

Climate Change Commission: Draft Advice for Consultation

Submission of the Ornithological Society of New Zealand

Locking in net zero

Consultation question 11. Do you support our approach to focus on growing new native forests to create a long-lived source of carbon removals? Is there anything we should change and why?

Fully support - Partially support - Neutral - Do not support - Do not know.

Please explain your answer (400 word limit)

The Ornithological Society's full support for Question 11 rests on sound knowledge gained from studies that several species of indigenous birds are an essential element of the biological diversity of various types of native forests occurring throughout New Zealand. For example, the well-known tui and bellbird/korimako are important bird species for achieving pollination of flowers of numerous indigenous tree, shrub and some other plant species, thereby contributing to the natural propagation of these plants. Tui in particular play an important ecological role in the dynamics of New Zealand forests as pollinators of many native trees and being highly mobile birds they are important for the dispersal of seeds of trees with medium-sized fruits (Ref: Heather, B.D.; Robertson, H.A. [2005]. *The field guide to the birds of New Zealand*. p407, Penguin, Auckland).

No less importantly, tui, NZ pigeon/kereru and silvereye/tauhou contribute to natural seed dispersal through ingestion of fruit and spreading of seed to other sites once seeds have passed through the gut of birds. These vital biological functions contribute to the establishment and increased biodiversity of new native forests, and support the natural regeneration of secondary shrublands and forests. New and naturally regenerated forests improve connectivity for some bird species through the formation of corridors through which they can travel to new sites. Application of these important concepts contributes to the wider and essential management objective of achieving healthy and sustainable native forest ecosystems.

Is there anything we should change and why? We contend that the establishment of new native forests and encouraging natural regeneration of shrubland and secondary forests rests on effective and enduring programmes of control of pests that prey on birds and eat many species of native plants. We recommend increased expenditure for research, development and territorial operations aimed at the elimination of pests which kill birds (caused by stoats, possums and other mammalian predators), or reduce food supplies for some bird species (wasps), and cause defoliation sometimes leading to the death of trees and shrubs (notable pests are deer, goats and possums).

Our path to 2035

Consultation question 12. Do you support the overall path that we have proposed to meet the first three budgets? Is there anything we should change and why? Fully support - **Partially support** - Neutral - Do not support - Do not know.

Please explain your answer (1000 word limit)

The Ornithological Society of New Zealand acknowledges that the 2021 Draft Advice for Consultation proposes “rapid expansion of renewable wind and solar generation in the 2030s and beyond to meet increased electricity demand as electric vehicles are widely adopted”, also “Wind, solar and geothermal offer low cost and low emissions ways of generating electricity. Our path assumes renewable generation is built in the early 2020s” (ref: paragraph 3.8.3, Electricity).

Partial support for Question 12 by **The Ornithological Society of New Zealand** is related to “rapid expansion of renewable wind generation”. Although our Society does not disagree with the compelling need for wind generation of electricity, we submit that the potential adverse effects of wind power generation on avifauna should be clearly acknowledged and the need for rigorous scientific research must be recognised.

The Department of Conservation stated in 2009 that ‘The impacts of wind farms on New Zealand bird species and populations are unknown (Ref: Powlesland, R.G. 2009. Impacts of wind farms on birds: a review. *Science for Conservation* 289. Department of Conservation, Wellington), but noted that a wide range of bird species that may be adversely affected by the development and operation of wind farms. New Zealand is probably unique in that a number of our seabirds regularly fly over the North and South Islands, thus are potentially being at risk of impact with land-based turbines. There is a growing body of experience overseas regarding the risks to birds associated with both land-based and offshore wind farms based upon science-based guidance for assessment, planning, construction, operation, monitoring and mitigation (Ref: Ana Teresa Marques, et al [2014]. Understanding bird collisions at wind farms: An updated review on the causes and possible mitigation strategies. *Biological Conservation*, Vol 179, 40–52). It is unclear how applicable such overseas research and operational experience is in New Zealand.

It is the contention of our Society that the issue of bird-strike needs to be clearly recognised in the development of new windfarms, and in the management of existing windfarms. Planning of best windfarm management practices is hampered by a lack of understanding of the ecology and movements of the various bird species at risk of collision with turbines and towers. This is worsened by uncertainty about how directly transferable overseas findings are to New Zealand bird species. New local research on movement patterns, flight behaviour, population sizes and reproductive rates are essential to understanding, and thus mitigating for, potential adverse effects of New Zealand wind farms on birds.

Forestry

Consultation question 17. Do you support the package of recommendations and actions for the forestry sector? Is there anything we should change and why? Support all the actions - **Support some of the actions** - Do not support these actions - Do not know – Neutral

Please explain your answer (1000 word limit)

The Ornithological Society's partial support for Question 17 is based on our knowledge of the role of birds in the ecology of native forests. The Society is unable to comment on matters of plantation forestry. We note that estimates from recent studies suggest there might be "up to 1,400,000 hectares of marginal land that could be planted in forestry", and that "as much of this land is steep and prone to erosion, we consider that it would be more suitable for permanent forests, particularly native forests". The Society endorses a proposal to expand the area of native forests on marginal land because a larger forest area expands the habitat and may reduce risk for the survival for some species of birds, and it increases connectivity between forests through which birds can travel. Application of both of these important concepts strengthens the aim of achieving healthy and sustainable native forest ecosystems.

As noted in our response to Question 11 the Society's support for the package of recommendations and actions for the forestry sector rests on sound knowledge gained from studies that several species of indigenous birds are an essential element of the biological diversity of native forests throughout New Zealand. For example, the well-known tui and bellbird/korimako are important species for achieving pollination of flowers of numerous indigenous tree, shrub and some other plant species.

No less importantly, tui NZ pigeon/kereru and silvereye/tauhou contribute to natural seed dispersal through ingestion of fruit and spreading of seed to other sites once it has passed through the gut of birds (Ref: Baker, A. [1999]. Food plants of Bellbird (*Anthornis melanura*), Tui (*Prothemadera novaeseelandiae*) and New Zealand Pigeon (*Hemiphaga novaeseelandiae*) in Dunedin. *Notornis*, Vol 46(2), 270-272). These vital biological functions contribute to the establishment of new native forests and support the natural regeneration of well-protected secondary shrublands and forests. New and naturally regenerated forests improve connectivity for some bird species through the formation of corridors through which they can travel to new sites. Application of these concepts contributes to the wider management objective of achieving healthy and sustainable native forest ecosystems.

We contend that the establishment of new native forests and encouraging natural regeneration of shrubland and secondary forests rests on effective and enduring programmes of control of pests (Ref: Fitzgerald, N., Innes, J., & Mason, N. W. H. [2019]. Pest mammal eradication leads to landscape-scale spillover of tūī (*Prothemadera novaeseelandiae*) from a New Zealand mainland biodiversity sanctuary. *Notornis*, Vol 66(4), 181-191). In particular, we recommend increased expenditure for research, development and territorial operations that lead towards the elimination of pests which kill birds (several mammalian predators), or reduce food supplies for some bird species (wasps), and cause defoliation sometimes leading to the death of trees and shrubs (notable pests are deer, goats and possums).