

Predator control to enhance breeding success of the New Zealand fairy tern *Sterna nereis davisae*, North Island, New Zealand

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SUMMARY

Following predator control, the population of New Zealand fairy tern *Sterna nereis davisae* increased from five breeding pairs to 35-40 individuals.

BACKGROUND

The New Zealand fairy tern *Sterna nereis davisae* (a sub-species of the Australian fairy tern) is a critically endangered small shore bird. They only nest on sand spits and beaches near estuaries or rivers in the north of North Island. Eggs are laid in early November to mid January. After an incubation period of 21-23 days, chicks take about the same time again to fledge. Juvenile birds are initially very reliant on their parents and do not leave them for a good three weeks after fledging, learning to catch small fish and being fed by their parents during this time. In 1987 the populations reached their all time low of five breeding pairs spread between three locations, Mangawai, Papakanui and Waipu. The terns were being decimated by a suite of introduced mammalian predators - cats *Felis catus*, hedgehogs *Erinaceus europaeus*, stoats *Mustela erminia*, ferrets *M. putorius*, weasels *M. nivalis*, Australian brush-tailed possums *Trichosurus vulpecula* and rats *Rattus* spp.

ACTION

Predator control: Trapping of predators began in 1992 and is ongoing. Traps used include leg hold traps and kill traps (Victor No. 1.5, Fenn No. 4 & 6) and snap traps. In conjunction with trapping, spotlighting and shooting at night is undertaken. Trap density and location varies according to position of likely nest sites, then adjusted around sites of actual nesting birds e.g. 14 km of trap lines were employed at Papakanui (2,500 ha) and

moved to accommodate erosion and nesting pattern. Here, the trapping grid consisted of 50 soft jaw Victor traps and 100 Fenn traps, plus some targeted shooting of predators.

Nest monitoring: Wardens located tern nests and monitored them on a daily basis. The eggs are 'candled' soon after they are laid to determine fertility. (Candling is the process of putting a torch to one end of the egg and shining it through therefore verifying if the egg is fertile - the embryo can be seen silhouetted inside the egg by the light). Where possible, "at risk" eggs were fostered out to other pairs of birds that had lost eggs, or their own were infertile. Eggs were only taken into captivity for incubation (then returned before hatching) if they were at risk e.g. from parents abandoning the nest, or from high tides.

CONSEQUENCES

Trapping success: On average 12 cats were trapped each year. Hedgehogs are also a major threat to the tern eggs and the chicks, and approximately 100 are caught per year. The population of the New Zealand fairy tern is now showing a 1.4% annual rise as opposed to a 1.5% decline.

Conclusions: The fairy tern population has risen (now around 35-40 individuals) through the combination of egg care and trapping, and in the last two years their nesting range has extended from three to four sites. Trapping and nest monitoring are ongoing, but conservation efforts are constrained by available funding.