

Linking people, places and birds: BirdsNZ wader counts and resightings feed into full-annual cycle population model

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Species that range over vast areas throughout their annual or life cycle pose a difficult conservation challenge, because management may be required at certain times or over large spatial scales. At the same time, broad scale monitoring is needed to provide data on population trends. South Island pied oystercatcher (Tōrea; *Haematopus finschi*) exemplify this challenge. They are a charismatic herald of spring in many inland areas – particularly in the South Island – before they return to coastal sites across New Zealand for autumn and winter.

Manaaki Whenua has teamed up with the Department of Conservation, Birds New Zealand, Pūkorokoro Miranda Naturalists' Trust and Otago Regional Council to better understand population dynamics and movements on tōrea. The species is currently classified as 'At risk - Declining' by the New Zealand Threat Classification. Reasons for the decline are likely a combination of a change in farming practices on breeding grounds, predation of eggs and young by invasive mammals, reduced food availability and roosting and breeding space through invasive plants in river coastal winter areas and breeding areas and other changes in food availability in estuaries. Current conservation management by the New Zealand Department of Conservation consists primarily of predator trapping and weed control at a few riverbed sites. Likely new threats are increased on and offshore wind turbine developments and solar farms increasing collision risk of individuals.

Manaaki Whenua – Landcare Research wants to develop a full-annual cycle population model that integrates several national, regional and local datasets spanning from ca. 1980 – 2024 to assess drivers of population dynamics and provide information to improve management. The population model will use data from ongoing regular winter wader counts across New Zealand coupled with mark-resight data from key sites. Both of these data sets exist primarily due to the efforts of BirdsNZ members which have kept up the incredible effort to count wintering shorebirds nationwide and report marked birds.

In addition, Manaaki Whenua's carries out research on breeding grounds and follows birds from one breeding ground to various wintering grounds. This intensive field work has been supported by Ministry for Business and Innovation Strategic Science Investment Fund and Environment Canterbury through the Regional Braided River Initiative Fund, and also informs local conservation work. The Department of Conservation and partners are working across wintering grounds which are linked to many different breeding grounds.

At present, we are analysing winter count data and are still collecting mark-resight data. We currently have 272 resightings of 190 birds banded in the Rangitata alone. So far, all winter records are from further north, and particularly from the Kaipara, Manukau and Firth of Thames. This mirrors the population distribution based on the wader count data.

If you see a flagged tōrea on your next birding trip, get in touch directly or through Falcon (Bandind database) and we can report as much as we already know about the history of the bird.

Banding of Tōrea in different areas of NZ by partnering organisations as indicated by band colour

