

Chatham Island taiko recovery plan

2001 - 2011

THREATENED SPECIES RECOVERY PLAN 36

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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 Chatham Island taiko, and with an interest in its conservation has been established. The purpose of the Chatham Island Taiko 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 taiko are welcome and should be directed to the recovery group via the Wellington Conservancy office of the Department.

1. Introduction

The Chatham Island taiko *Pterodroma magentae* is a petrel endemic to the Chatham Islands, with a population estimated to number less than 150 birds. Until 1999, only six burrows were known to have had taiko attempt to breed in them. A highly successful telemetry operation in 1999 may have added up to five breeding burrows to this total. The taiko is among New Zealand's most endangered species, considered to be on the brink of extinction.

The taiko was believed to be extinct for almost a century, until its rediscovery by David Crockett in 1978 (Crockett 1979, 1994a). Nearly ten years later, in 1987, the first taiko burrow was discovered near one of the tributaries of the Tuku-a-tamatea River, in southern Chatham Island.

The Department of Conservation presently ranks taiko as Category A, the highest priority category for conservation management (Molloy & Davis 1994). Taiko are also ranked internationally as Critically Endangered by the IUCN Red List Categories (BirdLife 2000).

This plan sets out the recovery programme for taiko over the next ten years (2001–2011). It is preceded by the first taiko recovery plan covering the period 1994 to 1998 (Grant 1994). Taiko conservation was also covered in the draft *Chatham Island threatened species management strategy* (Grant 1991).

2. Past/present distribution and population numbers

Fossil and historic records show that taiko were once the most abundant burrowing seabird on Chatham Island (Bourne 1964; Sutton & Marshall 1977). Oral records passed down through families in the Chatham Islands describe extensive colonies of taiko in the southern end of Chatham Island that were regularly muttonbirded by Moriori (King 1989). Taiko do not appear to have bred on other islands in the Chatham group, as taiko bones have only rarely been found elsewhere (three known from Pitt Island; A.Tennyson pers. comm.).

By the turn of the 20th century, the taiko population had become drastically reduced in numbers, with none of the large breeding colonies thought to have existed in recent historic times remaining. Today, taiko are estimated to number between 100 and 150 birds (Taylor 2000a). Taiko are only known to nest in the forested headwaters of the Tuku catchment in southern Chatham Island (Figure 1). Since their rediscovery in 1978, a total of 92 taiko have been caught and banded, mostly from spotlighting at the 'light site' in the lower Tuku Valley. Over fifty sites have been identified as possible taiko burrows since 1987. Evidence of taiko activity has been observed at most of these at some time since 1987, but there has been breeding activity at only a small number of

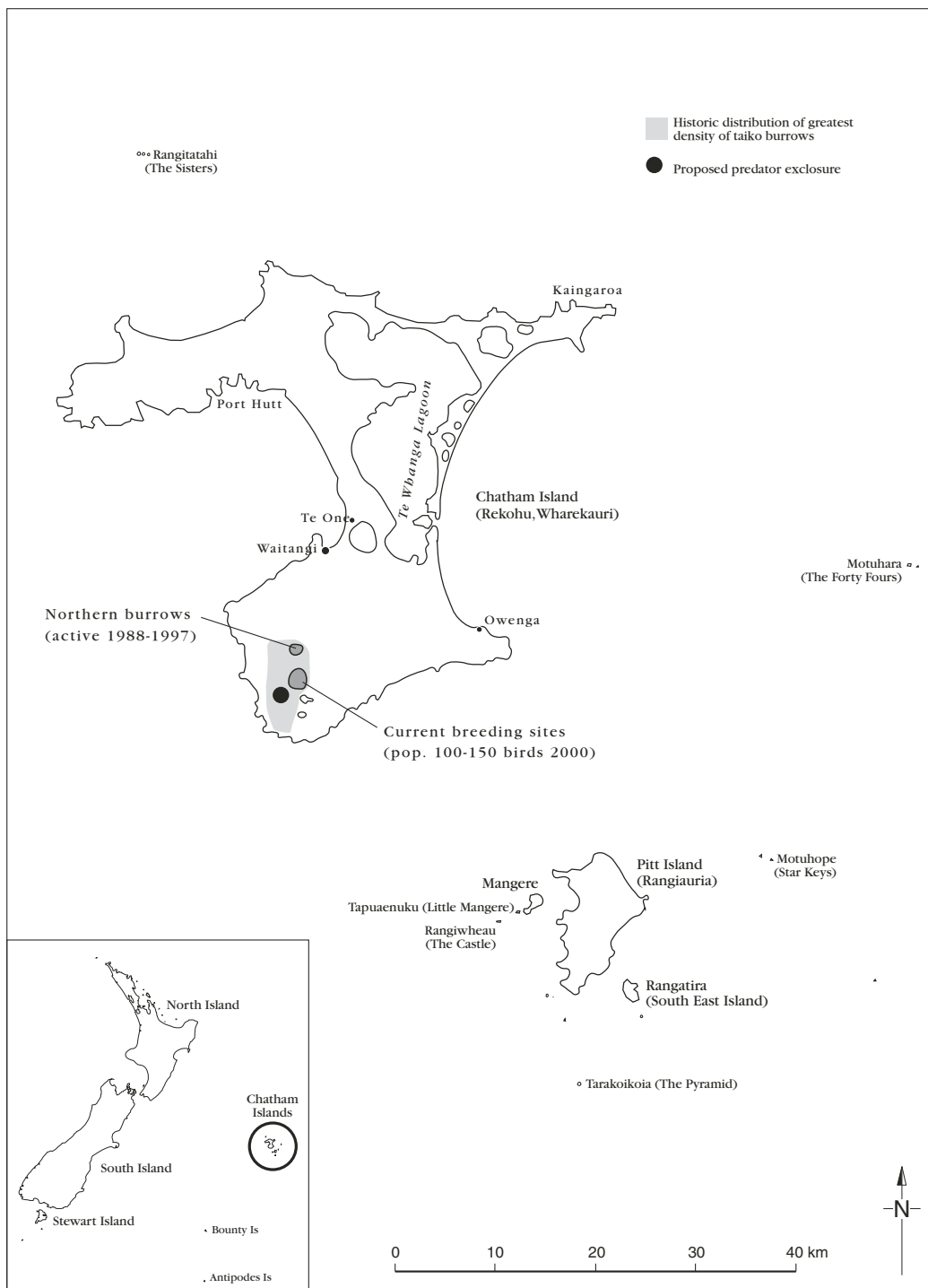


Figure 1. Distribution of taiko breeding sites.

burrows. Until 1999, taiko had attempted to breed at only six of the known burrows. During the 1999 telemetry operation, another five burrows that appear to be active breeding burrows were located. Two known breeding burrows have become inactive in recent years, presumably due to the death of one or both of the breeding adults. Given protection from predators, it is likely that breeding will occur in other burrows that have only been used by prospecting taiko to date. New breeding burrows may also be found in the southern Chatham Island forests.

3. Cause of decline and present-day threats

The arrival of mammalian predators, particularly cats, pigs, and rodents, the introduction of weka, and the loss of forest habitat are likely to have been the main causes of the decline of the taiko population within the last 100 years. Stray dogs and trampling of burrows by domestic and feral stock are also likely to have been a threat in the past.

The key present-day threat to taiko continues to be predation from cats, pigs, weka, and rodents (especially ship rats) during the taiko breeding season. Loss of forest habitat from accidental fire is also a threat. Poaching and introduction of avian diseases are not considered to be major threats at present. Pig-hunting with dogs near the burrows is a potential risk to taiko. Damp ground and flooding of nest chambers has probably contributed to nest failures in some seasons.

4. Species ecology and biology

Taiko are a distinctive seabird with a dark-hooded head and white underparts. They have long narrow wings, and are fast, capable fliers. The birds probably forage over the open ocean more than 100 km from the Chatham Islands (Imber 1994a). Typical of the genus *Pterodroma*, they specialise in feeding on squid and fish.

Taiko are a burrowing petrel, seemingly preferring to make breeding burrows under forest cover. They form lifelong monogamous pair bonds, and both sexes contribute to incubation and chick raising. Their breeding season extends from September to May. What little is known of their ecology and breeding biology is summarised in Imber et al. (1994a) and Taylor (1991).

Breeding activity among taiko appears low, with many of the known burrows not being used for breeding. This may be caused by a sex ratio imbalance leading to a lack of female breeding partners. The lack of an established

breeding colony may also make it difficult for birds to locate suitable partners. Loss of eggs and chicks was high until the 1996/97 breeding season, when intensive predator control throughout the season improved the breeding success (100% fledging success for the three breeding seasons 1996-1999). Control of rodents around breeding burrows started in the 1992/93 season, but was not intensive enough to prevent losses of eggs and chicks.

Since predator control (cats and possum) began in 1988, a total of 17 chicks is considered to have fledged from the known burrows, eight of these in the 1997, 1998, and 1999 seasons. Six burrows are known to have had breeding attempts in them sometime over the last seven years, and an additional five burrows, located during the 1999 telemetry operation, showed signs of activity indicating they are active breeding burrows. There was evidence of some taiko activity at 33 burrows over the 1999/2000 season. Most of these burrows were located during the 1999 telemetry operation (Ogle 2000). Many of the burrows are currently being excavated by taiko and, if given adequate predator protection, could be expected to become breeding burrows in the future.

5. Past conservation efforts

Three phases of conservation effort for the taiko are recognised:

Phase 1: Recognition of the bones of taiko and expeditions to find the 'lost bird', leading to the rediscovery of the species in 1978

The conservation of the taiko species began with the investigations of David Crockett in 1952, when he discovered a strange set of bird bones while working in the Canterbury Museum as a schoolboy. These led to a series of expeditions to the Chatham Islands culminating in the rediscovery of taiko in 1978 (Crockett 1979, 1994a).

Phase 2: Search for the taiko breeding grounds and the location of the first burrows in 1987

Searching for the taiko breeding grounds has been a long slow process. It began with the establishment of the 'light' site in the lower Tuku Valley where taiko were captured and banded. Ground searches for burrows were unsuccessful until the use of telemetry in 1987. Birds with transmitters attached were radio tracked, and this culminated in the discovery of the first taiko breeding burrow in 1987. Work during this phase of taiko conservation has been documented by Chappell (1989), Colbourne (1989), Crockett (1981, 1989), Crockett & Imber (1988), Grant (1988), and Imber (1986a, 1986b, 1986c, 1988, 1989, 1994a).

Phase 3: Protection of breeding burrows, and searches for new breeding sites using telemetry equipment

As breeding sites have been progressively discovered over the last ten years they have been protected from predators (1993 to 1999). The predator control

programme include, traplines to remove cats and possums and now weka, since they have been revealed to be a problem. Rodent poisoning grids around burrows have been progressively extended over time. Taiko continue to be caught and banded at the 'lights', and a number of intensive burrow search efforts have been made, primarily using radio tracking techniques to locate where birds were landing in the densely forested Tuku and Awatotara Valleys. The basic breeding cycle and aspects of the breeding biology have also been studied during this phase. Work for this phase of taiko conservation is documented by Aikman (2000), Crockett (1993, 1994b, 1996, 1997, 1998, 1999), Department of Conservation (1998, 1999), Grant (1989, 1994), Imber (1991, 1992a, 1992b, 1993a, 1993b, 1994a, 1994b, 1996, 1998), Imber et al. (1994a, 1994b, 1998), Johnston (1998a, 1998b), McFadden (1998), Taylor (1991, 1995, 1996a, 1996b, 1996c, 1997, 1998, 1999, 2000), Taylor & Imber (1994), Taylor et al. (1992), Tennyson (1994), Turner & Williams (1999a) and Williams (1997).

This recovery plan prepares for the fourth phase of conservation effort for taiko. In this phase, a major conservation effort will be made to establish a secure taiko breeding colony that will hopefully lead to an increase in the taiko population.

6. Recovery goal

Two goals are proposed—a longer-term goal and a shorter-term goal. The shorter-term goal of ten years is to be achieved by the year 2011, which is when this plan expires.

LONG-TERM GOAL

To restore sufficient areas of southern Chatham Island forests so that taiko may re-establish as a self-sustaining population of no less than 250 mature individuals that will require minimal management.

TEN-YEAR GOAL

To prevent further loss of known taiko breeding pairs, maximise productivity at known breeding burrows, locate and protect further burrows, and establish a secure site for taiko breeding.

IF FURTHER DECLINE IS PREVENTED AND THERE IS A MINIMUM OF 25 BREEDING PAIRS, THE IUCN CONSERVATION RANKING OF TAIKO WILL CHANGE FROM CRITICALLY ENDANGERED TO ENDANGERED.

7. Options for recovery

7.1 OPTION 1

No action

This option is not recommended. If there was no further control of predators around taiko nesting sites the few remaining birds would quickly be lost to predators and taiko would probably be functionally extinct within 10 years. Individual taiko are likely to be long-lived, and some birds may still survive 30-40 years after the last successful breeding.

7.2 OPTION 2

Only protect taiko breeding burrows at known nesting sites

This option alone is not recommended. To only protect taiko breeding burrows at known breeding sites would not improve taiko productivity and survivorship sufficiently for the population to begin to increase in numbers. Also, protection of the known nest sites from predators is resource-intensive, and unlikely to be sustainable in the long-term.

7.3 OPTION 3

Protect taiko breeding burrows at known nesting sites and locate new breeding sites only

This option alone is not recommended. While there is a chance that new taiko burrows would be found, it is very unlikely that sufficient numbers of burrows would be located to improve taiko chances of survival to any great extent.

7.4 OPTION 4 (PREFERRED OPTION)

Protect taiko breeding burrows at known nesting sites, locate new breeding sites and establish a new taiko breeding colony nearby within a predator-free enclosure

This is the preferred option for recovery. An essential first step is to protect the known taiko burrows by undertaking predator control at nesting sites. Further searches to locate new breeding sites, or burrows which are being used by taiko, are also essential to ensure the maximum number of taiko are being managed and protected from predators. This option also requires the establishment of a predator-free enclosure within which a secure taiko breeding colony may establish. A breeding colony with adults, eggs and chicks secure from the threat of predation would improve productivity and adult

survivorship. This should lead to a population increase and would greatly reduce the threat of the species' extinction.

7.5 OPTION 5

Establish a taiko population on a predator-free island in the Chatham Group

This option is not recommended in the short or medium term. Historically, taiko have only bred on Chatham Island and all current taiko courtship behaviour occurs around the south-western corner of the Island. To maximise the chances of taiko finding breeding partners, birds should not be moved away from this known activity zone. In the long term, it may be possible to translocate taiko to safe sites on Rangatira, Mangere, or Pitt Island in order to establish new breeding colonies, but it will be many decades, if not centuries, before it will be possible to establish a second or further populations.

8. Objectives for term of plan

The objectives for taiko recovery for the term of this plan are:

1. Protect adult taiko and maximise productivity at all known taiko breeding burrows.
2. Locate additional taiko breeding burrows on Chatham Island.
3. Establish a secure taiko breeding colony in southern Chatham Island.
4. Improve understanding of taiko biology and population dynamics.

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 ADULT TAIKO AND MAXIMISE PRODUCTIVITY AT ALL KNOWN TAIKO BREEDING BURROWS

Performance measures

There is no loss of known breeding pairs, prospecting birds, eggs or chicks due to predation.

Explanation

With such a low number of known taiko breeding pairs it is essential that all practical measures are undertaken to protect these breeding birds and their chicks from predation each breeding season. The survival of taiko depends on the known burrows producing chicks on a regular basis.

Actions required

Action 1.1 Conduct predator control around all known, active taiko burrows and on known flight paths of fledglings

Explanation

Cats, pigs, weka and possums require control around all burrow sites that have been active in the previous three years, using current best practice, throughout each breeding season. There is a need to extend traplines down the lower Tuku Valley to protect fledgling taiko which may land on their way to the sea. Traplines in the lower Tuku Valley may also protect prospecting taiko. Rodent control is essential around all known or suspected breeding burrows between November and April. Predator control requirements will be reviewed annually to ensure all active burrows are adequately protected. Once the predator-proof enclosure has been constructed, it will be necessary to establish a predator control regime around it. Methods such as time-lapse video recorders will be used to monitor predator activity around managed burrows.

Priority

Essential

Responsibility

Chatham Island Area Office

Action 1.2 Monitor activity at all known taiko burrows each season

Explanation

Intensive monitoring of all known taiko burrows is required to accurately track the species' conservation status, and to determine the success of management actions. All known burrows that have been active in the last five years require monitoring throughout the breeding season in line with current protocols. Burrow monitoring devices will also be used to learn more about taiko activity and identity at breeding burrows. Close to fledging, chicks should have lightweight transmitters attached to enable it to be ensured that they safely make it out to sea. Video monitoring of active burrows is a useful method to ascertain how many or what individual birds are visiting the burrow.

Priority

Essential

Responsibility

Chatham Island Area Office

Action 1.3 Develop techniques to enable taiko eggs and chicks to be manipulated, if required, to maximise taiko productivity

Explanation

Hand-rearing techniques may be used to ‘rescue’ taiko chicks found to be abandoned or those being improperly nourished by their parents. This will require the installation of study holes over nesting chambers and the ability to check chick condition with minimal disturbance to the birds. Artificial incubation and hand-rearing techniques are currently being tested on an analogue petrel species, grey-faced petrel *Pterodroma macroptera gouldi*. Further trials are required on analogue species before these techniques can confidently be applied to taiko. Research initiated in 1999 will compare survival rates of petrel chicks reared on artificial diets with those on natural diets. Criteria need to be developed for recognising abandonment by adults, and research on an analogue species is needed to determine the impact that manipulation of eggs or chicks would have on breeding birds, such as on burrow and mate fidelity and on frequency of breeding.

Priority

High

Responsibility

Wellington Conservancy

Chatham Island Area Office

Biodiversity Recovery Unit

OBJECTIVE 2. LOCATE ADDITIONAL TAIKO BREEDING BURROWS ON CHATHAM ISLAND

Performance measures

Annual searches to be made within 20 metres of all active taiko burrows, and four further telemetry operations to search for taiko breeding burrows to be completed by 2011, using current best practice, subject to sufficient funding.

Explanation

Until the 1999/2000 season, only six taiko breeding burrows had been located. This is a small number of burrows from which to recover a population, particularly a slow-breeding species. Enormous effort has gone into locating taiko burrows within the last decade, and it is considered likely that further burrows exist in the forests of southern Chatham Island. Additional breeding burrows which can be protected from predators will increase the chance of the species’ survival.

Actions required

Action 2.1 Undertake annual burrow searches around active taiko burrows

Explanation

Ground searches within 20 metres of all active burrows should be conducted annually as there may be more burrows of established pairs or prospecting birds in the vicinity. The new colony area located during the 1999 telemetry operation and any burrows discovered in new areas will require thorough, systematic searches to be conducted in the surrounding area to find any additional burrows nearby.

Priority

Essential

Responsibility

Chatham Island Area Office

Action 2.2 Capture and band taiko at the 'light site' in the lower Tuku Valley in association with telemetry-based burrow searches every 2–3 years

Explanation

Use of the light site in the lower Tuku Valley has been a key technique used to capture taiko coming ashore or leaving the breeding grounds for sea. Since 1978, 66 new taiko have been captured and banded using this technique. It has also enabled transmitters to be fitted to birds, thus leading to the location of burrows. Burrow searches have involved radio-tracking transmitted birds caught by spotlights and then ground searching around landing sites. In addition, there have been ground searches around the known breeding burrow sites and in likely taiko breeding locations (such as high points in the Tuku and Awatotara Valleys). It is proposed to continue with these search techniques. Further searching is required in the Tuku and Awatotara Valleys and also in the Waipurua and other smaller valleys in southern Chatham Island.

Priority

High

Responsibility

Chatham Island Area Office

Wellington Conservancy

Taiko Expedition

Action 2.3 Conduct searches using a trained dog to locate new taiko burrows

Explanation

Another method to locate new taiko burrows is to use a dog trained in searching for petrel burrows. A dog used during the 1999 telemetry operation successfully located a number of sites where there was taiko activity. Searches using a dog

should be carried out between November and January. At least ten days' search effort should be conducted in association with each telemetry operation, and other searches should be carried out as opportunities allow. The dog and its handler require prior approval to work with taiko from the Department of Conservation dog certification scheme.

Priority

High

Responsibility

Chatham Island Area Office

OBJECTIVE 3. ESTABLISH A SECURE TAIKO BREEDING COLONY IN SOUTHERN CHATHAM ISLAND

Performance measures

(1) Construction of a predator-proof enclosure that meets the standards determined by field trials within the next three years, subject to funding and landowner approval.

(2) Eradicate all cats, weka, possums, and pigs from the fenced area, control rodents to zero density and set up sound attraction units and artificial burrows at the site within one year of completing the fence.

Explanation

It is considered essential for the survival of taiko to establish a secure breeding colony. A longer-term cost-effective method is required to control predators of taiko including cats, pigs, weka, and possibly possum. A fenced area that excludes all cats, weka and pigs is proposed as the best long-term solution. Rodents will also require control within the fenced area. An upgrade of the fence to exclude rodents may be undertaken once taiko establish at the site, and if rodent control proves to be insufficient to protect breeding taiko. It is not considered feasible to fence around existing taiko nest sites due to their scattered locations and the difficult terrain with dense forest cover. It is proposed that a new site is prepared and that taiko be lured to the secured area.

Actions required

Action 3.1 Field test predator-proof fence in the Chatham Islands

Explanation

Research has been undertaken by Wellington Conservancy to develop a fence capable of excluding cats, pigs, weka, and possums (Aikman 1999). This fence design will be tested in the Chatham Islands to ensure that it can withstand local weather conditions.

Priority

High

Responsibility

Chathams Area Office

Action 3.2 Record taiko vocalisations and observe responses of taiko to different calls

Explanation

Some research has been undertaken in New Zealand on establishing burrowing seabirds at new sites using taped calls to lure birds, but additional work is needed on the responses of *Pterodroma* petrels. Recordings of taiko vocalisations need to be obtained from breeding and prospecting birds. Research is required with these calls to see whether sexual and individual differences occur, how the calls function in courtship and nest defence, and which vocalisations are important in attracting birds to the ground. This information needs to be gathered prior to the completion of the predator-proof fence. D. Crockett has proposed work to play calls of taiko at Otawae Point/Point Gap to see whether taiko can be attracted to the area. Predators in the area need to be controlled to ensure that no taiko landing in response to a taped call are preyed on.

Priority

High

Responsibility

Taiko Expedition

Chathams Area Office

Science Technology and Information Services

Action 3.3 Build a predator-proof fence that meets minimum field-trial standards at Sweetwater Covenant

Explanation

Sweetwater Covenant, owned by Bruce & Liz Tuanui, has been selected as the preferred site for the construction of a predator-free enclosure and the establishment of a secure taiko breeding colony. This site is suitable because the area can be fenced effectively, there is landowner agreement, there is historic evidence of taiko presence at the site, and it is known to be on a taiko flight path and provides unobstructed flight routes for departing chicks. Erection of a predator-proof fence is planned once research on the fence design is complete. Cats, pigs, weka, and possums within the enclosure will be removed and rodents will be controlled to zero density within the fenced area.

Priority

High

Responsibility

Chatham Island Area Office

Action 3.4 Develop techniques on analogue species to translocate and hand-rear petrel chicks

Explanation

Techniques undertaken in New Zealand to attract petrels to new sites have included translocation of chicks near fledging, so that the chicks will regard the transfer site as their natal area and return there to breed. Over the next five years, further research needs to be undertaken to increase understanding of the best age to transfer chicks to maximise survival and rates of return and to minimise disturbance to breeding pairs. By removing chicks for hand-rearing it may be possible to enhance the productivity of breeding pairs, but impacts on burrow and mate fidelity would need to be monitored closely. Further work is proposed to perfect the techniques of hand-rearing chicks using the closely related grey-faced petrel. Close to 100% survival rates will be required before these techniques could be used on taiko.

Priority

Moderate

Responsibility

Wellington Conservancy

Science Technology and Information Services

OBJECTIVE 4. IMPROVE UNDERSTANDING OF TAIKO BIOLOGY AND POPULATION DYNAMICS

Performance measures

(1) Annual collation and analysis undertaken of biological data collected during management to improve understanding of taiko breeding biology, diet and population dynamics.

(2) Video monitoring of taiko breeding burrows undertaken during chick rearing over the next three breeding seasons, to gain information on chick feeding patterns and chick behaviour.

Explanation

The small population number, Critically Endangered conservation status, and inaccessibility of burrows mean that relatively little is known about taiko. Understanding of taiko biology has come more from research on closely related petrel species than on taiko itself. Information on taiko biology and its population dynamics is essential to plan properly for the species' recovery. When managing taiko, all opportunities to gather and record data should be taken. Information collected needs to be compiled and analysed annually to determine population trends and to direct management actions.

Actions required

Action 4.1 Capture and individually mark taiko at known burrows and analyse capture information and burrow monitoring data

Explanation

All taiko captured should be metal banded and marked according to current best practice (e.g. colour bands or transponders) to aid identification of individuals without repeat handling. This will enable information to be gained during burrow monitoring (Action 1.2) on adult survival, chick recruitment, and other key population parameters. This burrow information will require collation and basic analysis annually. More detailed analysis of some aspects of the data may be undertaken every 2-3 years. To ensure that taiko are placed under minimum stress and that essential information to guide management is collected, a protocol for handling taiko has been developed (Turner & Williams 1999b). The protocol needs to be adhered to whenever birds are handled and the document fine-tuned as new information is gained.

Priority

High

Responsibility

Chatham Island Area Office

Wellington Conservancy

Science Technology and Information Services

Action 4.2 Collect and analyse information on taiko diet, and chick feeding and behaviour

Explanation

Diet samples should be collected whenever birds regurgitate food during handling. These should be sent to Science Technology and Information Services. Analysis of these samples will provide valuable information on the diet and feeding behaviour of taiko, and this will assist with the development of hand-rearing techniques. Video surveillance at burrows will be used to establish the frequency of feeding during chick rearing, any desertion period leading up to fledging, and when chicks start to come to the burrow entrances. Information collected during the video surveillance will be used to guide future chick transfers.

Priority

High

Responsibility

Chatham Island Area Office

Science Technology and Information Services

Action 4.3 Collect blood samples from all new taiko handled to determine sex

Explanation

Taiko sexes are difficult to establish except by examining birds after egg laying or by analysis of blood samples. Blood samples have been taken from captured taiko since 1996 and this should continue to be done for all birds not yet sampled. Only people experienced in taking blood should take samples. Blood samples should be analysed annually to determine the sex of all newly sampled taiko.

Priority

High

Responsibility

Chatham Island Area Office

Science Technology and Information Services

Massey University

Action 4.4 Analyse blood samples to study family relationships

Explanation

Blood samples collected for sexing of taiko can also be used to improve our understanding of the relationships between individual birds, which will assist management. Establishing parentage of prospecting birds may reveal whether undetected pairs are successfully breeding. A two-year research programme at Massey University has so far revealed a high level of genetic variability among sampled taiko. This high variability is probably explained by the taiko sampled being descended from an historically large population. New samples collected should be analysed every 2-3 years, subject to funding being available.

Priority

Moderate

Responsibility

Wellington Conservancy

Science Technology and Information Services

Massey University

Action 4.5 Undertake a study of taiko taxonomic relationships

Explanation

An analysis of bone material will provide information on the distinctiveness of taiko, and its relationship to other *Pterodroma* petrel species.

Priority

Lower

Responsibility

Science Technology and Information Services

Massey University

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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