

The Editor

Sir

Weka and petrels: a reply

In the recent short note on weka (*Gallirallus australis*) predation of sooty shearwater (*Puffinus griseus*) chicks (Harper 2006), I suggested that small populations of petrels may be at some risk of extirpation through predation by weka. Hawke & Holdaway (2005) were quoted, in reference to the population of Westland petrels (*Procellaria westlandica*), but this recent reference was used solely as a current, and increasing rare, example of weka and petrels co-existing. The reference was not cited as an example of predation of Westland petrel chicks by weka, as incorrectly asserted. Indeed, it is encouraging to note that the adult survivorship and fledging success is high in the Westland petrel population studied, although even this paper highlights the threat of predators to small mainland colonies of Westland petrels and other petrels elsewhere (Cuthbert 2002; Waugh *et al.* 2006).

It should be noted that petrels and terrestrial native bird species co-existed and evolved with weka and other extinct avian predators (Holdaway 1999; Worthy 2001), and prey species evolved attributes allowing survival of a population subject to avian depredation. It is probable that only when weka reach high densities, such as on seabird islands, or where a prey species numbers are depleted, would weka then threaten the survival of a bird population. These situations now often exist as a result of human interference, through transfers of weka outside their normal range or introductions of additional exotic predators. In a 'natural' situation it is likely a healthy bird population would exist alongside weka. Indeed, as most, if not all, weka sub-species currently exist in low numbers, management of their remaining natural populations should strive for their conservation and recovery, because weka are an integral part of the suite of birds that once existed in New Zealand, rather than simply another predator.

LITERATURE CITED

- Cuthbert, R. 2002. The role of introduced mammals and inverse density-dependent predation in the conservation of Hutton's shearwater. *Biological conservation* 108: 69-78.
- Harper, G. 2006. Weka (*Gallirallus australis*) depredation of sooty shearwater/titi (*Puffinus griseus*) chicks *Notornis* 53: 318-320.
- Hawke, D.J.; Holdaway, R.N. 2005. Avian assimilation and dispersal of carbon and nitrogen brought ashore by breeding Westland petrels (*Procellaria westlandica*): a stable isotope study. *Journal of zoology (London)* 266: 419-426.
- Holdaway, R.N. 1999. The late Holocene avifauna of Canterbury. *Notornis* 46: 406-407.
- Waugh, S.M.; Doherty, P.F. Jr.; Freeman, A.N.D.; Adams, L.; Woods, G.C. Bartle, J.A.; Hedley, G.K. 2006. Demography of Westland petrels (*Procellaria westlandica*), 1995-2003. *Emu* 106: 219-226.
- Worthy, T. H. 2001. A fossil vertebrate fauna accumulated by laughing owls (*Sceloglaux albifacies*) on the Gouland Downs, northwest Nelson, South Island. *Notornis* 48: 224-233.

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