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The kakapo are one of the country's rarest birds and might remain that way because, as CAMILLE GUY reports, the official breeding programme uses suspect feeding practices.

What's KILLING the KAKAPO?

NO COVER-UP:
Kakapo Recovery manager Paul Jansen ... commercial feed proven for seven years.

THE kakapo are one of the sad handful of New Zealand bird species that teeter on the brink of extinction. Within a year of the kakapo's rediscovery in Fiordland in 1974, the first recordings had been made of the kakapo's booming courtship call. But if any courtship was taking place, there was no sign of any chicks. The fact that the 18 birds located by 1977 were all male suggested an aged, fragmented, single-sex population — beyond recovery, technically already as dead as the dodo.

But later that year about 200 birds were discovered on Stewart Island. When four females, the first seen since the turn of the century, were captured, saving the kakapo began to look like a real possibility.

To save the Stewart Island population from total destruction by feral cats, kakapo were transferred to four other islands. Booming

was heard for the last time in Fiordland in 1987, and the species is now presumed extinct on the New Zealand mainland.

But leaving kakapo on small protected islands to do their own thing did not produce the desired result. None bred in seven years on Little Barrier Island.

After learning that both male and female kakapo put on weight before breeding (a 60 to 100 per cent weight gain, usually following a good rimu fruit crop, and there are no podocarps on Little Barrier), supplemental feeding with vegetables, nuts and commercial bird-feed seemed like a good idea.

It was tried with encouraging results. Four of five females given supplementary feed on Little Barrier laid eggs, two of them in successive years. In 1991 two young were raised. But despite this early

promise, the kakapo have singularly failed to breed.

The entire kakapo population is now 34 males and 20 females. About half the females may still be potential breeders, although the two youngest are six and 16 years old.

Until the latest breeding season, the 10-year tally was 40 eggs laid and six chicks produced.

This year 12 eggs were laid by six birds — all on Codfish Island, off Stewart Island. Only seven eggs were fertile. Three males survived, but the one much-wanted female, Grommet, died at 80 days — reportedly of systemic failure of major organs.

The reasons for this poor breeding and survival rate are hard to pin down. Certainly those in the field spare no efforts. The birds are tracked with radio transmitters. Nifty technology diverts predators from nests. Heating pads are used

to warm eggs if hens wander away for too long.

An asthma nebuliser saved the life of one of this year's chicks — which is great news because, although a trifle wheezy, Sirocco has turned out sexually precocious, and not above trying to copulate with people as well as birds.

Despite the efforts of those hard-working field officers, the kakapo seems no surer of survival than when first rediscovered 23 years ago. But according to scientists and bird experts, the reasons for that may lie in what the unwitting field officers have been feeding their precious charges.

THE *Herald* has obtained the minutes of a private meeting held on November 22, 1994, in Wellington. The gathering of 13 included Lincoln University animal science Professor Cliff Irvine and the dean of the Massey University school of veterinary science at the time, Professor Peter Stockdale. Don Merton of the Department of Conservation, analytical chemists and other conservation scientists were at the meeting convened by Kerry McDonald, managing director of Comalco New Zealand, the company that sponsors the kakapo Recovery Project.

Their agenda? "Open, unconstrained discussion" was proposed on the sensitive topic of whether the imported pellet food the birds were being encouraged to eat might in fact be poisoning them.

Members of the Kakapo Recovery Project (a joint effort by Comalco NZ, the Department of Conservation, and the Royal Forest and Bird Society) had mixed feelings about that worrying suggestion.

Department staff knew they were venturing into tricky territory. An internal briefing note on the proposed meeting spoke of "major commercial concerns" about the supplementary food products.

It suggested strategies for circumventing any pressure to withdraw the commercial foodstuffs from the kakapo diet.

"You need to be prepared to say DoC will withdraw them" the briefing continued. But the concerned scientists "may

advocate softer options — further research, investigating alternatives, etc — which puts you in an easier position. You may not even have to indicate a management position, but the role is to give one if needed."

The minutes and typed summary obtained under the Official Information Act contain some highly technical discussion. The chemists present shared their analyses of several soy and alfalfa-based commercial foods fed to kakapo.

They tried to determine the likely presence and ill-effects of what were called anti-nutritional factors — trypsin inhibitors, lectins, goitrogens, isoflavones, phytates and saponins.

These nasties could have ill-effects on birds (and mammals) ranging from precocious development, infertility and atypical sexual behaviour, to mineral depletion, cancers, immune system suppression, complete system collapse and massive internal haemorrhage.

Department officials at the meeting said they had been using one of these products for hand-rearing kakapo chicks since the late 1980s — on the basis that the keeper at Auckland Zoo had successfully reared kaka and kea on it, and intended hand-rearing kakapo on it.

But two of the captive zoo kakapo died of aspiration pneumonia. Professor Stockdale, present at the 1994 meeting, did the autopsies but said he could only hypothesise about why they died.

Professor Cliff Irvine from Lincoln said that if the isoflavones present in the feed were the source of problems, they would target brain, uterus, cervix, skin and bone tissue. He had studied isoflavones for 30 years and thought it likely they would have similar effects on birds as on mammals.

A health-food company chemist with expertise in the area sent his thoughts to the meeting on a tape-recording.

"Given the range of potential toxins that have been identified and the fact that so little is known about their biochemical pathways, it seems very risky to feed it to any animal species, especially one which is endangered. I sure as hell couldn't feed it to the kakapo," he said.

Merton, of the Black Robin programme, responded that the pellets were convenient, provided a complete and balanced diet, and did not have to be kept fresh. As far as parrots were concerned the concerns raised were speculative, and trials were needed.

Another department official, Brian Lloyd, said a prudent risk management strategy would be to withdraw soy-based commercial foods, and certainly not to feed hand-reared chicks with them.

Most of the scientists present acknowledged there was some or "real" risk.

The present Kakapo Recovery manager, Paul Jansen, told the *Herald* this week that as far as he knew, the feeding of adult kakapo with pellet food was given up about 1993. But use of one of the commercial hand-rearing foods has continued.

He says he had no warning from department staff.

Jansen is unsparing of himself. If he or his team are in any way responsible for kakapo failure to thrive, then he wants no cover-up.

When challenged about the use of commercial feed, Jansen replies that kakapo team staff responsible for hand-raising say they use it because it is readily available and proven for seven years by other parrot breeders to have been effective. It produces good growth when used on native parrots, and that the evidence against its use is doubtful.

NONE of the scientists at the 1994 meeting say that commercial products have caused the kakapo to die or fail to breed.

But they say doubt is enough reason not to take the risk of harming the endangered bird.

There are alternatives.

Janice Edge, an aviculturist and editor of *Foreign Birds*, who has worked with native parrots, says she cannot understand why the department is using a highly processed foodstuff, developed for captive birds, to feed the kakapo, which is accustomed to a high-roughage diet.

Local bird-breeders with experience of native parrots have developed their own mixes for different species, she says.

"DoC say they can't go using anybody's home brew without scientific data."

Nelson aviculturist and zookeeper Carol Pike says feeding kakapo commercial foods is the lazy man's way of doing it. "The trouble with DoC is they don't trust parrot breeders — they think we're all smugglers and people of ill-repute."