification of research needs

Adequate information on jungle myna behaviour and management could not be found. It appears that the two mynas (common and jungle) are considered to behave similarly. Determination of invasion pathways is also required. Genetic testing may be useful here. If mynas are managed on any island in the Pacific, blood samples should be taken for future analysis.

Other research needs include:
1. Quantification of the effects of mynas on native biota.
The potential biodiversity effects of mynas on Fakaofo are unclear but the main justification for their eradication is precautionary. Where the mynas are well-established and the costs to eradicate them substantial, a case must be made based on effects. Pierce (2006) and Parkes (2006) have reviewed what is known about the effects of mynas and the evidence is either anecdotal or weak (in a scientific sense). Diagnosing the contribution mynas may make compared with other invasive species (e.g. rats) to the cause(s) of any detected decline in a native species will not be a trivial task.

2. Risk analysis
Assuming mynas are a biodiversity pest to worry about, it would be advantageous to have a Pacific risk analysis of the problem they pose now, their potential to spread, and how to manage both the *in situ* problems and stop further spread. Some of the research to do this includes:
- A survey of current pest bird distribution in the Pacific. Current lists are incomplete.
- Assessment of their past and potential spread and the mechanisms by which they have done so. This might include a study of the genetic relationships of the current populations.
-A survey of current legal availability of key management tools such as DRC1339.

Identification of the skills needed to implement the project, skill gaps and any necessary training
Tokelauans have traditionally used snare traps for wader capture, but will need training in the use of cage and nestbox traps. Myna identification and behaviour recognition skills are also needed.
Another important area is that of prevention of reinvasion. This will need to involve several branches of Tokelau's public service departments.

Identification of appropriate baselines for monitoring
This is a new and recent invasion. Mynas should not be present on Fakaofo and once the three identified jungle mynas are eradicated, monitoring for undiscovered or new populations will be necessary.

4. Economic

Identification of who is affected by the IAS
Some villagers reported loss of crops (bananas, pawpaw) to mynas, but this was not observed by the feasibility team. However, the 3 mynas were seen eating food from pig pens in the mornings and evenings.

Assessment of how a successful project will improve livelihoods
Eradication will prevent myna numbers building up to pest proportions and causing the social problems (e.g. damage to crops, noise, fouling) that have been observed elsewhere.

Assessment of the costs and benefits of management options
Cage and nestbox traps are cheap to build, use and maintain. They do not present any of the safety issues that firearms or toxins may.

5. Social

Description of community and other stakeholder (including the designated implementing agency) commitment to the project

A General Fono (meeting of the Parliament of Tokelau) was being held in the Fakaofo meeting house (Fakafotu) at the time of the feasibility study. This involved Taupulega Fakaofo and all villagers either directly or indirectly, so opportunity for determining commitment was limited. A brief discussion was held with Fakaofo Faipule (Lawmaker) Kolouei O'Brien and Fakaofo Pulenuku (Mayor) Keri Neemia who expressed support for the project and for invasive species management in general.

Mose Pelasio, the Tokelau Acting Director for Economic Development & the Environment was present for the General Fono and expressed support from the public service. Discussions were held with the Pulenuku of the other two atolls of Tokelau (Nukunonu and Atafu) who expressed support for the project and for invasive species management.

Identification of any resource ownership issues, any implications for the project in terms of design, management and participation and measures to address these

The Taupulega is the decision-making body for Fakaofo and they support the project.

Identification of any gender or age issues associated with the project and measures to address these

No gender or age issues were raised or observed.

Identification of any opposition to the project and how this will be managed

No opposition was observed or brought to the teams' attention.

6. Institutional

Identification of institutions that will be involved

The Council of Elders of Fakaofo Atoll is the protector, advisor, supervisor, delegate and general keeper of the peace for the village. It has the authority, given by the people, to execute programs, projects, and development plans for the betterment of the village.

Tokelau is governed by the Council for the Ongoing Government of Tokelau, consisting of three Faipule (village leaders) and three Pulenuku (village mayors). The Ulu-o-Tokelau (titular Head of Government of Tokelau) for 2006 is Aliki Faipule Kolouei O'Brien, who is also the Faipule of Fakaofo.

The Pacific Invasives Initiative (PII) is a programme of the Cooperative Initiative on Invasive Alien Species. The PII is coordinated by the Invasive Species Specialist Group (ISSG), an expert group of the Species Survival Commission (SSC) of The World Conservation Union (IUCN). The goal of the Pacific Invasives Initiative is '*To conserve island biodiversity and enhance the sustainability of livelihoods of men, women and youth in the Pacific*'. This goal will be achieved through the objective of reducing negative impacts of invasive species primarily by managing them at selected demonstration projects in Pacific Islands Countries and Territories. The capacity to network on a global scale is a major strength that PII can bring to this project.

Assessment of the implementing agency's capability and capacity (technical, human and financial) to implement the project

Tokelau is a small country with limited resources. Assistance will be required with all aspects of an eradication project, including monitoring and evaluation.

Identification of the institution to take long term management responsibility
Any follow-up will be directed through the office of the Taupulega. Responsibility for the project has been delegated to Suia Pelasio, Environmental Policy Adviser for Taupelega Fakaofo and a member of the feasibility study team.

7. Recommendation

It was decided that eradication of the jungle myna (*Acridotheres fuscus*) population on Fakaofo atoll, Tokelau, is possible and should be undertaken based on the precautionary principle, particularly because the birds are breeding. This study was only to determine the feasibility of such an operation but, because Tokelau is difficult to reach and has limited resources, the decision was taken to proceed immediately with an Operational Plan and eradication. Methods to be used are cage and nestbox traps and humane despatch of trapped birds. Nestbox traps were erected and will be used for monitoring.

Although the pathway for this invasion could not be determined, the potential for reinvasion by mynas of either species (or indeed other birds, e.g. bulbuls (*Pycnonotus cafer*) exists. The Tokelau Quarantine Service will need to address this issue. Crew of shipping vessels to and from the atolls should be made aware of invasive species and asked to be vigilant regarding the possibility of the presence of birds on the vessel. The Tokelau atolls (or any other island) should not be approached if the crew is unable to kill any birds before land is sighted.

A Project Design Document could not be prepared in the time available. An Operational Plan (Appendix 1) was prepared and Taupulega Fakaofo staff (Environmental and Quarantine) were trained in myna observation (identification and behaviour) and the use of cage and nestbox traps.

Acknowledgements

The feasibility study team thanks all the people in New Zealand, Samoa, Tokelau Fakaofo and the Cook Islands who contributed to this feasibility study and made our work pleasant and efficient. The children of Fakaofo demonstrated their powers of observation and shared their stories with us. The families that provided food on Fakaofo excelled themselves. Falani Aukuso (General Manager of the Tokelau Public Service) worked with Simona Sale (Coordinator, Taupulega Fakaofo) and Neil Walter, John Fleming and Filipo Lui (Tokelau Unit of the New Zealand Ministry of Foreign Affairs and Trade) to get the project underway. Mose Pelasio (Tokelau Acting Director for Economic Development & the Environment) assisted with introductions and field work on Fakaofo.
James Atherton (CEPF) guided us in Apia and organised the manufacture of the nestbox traps through Misty and his capable workers, as well as the trap and bait trials with the assistance of Faumuina Pati Liu, Samani Tupufia and the Vaiala staff of the Division of Environment and Conservation of MNRE Samoa. Aggie Grey Jr provided useful insights into the myna problem on Upolu, Samoa.
Gerald McCormack, Ian Karika and Ewan Cameron of Taporoporo'anga Ipukarea Society of the Cook Islands contributed useful discussion of myna management, as did John Parkes of Manaaki Whenua (New Zealand Landcare).
Special thanks to Alan Shaw at the Tokelau Apia Liaison Office and the captain and crew of MV Lady Naomi for smoothing the journey.

Figure 1. The funnel cage trap employed on Fakaofo. A funnel at ground level leads into the main cage and the decoy bird is housed in a separate cage. The dimensions of the large cage are 900mm long by 700mm wide by 700mm high, but these are not restrictive. It has a removable top, and both cages can be collapsed for transport. The funnel needs to be just large enough at the outside end to allow a myna to walk into the cage and tapered at the inside end to prevent the bird escaping. (Photo: Peter Wilson).

Figure 2. One of the nest box traps manufactured in Apia which can be affixed to a building or tree. The hinged flap above the entrance hole is held open by a nail through a hole bored through the side of the box. Mono filament nylon is tied to the nail head and taken to a “hide”. When the nail is pulled, the trap cover falls, blocking the hole. The lid is simply secured by another nail dropped into a hole drilled through the sliding lid and into the front wall of the box. (Photo: Bill Nagle).

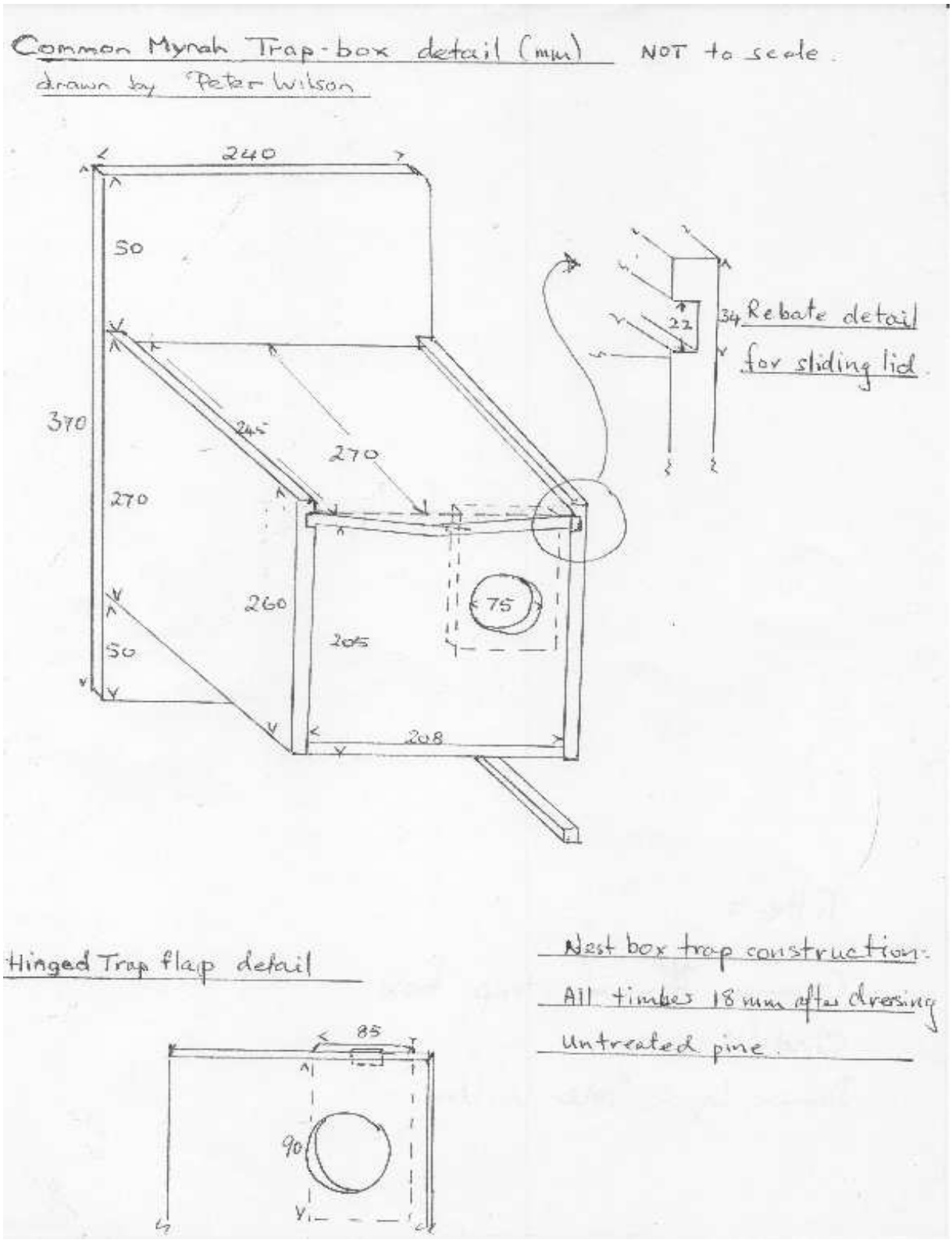

Figure 3. Detailed measurements for nest box traps. These can be used as a guide and should not be restrictive. (Drawing (not to scale): Peter Wilson).

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APPENDIX 1 - OPERATIONAL PLAN FOR ERADICATING MYNAS FROM FALE, FAKAOFO ATOLL, TOKELAU.

15 MAY 2006

Observations beginning on 12 May identified three jungle mynas (*Acridotheres fuscus*) on Fale motu of Fakaofo Atoll, Tokelau. The birds were first seen on the morning of 13 May at 0715 hours flying into and feeding from a pig pen at the south-western corner of the Fale piggery. This was one of many pig pens, but is relatively isolated. The three mynas were seen again about 0730 in a coconut palm and again that evening flying towards the piggery about 1745. No common mynas (*A. tristis*) were seen, although earlier reports indicated they were present.

Adjacent motu to the south east and north west were observed but mynas were not seen. Palea motu on the southeastern side of the atoll was also investigated. Earlier reports indicated it as a seabird nesting place, and there was a remote chance that mynas could survive there on bird's eggs and chicks.

The conclusion is that only 3 jungle mynas are present on Fakaofo Atoll (although observations over a longer period may change that) and that they have made Fale their home. It is the most populated motu and is adjacent to the piggery.

Eradication is feasible and 2 different methods will be used.

Method 1 – Nestbox traps

Nestboxes have been fixed to sites adjacent to places where mynas were sighted.

1.1 Nestboxes must be checked every morning to make sure the trap-door is open.

1.2 Nestboxes should be observed many times during the day as mynas may investigate the boxes at any time. If a bird begins to check a box regularly, someone should hide and pull the fishing line to drop the trapdoor when the bird is completely inside.

1.3 A trapped bird should be removed as soon as possible, but great care should be taken. The bird will try and escape and mynas are very smart and very fast.

1.4 Before a bird is removed, a large bag or other covering should be placed over the whole nestbox before the lid is opened. Slowly open the lid and cover the whole opening with the bag. Catch the bird with the bag, remove it and quickly close the bag. Alternatively, stuff the bag into the gap as the lid is opened and carefully catch and securely hold the bird. The bird will try and escape and great care is needed. Once the bird is out, it can be kept as a call-bird for a cage trap (see method 2), or killed.

1.5 The exact time of the breeding season is not known in Tokelau. In other Pacific countries it is between November and March.

Method 2 – Cage trap

The cage trap has been prepared. A hole for the funnel has been cut into the sides of the larger one. The small one is ready for a cage bird. The cage should be placed somewhere where the mynas will feel safe, i.e. away from people cats and rats. As they are comfortable at the piggery, the top of a pig pen could be a good place.

2.1 If a call-bird has been caught in a nestbox, it should be placed in the smaller cage next to the larger cage. The call-bird must be given food, water and shade and this will attract the other mynas.

2.2 With or without a call-bird, a small amount of food should be placed in the large trap and outside. Do not put the funnel in place so that the birds can freely walk in and out. This is to teach the birds to go inside the large trap. Do this until the mynas are regularly going into the cage to eat the bait. When that happens, the funnel can be put in place.

2.3 Start with 2 slices of cut up bread each day as bait (the bread should be cut up to make cubes of approximately 1 cm). Try for one month. If the mynas do not eat that, try other foods. The mynas are now eating pig food so they will probably eat that. Try each different food for two weeks until the mynas eat it each day.

2.4 When the mynas go in through the funnel and are in the trap, quickly stuff rag into the tunnel entrance, to prevent the bird(s) escaping, cover the cage with the tent (push some of the tent into the funnel to stop the mynas escaping). Carefully remove the top of the cage underneath the tent.

2.5 When the top is gone, reach in using the sleeve attached to the tent and grab a bird. If these are the first birds caught, keep them as call birds. If not, they can be destroyed.

Monitoring

- Only 3 birds have been seen between 12 May and 15 May, but there may be more.
- Do not kill the last bird caught whether it is in a nestbox or the cage. This bird must be kept as a call-bird until January 2007 (halfway through the myna breeding season). Other mynas may be present on other motu and keeping a call-bird will attract them in.
- The cages should be kept in good condition for this work.
- The nest-boxes must also be left in place until January even if the current mynas are caught quickly. The breeding season will start about November and the next boxes must be monitored until January 2007 in case other mynas are present.
- When no mynas come to the call-bird or the nestboxes by January 2007, it is probable that they have been eradicated. The nestboxes and cages can be stored in case of reinvasion.
- Good records should be kept of ALL activities – dates, times, people, observations, work done, comments, etc.

Preventing reinvasion

- All shipping companies and ship captains and any visiting boats should be asked to check their boats for mynas, or other birds such as bulbuls, when they are half-way to Tokelau. Mynas will fly from a ship to the first land they see but cannot fly long distances.
- All Tokelauans and people visiting Tokelau must be taught about the dangers of bringing new birds (or any other organism) to the atolls.