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THE KAKAPO (Strigops habroptilus, Gray, 1847)
ITS FOOD, FEEDING AND HABITAT IN
FIORDLAND AND MAUD ISLAND.

A thesis presented in partial
fulfilment of the requirements for the degree
of Master of Science in Zoology at
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ABSTRACT

An extensive Wild Life Service conservation program to save the Kakapo parrot from extinction has permitted the collection of feeding data in Fiordland and on the sanctuary, Maud Island in Pelorus Sound, between November 1974 and March 1977. Four expeditions, each of 4 to 6 weeks between January 1975 and March 1977 enabled my spending over 4 months in the Fiordland Kakapo areas and a further 6 weeks was spent in the Kakapo search on Stewart Island in July and August 1977.

A total of 15 occupied Kakapo territories in Fiordland were found over the two and a half year period. Kakapo from 3 of these territories were moved to Maud Island and monthly visits between September 1975 and August 1976 enabled regular collection of droppings for faecal analysis study.

A combined appraisal of feeding sign and faecal content, using cuticle analysis techniques has enabled a more accurate understanding of the Kakapo's diet and its seasonal variations to be determined. The mobility of the Kakapo could also be roughly estimated and on Maud Island it appeared the Kakapo were learning to obtain new foods.

Investigation of faecal material has confirmed early reports that Kakapo are herbivorous. No insect or animal parts were found in fresh droppings. The variety of plants fed upon was extensive. In Fiordland 79+ species of herbs, grasses, shrubs and

trees have been identified and on Maud Island 28+ species. Roots, rhizomes, twigs, leaves, buds, flowers, flower-stems, fruits and seeds are utilized.

Feeding areas in Fiordland have all been found in the vicinity of the male Kakapo's track and bowl systems. These are generally located about tree line at approximately 1050 meters. The tree line in many areas is lower than expected, however, due to terrain and avalanche damage. Kakapo feeding areas, associated with track and bowl systems extend from 550 meters to 1200 meters above sea level.

On Maud Island feeding sign and droppings found were concentrated on or close to recently excavated roads, although it was apparent the birds were covering an extensive area from the coast to the summit (350m).

The Kakapo bill is adapted to crushing and extracting nutrients and enables a large proportion of fibre to be retained in the bill. The fibre is frequently squashed into a kidney shaped pellet which is expelled from the mouth. A preliminary investigation into nutrient values of Kakapo food plants is presented and it is suspected the birds select the most nutritious plant species and plant parts as food.

On Maud Island the vegetation available as food for Kakapo in preliminary analyses appears to be of greater nutritional value than in Fiordland.

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The Fiordland National Park Board provided a grant to cover travel expenses to and from the Park for one expedition. I thank them for this and for permission to collect Kakapo feeding sign in the Park.

A large number of Wild Life personnel and volunteers have participated in the Kakapo program over the last two and a half years in Fiordland, Stewart Island and Maud Island. They have searched for these birds over vast areas of some of the most rugged terrain in New Zealand often without the satisfaction of finding Kakapo sign, let alone seeing a Kakapo. It is only through the combined efforts of these search parties that Kakapo areas have been pinpointed. It has been my privilege to visit most of these areas after Kakapo sign had been

found. I am most appreciative of the efforts of these people.

I wish to thank Mr.D.V. Merton, who was in charge of the Kakapo program during this time. He not only encouraged me and arranged for me to do this study, but also by his efforts ensured the best possible results.

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PLATE 1

(R.B. Morris)

THE KAKAPO

(Strigops habroptilus, Gray, 1847)