Chatham Island tui recovery plan

2001–2011

THREATENED SPECIES RECOVERY PLAN 41

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Cover: Chatham Island tui, with flax pollen on its head. (*Photographer unknown*)

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Recovery plans

This is one of a series of recovery plans published by the Department of Conservation. Recovery plans are statements of the Department's intentions for the conservation of particular plants and animals for a defined period. In focusing on goals and objectives for management, recovery plans serve to guide the Department in its allocation of resources, and to promote discussion amongst a wider section of the interested public.

After a technical report which had been refined by scientists and managers both within and outside the Department had been prepared, a draft of this plan was sent to the Chatham Islands Conservation Board for comment. After further refinement, this plan was formally approved by the Wellington Conservator in January 2001. A review of this plan is due after ten years (in 2011), or sooner if new information leads to proposals for a significant change in direction. This plan will remain operative until a reviewed plan is in place.

The Department acknowledges the need to take account of the views of the tangata whenua and the application of their values in the conservation of natural resources. While the expression of these values may vary, the recovery planning process provides opportunities for consultation between the Department and the tangata whenua. Departmental Conservancy Kaupapa Atawhai Managers are available to facilitate this dialogue.

A recovery group consisting of people with knowledge of the Chatham Island tui, and with an interest in its conservation has been established. The purpose of the Chatham Island Tui Recovery Group is to review progress in the implementation of this plan, and to recommend to the Department any changes which may be required as management proceeds. Comments and suggestions relating to the conservation of Chatham Island tui are welcome and should be directed to the recovery group via the Wellington Conservancy office of the Department.

1. Introduction

The Chatham Island tui *Prosthemadera novaeseelandiae chathamensis* is a distinct subspecies endemic to the Chatham Islands (Oliver 1955).

The Department of Conservation presently ranks Chatham Island tui as Category A, the highest priority category for conservation management (Molloy & Davis 1994). CI tui are ranked as Endangered by the IUCN Red List Categories (IUCN 1994).

This plan sets out the recovery programme for CI tui over the next ten years (2001–2011). There are no previous plans or strategies written for CI tui.

2. Past/present distribution and population numbers

The CI tui was formerly widespread and common on Chatham and Pitt Islands, Rangatira, and Mangere, and possibly Tapuaenuku (Little Mangere Island). It is the only remaining honeyeater in the Chathams, with the Chatham Island bellbird having become extinct last century. The decline of CI tui has continued in the past 50 years. In 1938, CI tui was recorded (Fleming 1939) as being less common on northern Chatham Island, but common in southern Chatham Island, abundant on Pitt Island, common on Rangatira, but absent from Mangere (which had recently been cleared). By the 1970s, only low numbers were found on southern Chatham Island, Rangatira, and Pitt Island (Merton & Bell 1975). CI tui almost totally disappeared from Chatham Island by the early 1990s (D. Crockett pers. comm.).

CI tui now breed only on Rangatira and Pitt Island, with most breeding taking place on Rangatira. Birds commute regularly between Pitt Island and Rangatira in some seasons and occasionally visit Mangere and cross Pitt Strait to southern Chatham Island in late summer and winter (Dilks & Kearvell 1996). It is not entirely clear why tui have disappeared from Chatham Island and breed only in small numbers on Pitt Island, as both islands appear to have sufficient habitat and year-round food supplies. Although both islands have introduced forest browsers and predators, tui on mainland New Zealand seem to have been able to hold on when faced with similar pressures.

The CI tui populations on Rangatira was estimated to be a total of 237 ± 120 adults in 1995 (Dilks & Kearvell 1996) and 274 ± 61 in 1999 (P. Dilks pers. comm.). Two birds were seen regularly on Mangere islands during the 1998/99 season (S. O'Connor pers. comm.)

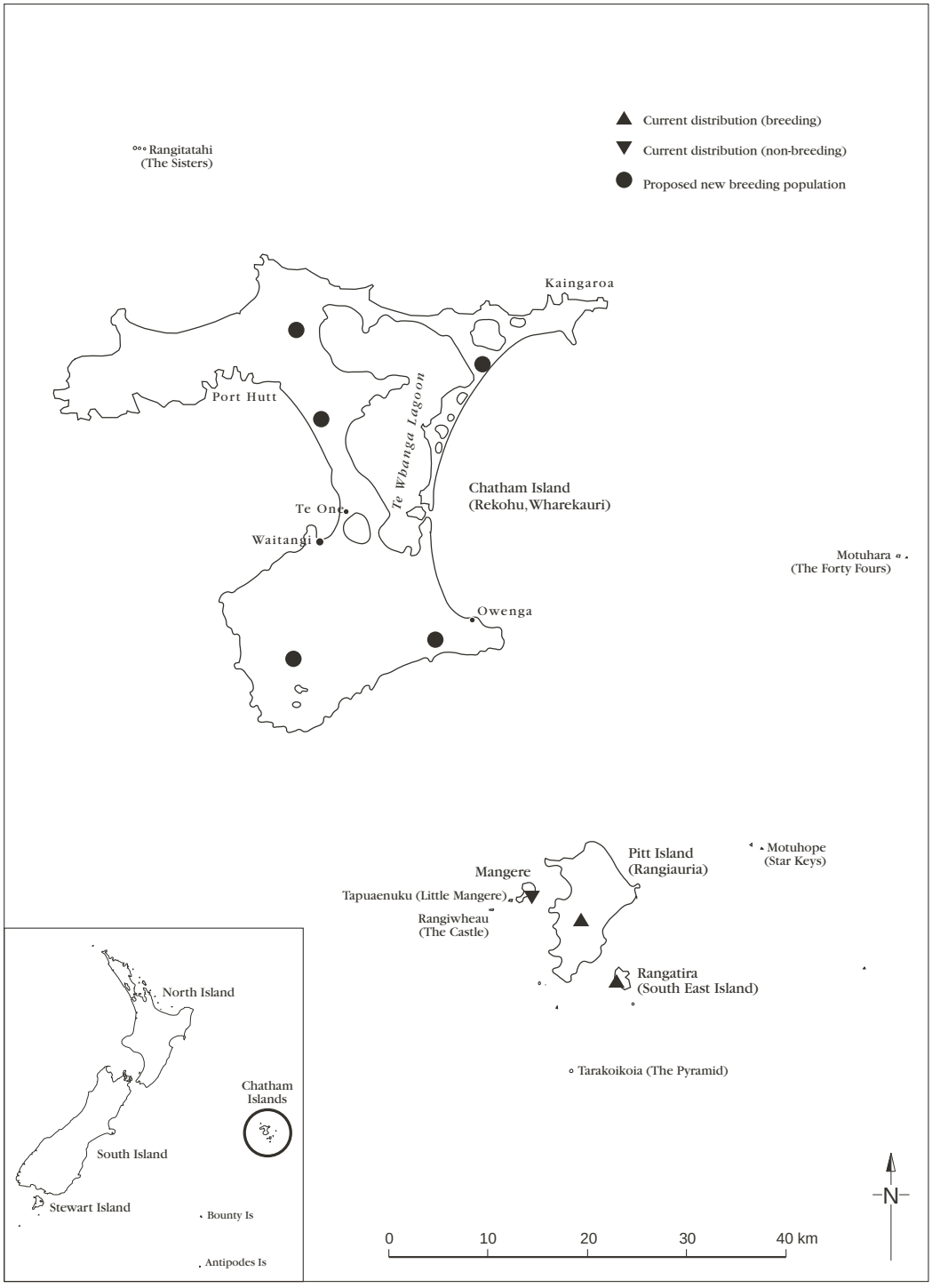

Figure 1. Distribution of Chatham Island tui in the 1970s and in 1998, and potential transfer sites.

Tui are widely scattered on Pitt Island, with small numbers found in most forest remnants. Waipaua Scenic Reserve contains the best habitat and the most tui, but densities here are low compared with Rangatira. Most tui appear to leave Rangatira during winter and move to Pitt Island, returning to breed on Rangatira the following spring (P. Dilks pers. comm.).

While it is clear that tui move readily between Pitt and Rangatira, the exact relationship between the two populations is not clear. While the tui population on Rangatira appears to be dependent on Pitt for winter food supplies, it is not known if the level of tui breeding on Pitt is sufficient for the Pitt Island tui population to be able to be self-sustaining independent of the Rangatira population. Further research is required to determine the extent of inter-dependence between the Pitt and Rangatira populations.

The size of the tui population on Pitt also requires further investigation. In May 1997, Dilks saw a ratio of 9:76 banded:unbanded tui on Pitt Island (in Walls et al. 1997). Over half the birds on Rangatira were banded at this time. This could be taken to suggest that a substantial separate tui population exists on Pitt Island, but Dilks believes the finding was an artifact of the time of year and using tapes during the Pitt Island counts. Few adult birds have been found to respond to tapes during the winter and the birds banded on Rangatira were mostly adults. At this time of year most of the juveniles from Rangatira, which were predominately unbanded, are believed to have flown to Pitt. These birds readily and repeatedly responded to the taped calls during the counts (P. Dilks pers. comm.).

3. Cause of decline and present-day threats

Predators, particularly cats, rodents and possums, along with habitat loss are likely to be the main causes of decline of the CI tui population. All three rat species, and mice, possums, and cats are present on Chatham Island, while cats and mice are on Pitt. Habitat loss and modification has been significant. On the major islands, large areas of forest which made up much of the Chatham Island tui's historical habitat were lost by fire and conversion to farmland before the end of the nineteenth century. Feral stock have accelerated the decline of degraded bush remnants. The introduction of possums to Chatham Island added to the degradation of the bush. The loss of or severe reduction in plant species palatable to browsers is likely to have had a significant impact on the tui population since many of the plant species taken provide nectar and fruit important to tui.

While considerable areas of forest habitat currently occur on Pitt and Chatham Island most are in a degraded state, with vegetation modified from years of burning and grazing, and the presence of a suite of introduced mammalian predators and browsers. The larger areas of vegetation on Chatham Island are principally fire- and browsing-induced *Dracophyllum* forest, which provides

relatively poor food sources for CI tui. Efforts over the last decade to fence out stock, and to control feral browsers and predators on reserve land has resulted in some areas of improved habitat on these islands.

The only current threat to CI tui on Rangatira is interspecific competition from avian competitors such as starlings. However, the possible arrival of introduced predators such as rodents or cats poses an ever-present risk. Habitat loss through fire, and the arrival of introduced avian diseases would also threaten the Rangatira population. Similar threats exist on Mangere, although the lack of suitable forest habitat area is the main reason CI tui are not found there in large numbers.

4. Species ecology and biology

The CI tui is larger than the New Zealand tui. They are a forest species, and are important for the pollination and seed dispersal of forest plants. Dilks et al. (1998) observed tui feeding on fruit, nectar, leaves, and insects. Research on NZ tui has shown that insects are a significant part of the diet and vital to breeding; a similar diet could be expected for CI tui. The abundance of flax nectar appears to have a direct relationship with the extent of tui breeding that takes place each summer. In poor flowering years little breeding occurs compared with good flowering years, when breeding is widespread and tui can rear two broods (P. Dilks pers. comm.)

The ecological factors influencing the survival of CI tui appear to be:

- availability of invertebrates (higher on Rangatira than Pitt and Chatham),
  availability of fruit and flowers (lower on the *Dracophyllum*-dominant southern Chatham forests),
- availability of nectar, particularly from flax to initiate breeding,
- competition with starlings for fruit, nectar and invertebrates,
- predation by mammals and possibly weka,
- destruction of forest structure and absence of forest regeneration due to introduced browsers,
- effects of possums and rats on the availability of fruit and nectar on Chatham Island.

5. Past conservation efforts

The legal protection of Rangatira as a Nature Reserve and ongoing efforts to protect the island from the introduction of mammalian predators has provided essential secure habitat for CI tui. The protection of forest habitat, and reduction of possum, pigs, cats, weka, and feral and domestic stock on Chatham

and Pitt Island, and the revegetation programme on Mangere provide, or may provide, suitable habitat for the re-establishment of CI tui in the future. Research recently completed by Dilks et al. (1998) provides the only information on CI tui from which to begin conservation efforts to recover CI tui.

6. Recovery goal

Two goals are proposed—a longer term goal and a shorter term goal. The short-term goal of ten years is to be achieved by the year 2011.

LONG-TERM GOAL

Protect CI tui on Rangatira and restore sufficient habitat on Chatham, Pitt, and Mangere Islands so that CI tui are re-established in a number of self-sustaining sub-populations that will require minimal management, and will re-establish their role as major pollinators and seed dispersers in Chatham forest ecosystems.

TEN-YEAR GOAL

Prevent any further decline of the CI tui population's size and distribution. Protect and restore habitat to promote the expansion of the Pitt Island population and the establishment of new breeding populations.

THIS WILL CHANGE THE IUCN CONSERVATION RANKING OF CHATHAM ISLAND TUI FROM ENDANGERED TO VULNERABLE.

7. Options for recovery

7.1 OPTION 1

No action

This option is not recommended. If there was no management effort apart from monitoring of population numbers, breeding territory distribution and productivity of Chatham Island tui, the population would probably remain at the same level as it is currently, with only one main breeding population, on Rangatira.

7.2 OPTION 2

Protect and restore CI tui habitat on Pitt and Rangatira Islands

This option is not recommended. Predator control and habitat restoration on Pitt Island is the main thrust of this option, to provide safe breeding habitat. This would see the expansion of CI tui population and ensure that the Pitt population can survive independently of the Rangatira population (the current level of dependence is not known). However, these actions alone may be insufficient to provide for a significant increase in the tui population, to ensure it is viable in the long term. Also, this option does not allow for the re-instatement of tui to its former historic range, or its role as a key forest pollinator and seed disperser.

7.3 OPTION 3 (PREFERRED OPTION)

Protect and restore CI tui habitat on Chatham, Pitt, Rangatira, and Mangere Islands, and re-establish CI tui on Chatham Island

This is the preferred option for recovery. The re-establishment of a second population of Chatham Island tui within the Chathams group could reduce the status of the species from Endangered to Vulnerable (IUCN 1994) and thus meet this plan's ten-year objective. Protection of the Rangatira and Pitt Island population(s) is an essential part of this option. By improving habitat on Pitt Island, numbers of CI tui should increase. This option requires a significant reduction or preferably the removal of browsers from the Waipaua Scenic Reserve on Pitt Island, and the control of feral cats. If tui numbers on Pitt increase sufficiently, and there are improvements in forest habitat on Chatham Island, tui may re-establish themselves there. If not, a transfer of birds may be required to re-establish tui on Chatham Island. The re-introduction of CI tui to Chatham Island would restore the species to its recent historic range. Continued protection and enhancement of habitat on Chatham Island, including the planting of large areas of flax in areas suitable for tui, is recommended. Continuation of the revegetation programme on Mangere will enhance forest habitat and eventually allow tui to establish there.

7.4 OPTION 4

Establish Chatham Island tui populations in captivity or outside of the Chathams

This option is not recommended. Chatham Island tui are endemic to the Chathams Islands and, with management measures to control threats such as predators, there is suitable habitat available within the Chathams group to improve the status of the species without moving birds outside the Chathams. Captive management is not considered necessary at this stage.

8. Objectives for term of plan

The objectives for CI tui recovery for the term of this plan are:

1. Protect the CI tui population on Pitt Island and Rangatira.
2. Restore areas of forest habitat on Pitt Island and Mangere.
3. Improve understanding of CI tui ecology and habitat requirements.
4. Re-establish CI tui population(s) on Chatham Island.

9. Work plan

Specific tasks required to achieve each objective, and performance measures to assess success in meeting objectives are set out below.

OBJECTIVE 1. PROTECT THE CI TUI POPULATION ON PITT ISLAND AND RANGATIRA

Performance measures

(1) The CI tui population on Rangatira and Pitt Island is stable at a minimum population level of 250 birds or is increasing in size.

(2) An appropriate monitoring programme developed for CI tui on Rangatira and Pitt Island, by 2002, and implemented annually.

Explanation

Maintenance of a CI tui population of more than 250 birds is essential to ensure the species' survival. Protection of the Rangatira population is a top priority as this is the major breeding location. Control of predators and competitors of CI tui on Pitt Island will provide the opportunity for the tui population there to expand. Monitoring of the CI tui population must be carried out to ensure that this objective is being met.

Actions required

Action 1.1 Implement quarantine measures and restrict visitors to Rangatira and promote measures to prevent the introduction of pests on Pitt Island

Explanation

Currently the CI tui population breeds largely on Rangatira, and it is essential that it is protected from a range of risks. The arrival of introduced predators (rodents and cats), and avian introduced diseases must be prevented. The risk of habitat loss or deterioration due to human disturbance, the introduction of invasive plant species, or fire must also be mitigated against. Restricted access

and quarantine measures have in been place on Rangatira Island Nature Reserve for many years—new people visiting the island need to be made aware of these measures, and there are regular audits to ensure they are being followed vigilantly. Currently numbers of people permitted entry is restricted and this needs to continue. Although Pitt Island has a range of animal pests, including cats, weka, mice, pigs and feral sheep, it is free of other rodents, possum and mustelids. Measures are in place to prevent further animal pests establishing on Pitt Island, and these need to continue.

Priority
Essential

Responsibility
Chatham Island Area Office

Action 1.2 Undertake control of introduced predators at selected sites on Pitt Island

Explanation
Cats are the likely key predator of CI tui on Pitt Island. Control of cats and possibly weka to zero densities in the Waipaua Scenic Reserve would be of greatest benefit to CI tui. The predator-proof exclosure at Ellen Elizabeth Preece Conservation Covenant that is proposed for black robin should also benefit CI tui. The total removal of cats from Pitt Island would provide the best long-term solution for CI tui by providing a substantial area of predator-free habitat, but this could only be undertaken if fully supported by the Pitt Island community.

Priority
High

Responsibility
Chatham Island Area Office

Action 1.3 Monitor CI tui population numbers and distribution on Rangatira and Pitt Island

Explanation
Five-minute bird counts, which include CI tui, are currently undertaken in reserves on Pitt Island and were conducted on Rangatira in association with the tui research project of P. Dilks. These counts should be continued until replaced with a revised monitoring method that will provide more specific information on CI tui population size. A programme of monitoring CI tui population numbers on Rangatira and Pitt should be developed in association with recommended research programme to improve knowledge about the status of the Pitt Island tui population (Action 3.1). A system of recording all sightings of tui on Mangere and Chatham Island also needs to be established. A monitoring programme is essential to assessing the success of CI tui management and to ensure that the goals of the plan are met.

Priority
High

Responsibility
Chatham Island Area Office

OBJECTIVE 2. RESTORE AREAS OF FOREST HABITAT ON PITT ISLAND AND MANGERE

Performance measures

(1) Feral sheep and pigs controlled to agreed levels in Waipaua Scenic Reserve, and to zero densities in Canister Cove Scenic Reserve and in the recently agreed 'corridor' to be established between the two areas.

(2) 'The 'corridor' that links the Waipaua Scenic Reserve with the Canister Cove Scenic Reserve fenced and all stock removed by 2005, subject to funding.

(3) Planting programme to the benefit of CI tui, including monitoring of plant survival, initiated at selected sites on Pitt Island by 2005.

(4) Planting of native species undertaken on Mangere, to at least the current level each year, using best practice to ensure a minimum survival rate of 70%.

Explanation
Significant recovery of the CI tui population can only be achieved with the restoration of the forest habitat on Chatham, Pitt, and Mangere Islands. Predator control alone is unlikely to meet the recovery plans ten year goal. It will be important to ensure that remnant areas of forest habitat are maintained, and in many cases improved in quality, to allow CI tui to breed successfully.

Actions required

Action 2.1 Control feral stock in the forests on Pitt Island, with priority given to controlling sheep numbers in the Waipaua Scenic Reserve, Pitt Island

Explanation
The density of CI tui in the Waipaua Scenic Reserve is the highest of any area on Pitt Island (P. Dilks pers. comm.). Waipaua is presumed to have sufficient quality and diversity of habitat to support breeding CI tui, but there is little forest regeneration occurring due to the densities of feral sheep and pigs there. Forest health could be restored and maintained by reducing feral stock to zero densities in all reserves on Pitt Island, but this is not currently acceptable to the local community. Given the current political climate and agreements on sheep numbers in the Waipaua Scenic Reserve, the control of sheep to the agreed levels must be given high priority as a minimum target. Feral stock in all other reserves should be reduced to zero density. The protection, fencing and subsequent exclusion of all stock from the proposed corridor that will link the Waipaua Scenic Reserve with the Canister Cove Scenic Reserve will allow for forest regeneration and will also benefit tui.

Priority
Essential

Responsibility
Chatham Island Area Office

Action 2.2 Assess requirements and begin planting programme on Pitt Island to benefit CI tui

Explanation
Although fencing and control of feral stock over the last decade has allowed some recovery of the Pitt Island forest, they are still in a degraded state (Walls et al. 1997). The preferential selection of trees palatable to introduced browsers has seen the reduction in numbers of species important to CI tui such as CI matipo, CI coprosma, hoho, and kowhai. Enhancement planting of these species to provide good food supplies may assist CI tui recovery. The recent protection of the corridor proves an important link between the two major forest areas on Pitt. A planting programme to promote the recovery of the forest in this corridor, and to ensure that the full range of species are present may be necessary. Planting of flax along the western boundary of Waipaua would provide a valuable source of nectar for tui and a windbreak against further forest degradation.

Priority
Moderate

Responsibility
Chatham Island Area Office

Action 2.3 Monitor survival rate of revegetation programmes, using the results to alter revegetation methods as appropriate

Explanation
The harsh climatic conditions on the Chatham Islands means the survival rates of plantings are relatively low, and plants are slow to establish and grow. By monitoring survival rates and the conditions where plants establish and grow best, planting techniques can be altered to achieve a greater success. Small-scale experimentation with different planting and maintenance techniques should be undertaken to find the most successful approach.

Priority
Moderate

Responsibility
Chatham Island Area Office

Action 2.4 Continue the revegetation programme on Mangere

Explanation
The creation of further forest habitat on Mangere will provide another opportunity for the expansion of the CI tui population in the long term. A

programme of planting native species to restore forest habitat began on Mangere in the 1970s, and continues today. Species diversity needs to be considered to ensure that there will be year-round food supplies available to support tui. Around 7000 plants have been planted each year from 1995 to 1999. Planting should continue at the current rate at least, with increased numbers of trees planted if possible. Species planted will create a native cover to facilitate natural forest regeneration. The harsh environment on Mangere means plantings require considerable maintenance to improve plant survival.

Priority
Moderate

Responsibility
Chatham Island Area Office

OBJECTIVE 3. IMPROVE UNDERSTANDING OF CI TUI ECOLOGY AND HABITAT REQUIREMENTS

Performance measures

(1) A three-year research programme initiated by 2003, to determine the status and productivity of the Pitt Island tui population, subject to funding.

(2) Research to determine the key factors limiting CI tui recovery on Pitt and Chatham Islands conducted either in conjunction with, or immediately following on from, research on the status of the Pitt Island population.

Explanation
Research undertaken in the 1990s by P. Dilks has provided information on a number of aspects of CI tui ecology and habitat requirements. There remain a number of questions about the status of the tui population on Pitt Island and about CI tui ecology for which answers are required to assist in its recovery.

Actions required

Action 3.1 Undertake research on the distribution, numbers and productivity of CI tui on Pitt Island and determine the level of interdependence between the Pitt and Rangatira sub-populations

Explanation
Little is known about the status of the Pitt population and whether numbers are stable or declining. Further information is needed to ensure that the Pitt tui population does not gradually disappear as the Chatham Island population did in recent years and to help target management effectively. While CI tui are known to breed on Rangatira, and in low numbers on Pitt Island, the level of interdependence between the two sub-populations is not entirely clear. There is known to be considerable movement between the two islands, with breeding seeming to occur primarily on Rangatira and Pitt providing important winter habitat. It is not known if the tui population on either island could survive independently of the other. It is possible that there is a small sub-population on

Pitt that is not dependent on Rangatira. Research in years of abundant flax flowering will provide good information of tui breeding, but research conducted on Pitt during a poor flax flowering year may provide valuable information on the extent to which birds are resident year-round on Pitt and the existence of a separate sub-population on Pitt.

Priority
Essential

Responsibility
Wellington Conservancy

Chatham Island Area Office

Action 3.2 Obtain a greater understanding of the key factors that limit CI tui recovery

Explanation
Once the status of the Pitt Island tui population is better understood, it will be important to know what factors are limiting tui recovery on Pitt and Chatham Islands. The disappearance of CI tui from Chatham Island occurred relatively recently and the causes are not clearly understood, particularly given that on mainland New Zealand tui survive at many sites in the presence of a similar range of predators. The three key factors that are presumed to limit CI tui population numbers and distribution are predation, competition for food, and lack of suitable forest habitat containing a year-round supply of food. Understanding and effectively managing these factors is critical to meeting the goals of this plan. Research should include a comparison of potential food resources used by NZ tui and resources available for CI tui as well as monitoring tui feeding and drinking sites on Pitt for predation events. Monitoring of nests would be useful, but extreme care needs to be taken as CI tui have been found to desert nests very readily if disturbed (Dilks et al. 1998, Dilks & Kearvell 1996). Use of video cameras may be possible to obtain data on predation at nests.

Priority
High

Responsibility
Wellington Conservancy

Chatham Island Area Office

Science & Research Unit

Action 3.3 Undertake research on key aspects of CI tui population dynamics

Explanation
The work of Dilks et al. (1998) and Dilks & Kearvell (1996) provides some information on CI tui population dynamics. However, further work is required to establish CI tui survivorship, productivity, longevity, age of first breeding,

and breeder/non-breeder ratios. This will assist CI tui recovery and enable assessment of the success in meeting the ten-year goal. Much of this information should be gained in conjunction with the research proposed in Actions 3.1 and 3.2.

Priority
Moderate

Responsibility
Wellington Conservancy

Chatham Island Area Office

Science & Research Unit

OBJECTIVE 4. RE-ESTABLISH CI TUI POPULATION(S) ON CHATHAM ISLAND

Performance measures

CI tui present on Chatham Island within the term of the plan, either having re-established from Pitt Island, or by conducting a transfer of birds from Rangatira.

Explanation
The re-establishment of CI tui on Chatham Island will greatly improve its conservation status, as well as restoring its recent historic distribution. It will also reinstate CI tui's ecological role in Chatham forest as a pollinator and seed disperser. A separate CI tui population will spread the risk of loss of the Pitt and Rangatira population through unplanned events such as predator or disease invasion, or habitat loss from fire.

Actions required

Action 4.1 Protect and restore selected forest areas on Chatham Island as funding allows to provide suitable habitat for the re-establishment of CI tui

Explanation
The continuation of measures to protect forest areas on Chatham Island is required to provide suitable habitat for the re-establishment of CI tui. There are a number of sites that, with forest restoration and predator control work, may be suitable for the re-establishment of tui. Alternatively, tui may need to range over a number of sites, utilising different food sources during the year. The Tuku Valley was one of the last locations where tui were recorded on Chatham and is likely to be one of the most suitable sites for the initial re-establishment of tui. Cat and weka trapping has been undertaken in the Tuku since 1987 for taiko and parea, creating an area of low predator numbers which may also benefit tui. Fencing of the forest in the Tuku Valley and surrounding areas has improved its condition, with active regeneration of plant species favored by tui. The habitat may now be in a better condition to support CI tui than ten years ago. The proposal, subject to funding to establish a predator-free site in northern

Chatham Island for Forbes' parakeet conservation could also benefit CI tui. Such a site would provide a secure breeding location for CI tui, and, although the quality of the forest habitat will need assessment, the forests of northern Chatham Island are dominated by plant species that provide good food sources for CI tui. Fencing out of domestic stock, and control of possum, cats and rats are likely to be needed to protect tui and maintain a high-quality forest habitat at these locations.

Priority
Moderate

Responsibility
Chatham Island Area Office

Action 4.2 Transfer CI tui to the Tuku Valley if required and subject to funding

Explanation
The Tuku Valley is proposed as the best site to begin the re-establishment of CI tui on Chatham Island. Planting of areas of flax within the fenced areas in the Tuku should be considered to boost food source for tui. As the habitat in the Tuku improves, and if management and habitat improvements are implemented on Pitt and result in a growing tui population there, tui may re-establish in the Tuku of their own accord. If this does not occur, and habitat improvement is considered to be sufficient to sustain a tui population, birds from Rangatira should be transferred to Chatham Island. It is proposed that juvenile tui would be moved in late summer and be 'soft-released' at the new site. A transfer should only be attempted after a reasonably good breeding season on Rangatira (i.e. when there are a large number of juveniles present in the population). Once established in one area on Chatham Island, tui will probably spread to other areas of suitable habitat themselves.

Priority
Moderate

Responsibility
Chatham Island Area Office

Action 4.3 Monitor CI tui success at re-establishing, dispersal from release sites and longer-term population trends on Chatham Island

Explanation
*I*ntensive monitoring of the CI tui survival following transfers to any new habitat is required to determine the fate of individual birds. Tail-mounted transmitters should be used to follow the movements of released birds after their release. This will provide valuable information for transfers to future sites. Information on NZ tui recruitment on Tiritiri Matangi Island has shown that juvenile tui return to the site where they were raised to breed themselves, raising concern that juvenile CI tui may return to Rangatira after being released at new sites (P. Dilks pers. comm.). Information will also be provided on the longer-term CI tui population trends on the Chatham Island.

Priority
Moderate

Responsibility
Chatham Island Area Office

10. Review date

This plan will be reviewed after ten years, or sooner if new information leads to proposals for a significant change in direction. The plan will remain operative until a reviewed plan is in place. The date that is proposed for review of this recovery plan is **July 2011**.

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