Changing fortunes of the White-flippered Penguin

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The White-flippered Penguin is the distinctive form of the Little Penguin (*Eudyptula* sp.) that breeds on Banks Peninsula and Motunau Island. These appear to be geographically isolated sub-populations. While the colony on Motunau Island is 'safe' and increasing in numbers at about 2% a year, those on Banks Peninsula have declined at an alarming rate during the last 20 years. This decline is the result of sustained predation of adult birds in their nesting areas during autumn and winter. Ferrets have been responsible for most of the deaths but feral cats and stoats may also be involved. Predators have had an impact on all the colonies monitored; the most accessible were eliminated during the 1980s, while the less accessible have continued to decline in numbers. The overall number of breeding pairs on Banks Peninsula declined by about 60-70% between 1980 and 1993. The two monitored colonies least affected during this period have since halved in size, and a third has been lost entirely. There is growing evidence that inaccessible colonies are also being affected as some of their young birds attempt to recolonize adjacent areas prone to predation.

During the 1996-98 Penguin CAMP process the White-flippered Penguin was treated separately and classed as "Endangered" under the new IUCN criteria. Despite the obvious deterioration in their conservation status it is not yet serious enough to attract government funding. In the meantime the penguins are benefiting locally from predator trapping undertaken privately by farmers and others interested in their conservation.

Present and future research and management of Black Stilts

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Black Stilts (*Himantopus novaezelandiae*) are an endemic wetland species, found mainly in braided rivers of Canterbury. With the loss of quality braided river habitat through weed invasion, water abstraction, bank protection works and hydro-power schemes, and with the introduction of mammalian predators, the range and number of Black Stilts have dramatically declined. Intensive management began in 1981 and has reversed the decline towards extinction, but in recent years the number of black stilts has remained constant. Management of mainland species such as Black Stilts is difficult. Black Stilts are now one of New Zealand's rarest species. There are now 37 wild (9-12 females) and 20 captive adults, and there are only 9 – 12 adult females and 25 males in the wild. This sex imbalance has increased levels of hybridisation with Pied Stilts (*H. himantopus*), but despite the large numbers of Pied Stilts in New Zealand, Black Stilts remain genetically, morphologically and behaviourally distinct from Pied Stilts at the species level. We present a summary of the changes in management over the last 19 years, and show that these changes

have provided the tools to increase Black Stilt numbers in the wild in the next few years. However, all areas where black stilts breed have high densities of predators and continued habitat degradation, and none of these areas of land have Department of Conservation protection. Braided rivers remain the most neglected habitat type in New Zealand, and we call for an increased awareness of the importance of braided rivers for a range of bird species, and other fauna and flora.

Breeding success of birds and intensive research and management at Ruataniwha Wetlands

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We report results of the first two years of a six year management experiment. We compared waterbird nest numbers and success, and mammalian predator presence/absence in the Upper and Lower Ruataniwha Wetlands (URW and LRW) near Twizel. We also piloted techniques for monitoring lizard abundance and chick survival. URW comprises 11 ha of ponds surrounded by an electric fence, and is trapped during Spring. In the first two years of the experiment, LRW had no ponds, no fence, and no trapping. Cats, weasels, rats, mice, and possibly stoats and ferrets, occurred at low densities within the fence at URW, and were rapidly trapped. Hedgehogs, a major egg predator, were absent from URW. URW contained 54 nests in 1997 and 34 in 1998, approximately 30 times more than LRW in both years. Mean nest success in URW was 92 % (70/76), significantly higher than that in LRW (25%; 1/4). Nest success of Banded Dotterels (*Charadrius bicinctus*) in URW was greater than that reported for 13 previous studies of Banded Dotterels in riverbeds in Canterbury (range: 32 – 87%; mean: 59%). The pilot studies showed that measuring lizard abundance was not feasible with our resources, but measuring chick survivorship is feasible, and will be done at both sites in future.