Kakapo Recovery Plan 1996–2005

THREATENED SPECIES RECOVERY PLAN NO.21

Department of Conservation
Te Papa Atawhai

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l. Background

The kakapo is a large flightless nocturnal parrot, the heaviest and probably the most unusual parrot in the world. Attempts to save it from extinction started in 1894, when Richard Henry shifted several hundred birds from Fiordland to offshore islands - stoats arrived a few years later, and the attempt failed. Since the mid 1980s, the decline of kakapo has been arrested by maintaining them on islands rather than trying to protect surviving birds on the mainland.

This hard-earned, limited success has been made difficult by the kakapo itself: nocturnal, secretive, and camouflaged. These large parrots are extremely vulnerable: the downy and helpless chicks are easily victim to various predators, as indeed are kakapo of all ages, since they spend much of their time on the ground and are unable to fly to safety. The birds' very low breeding productivity, the apparent naivety of some individuals, which do not try to escape predators, all contribute to their vulnerability.

There are 50 known living kakapo in the world. The survivors of this formerly widespread endemic species have now been concentrated on three offshore islands: six females and 12 males on Little Barrier Island (Hauturu) in the Hauraki Gulf, three females and three males on Maud Island (Te Pakeka) in the Marlborough Sounds, and ten females and 16 males on Codfish Island (Whenua Hou) near Stewart Island.

The surviving birds are relatively old (only six are known to be less than 17 years old), and many are probably beyond their most productive years. Without help that encourages breeding and protects them from predators, particularly kiore *(Rattus exulans),* kakapo will become extinct. Since 1989, only five females are known to have produced fertile eggs, and the number of chicks fledged has been less than the number of adults that have died.

While recovery efforts have been primarily concerned with protecting birds, and finding and keeping track of them, systematic observation and protection has only recently become feasible. New technology for radio tracking and observation make finding and watching birds much easier than it has been in the past. Field staff now use remote video systems, for example, to monitor the birds' behaviour and to help protect them from predators.

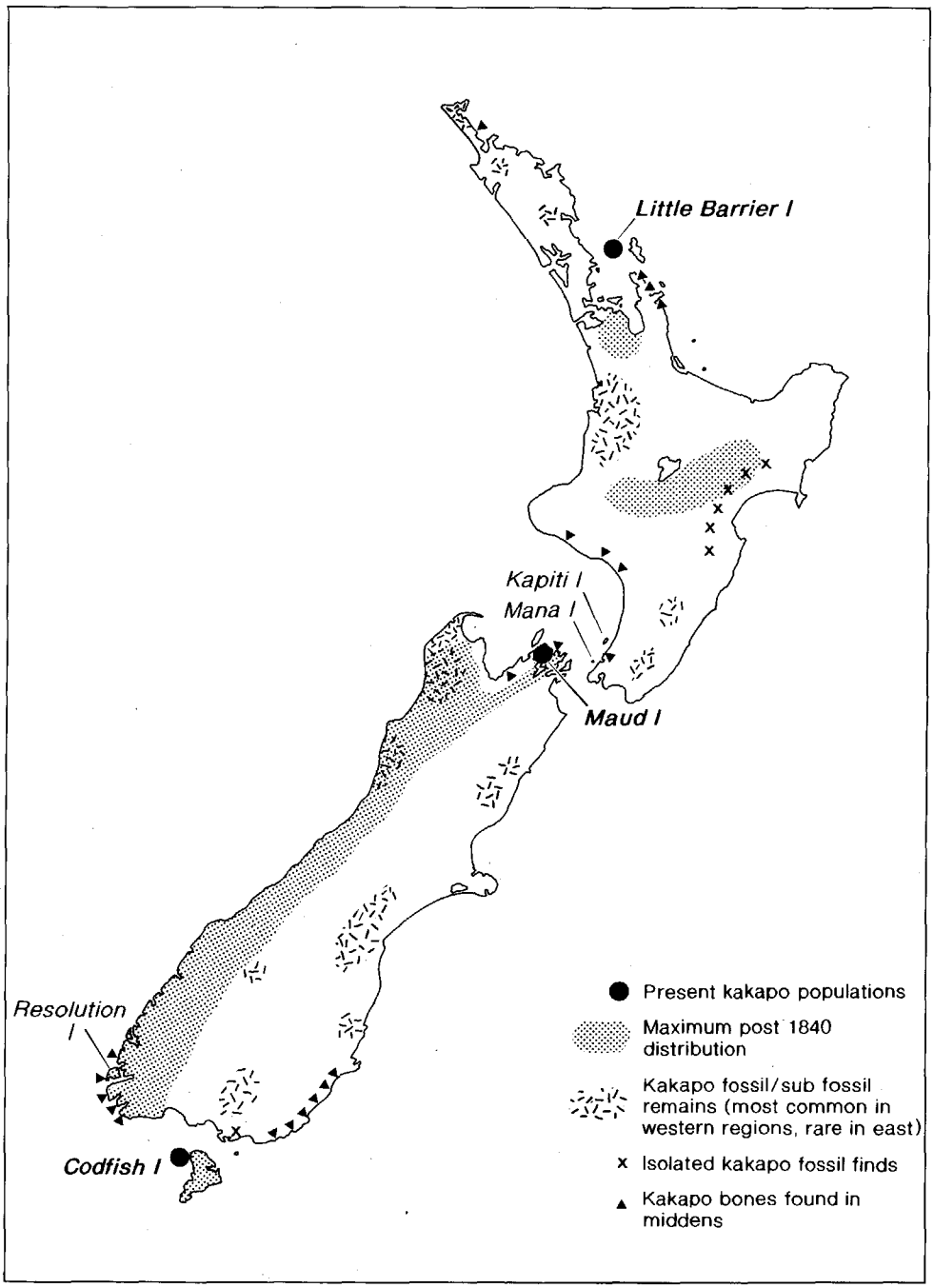
The first recovery plan for kakapo was published in 1989 (Powlesland, 1989). This plan described the status of the kakapo population and identified management and research priorities. Under the sponsorship of Comalco and in association with the Threatened Species Trust Programme, recovery work continued for the period 1989-94. The current document is a new recovery plan; it summarises the progress of the previous plan and presents the direction for the next ten-year period.

Information and techniques used in implementing this recovery plan will provide a basis for applications in many other fields of wildlife management; work done here will also contribute substantially to work being done on other species in other ecosystems.

2. Distribution and Decline

At the beginning of the last century kakapo were relatively widespread. Fossil and subfossil remains show they were even more widespread before 1800 (see map).

The first Polynesian settlers of New Zealand hunted kakapo (`night parrot') with dogs and prized the feathers as well as the flesh. By the 1840s Europeans and their dogs also hunted the birds. In 1845, the formal name *Strigops habroptilus* was given to the kakapo, beginning its existence in the books of European science.



Present and post-1840 kakapo distribution. Fossil/subfossil distribution data supplied by Trevor Worthy.

The birds' range was violently and quickly diminished: fires were set to clear the bush, and then (more devastating than fires) predatory mammals were introduced. Ferrets and stoats were imported to `solve' the problem of rabbits invading the new grazing lands. Rats and cats took their toll, too, as they did of many other native animals. In some places dogs were serious predators. Other environmental threats also existed. Newly introduced birds may have brought diseases with them, or may have competed for food. By the beginning of the twentieth century, goats, deer and possums were also competing for the kakapo's food supplies. Today, kiore are the most serious threat to kakapo on their islands.

By the middle of the twentieth century, the kakapo was extinct on the North Island but still persisted in parts of the South Island. In the 1970s, only a few isolated individuals were known to exist in Fiordland. The only survivor of this population, a bird named Richard Henry, is still alive on Little Barrier Island. The last known natural population of kakapo was found on Stewart Island in 1977, but the threat from feral cats on the island was considered so high that all known birds were airlifted by the Wildlife Service and the Department of Conservation to offshore island refuges.

The three island populations comprise all the known kakapo. They are listed as a `critically endangered species' under the new IUCN criteria (version 2.3, 1995) and as a Category A species in the Department of Conservation threatened species list (Molloy and Davis, 1994).

3. History of Kakapo Conservation

Early attempts at conservation centred on finding the birds and transferring them. Best and. Powlesland (1985: 29-30) give an account of the history of kakapo management:

Subadult female, Maud Island, 1992. Photo: G. Climo

"The first major conservation efforts made for kakapo were carried out by Richard Henry, who was appointed by the government to be caretaker of Resolution Island (Fiordland) in 1894. In less than six years, he transferred 350-400 kakapo from Dusky Sound to predator-free islands. Regrettably, his efforts came to naught as stoats swam to the islands and killed the kakapo.

"Three kakapo were put on to Little Barrier Island in 1903, but they were most likely killed by cats. As well, three birds (probably all

males) were put on to Kapiti Island in 1912; the last sighting was 24 years after their release.

"Between 1949-69 the Wildlife Service made more than 60 expeditions to find kakapo, but birds were recorded only in Fiordland. As it was considered ¡mpracticable to continue research and management of the species in the wild (owing to the extreme logistical difficulties of operating on foot in the kakapo areas) it was decided to try breeding kakapo in captivity. Though five birds were taken to Mt Bruce Native Bird Reserve in the early 1960s, all were males and only one survived for more than a year.

"In 1974-75 three males were taken from Fiordland and liberated on Maud Island. Both male and female birds were discovered on Stewart Island in 1977. To escape cat predation, 1 male and 3 female Stewart Island birds were moved to Maud in 1980-81, and 11 males and 7 females to Little Barrier in 1982, the latter only just cleared of cats."

Thirty kakapo (20 males and 10 females) were transferred to Codfish Island between 1987 and 1992. Two females and two males were transferred from Maud to Little Barrier Island in 1982.

Since 1974, observation of kakapo by staff of the NZ Wildlife Service and Department of Conservation, TVNZ, and universities has provided basic information on the birds' activities. Research on Stewart Island on the relationship between diet and breeding led to the establishment of a supplementary feeding programme on Little Barrier Island in 1989.

In 1992, three non-supplementary-fed females on Codfish Island produced six chicks, but tree fruits failed to ripen. Owing to a combination of starvation and predation, only one chick survived. Hoki was hand-reared by Auckland Zoo staff, the first kakapo to be successfully reared in captivity; she is now on Maud Island.

After the disastrous season in 1991-1992 on Codfish Island, the supplementary feeding scheme was extended to include female kakapo on all islands as far as practical. Fourteen of the 19 known females now take supplementary food.

Now that these adults are secure, individually identified and monitored, it will be possible to focus all effort into the second stage of the recovery operation. This will concentrate on maintaining and enlarging the present population, specifically by protecting eggs and chicks from kiore which are still present on Little Barrier and Codfish islands, and on acquiring the information needed to encourage the birds to breed.

Such population expansion needs close-order management of kakapo and research on all aspects of their biology. Research needs include investigation of diet and nutrition, environmental factors that trigger breeding, captive breeding and rearing, eggs and chicks, health of eggs and chicks and adults, and further development of techniques and equipment for non-invasive and non-intrusive monitoring, marking, and manipulation of kakapo.

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