

Acoustic monitoring of roroa (great spotted kiwi) in the Taramakau and Kelly Range 2018-2021

Sandy & Robin Toy June 2021

Summary

Acoustic recorders were deployed at 13 locations in the Taramakau Valley and five on the Kelly Range in February/March 2021 to determine call rates of roroa (great spotted kiwi, *Apteryx maxima*¹). Recordings were also made at these stations in 2018/2019. Together these recordings are the start of an acoustic monitoring programme which will add to the long running (human) call count monitoring of roroa in the Taramakau. Five nights' recordings were analysed from each station. Between 2018 and 2021, there was an apparent increase in call rate in the Kelly Range, but this may be an artefact of the timing of recorder deployment between years. No consistent change was seen between 2019 and 2021 in the Taramakau. Suggestions to improve the acoustic monitoring programme are made.

Introduction

Kiwi call count surveys were established to monitor populations of roroa, great spotted kiwi (*Apteryx maxima*) in the Taramakau Valley, Arthur's Pass in 1993. Surveys are repeated every five years, with at least 48 listening hours completed throughout each monitoring season. The Taramakau is one of six sites in the national call count monitoring scheme for roroa (Colbourne *et al.* 2020). In February 2019, 13 acoustic recorders were deployed in the Taramakau as part of a survey to determine the distribution of roroa (Toy & Toy 2019). These covered a longer length of the valley than the human call counts and, since the detection range of acoustic recorders is less than that of human hearing (Colbourne *et al.* 2020), enabled comparison of call rates with other locations in the roroa acoustic recorder survey. There had been no roroa monitoring in the Kelly Range to the south of the Taramakau, but five acoustic recorders were deployed there in October 2018 as part of the roroa survey. In 2021 recorders were deployed at the same 13 sites in the Taramakau and five sites in the Kelly Range as part of an expanded roroa monitoring programme.

Methods

DOC acoustic recorders were deployed for around three weeks. Recording locations are shown in Figure 1 and listed in Appendix 1. Recorders were placed an average of 1.1 km apart, but two pairs of recorders were less than 1 km apart: 'Attached to warratah by track 1' and 'Attached to warratah by track 2' (920 m apart); 'Upstream of Michael Creek' and 'Michael Creek' (760 m apart). Most recorders were deployed in nearly the same locations in 2021 as in 2018-2019; small differences may be GPS error, but those at Taverner's Flat and Kiwi Hut were more than 40 m from their 2018-2019 locations in 2021 and these are likely to be real differences.

¹ The species name according to the *Checklist of NZ Birds* checklist is *Apteryx haastii* but it has recently been recommended that this be changed to *A. maxima* at the next revision of the checklist (Shepherd *et al.* 2021)

