

Foraging areas and behaviours of a managed Hutton's shearwater colony on the Kaikoura Peninsula

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The Hutton's Shearwater Trust has been working tirelessly since October 2008 to conserve the endangered Hutton's shearwater/Titi (*Puffinus huttoni*) that is endemic to the Mountain region of Kaikoura. The decline in the number of Hutton's shearwater colonies in this region, in combination with the decline noted in the red-billed gulls in the Kaikoura region (note report on website from Jim Mills' work and Mills et al. 2008) brings urgency to further study the Kaikoura coastal productivity and to understanding the foraging behaviours of these important seabirds.

Understanding seabird diet is particularly important for the conservation and management of a species, as food availability is dependent on environmental conditions that can affect the temporal and spatial distribution of prey species and in turn affect breeding and chick rearing. These conditions can lead to a mismatch in resources and cause low growth rates, low fledging success and high chick mortality. To date, very little is known about the diet of the Hutton's shearwater, and the studies available have been based only on gut content found within dead carcasses.

The Birds New Zealand Research Fund has allowed the purchase of monitoring loggers (depth, temperature, wet/dry and time). These will be used to assess the daily foraging behaviour of Hutton's shearwater adults from the Kaikoura Te Rae o Atiu Peninsula colony. These loggers will allow the construction of an accurate activity budget and maximum diving depth.



With the miniaturisation of technology we are now able to investigate activities and behaviour of species that can potentially forage kilometres offshore. Traditionally this has caused great problems in assessing their daily activities, which may include time spent flying, diving, and resting on the sea surface but also time spent in the colony.

The data collected by the loggers will be integrated with stable isotope analysis of the bird's feathers and the Kaikoura nearshore food-web (fish and plankton) to investigate the birds' potential diet. These are vital resources given the diverse marine habitats surrounding the Kaikoura Peninsula. We are very grateful to Birds New Zealand for the opportunity to track these birds.

Della Bennet collecting larval fish and plankton samples for stable isotope analysis.