To disturb or not disturb - A study of Stewart Island kiwi (*Apteryx australis lawryi*)

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The central aim of this PhD project is to help determine the population status of one of our iconic, taonga kiwi species, the Rakiura tokoeka (*Apteryx australis lawryi*). Rakiura tokoeka are our study species as research regarding their population is limited and there is some evidence they have been in decline. Population monitoring is an essential component of wildlife research, conservation and management. There are many tools used for monitoring, and those selected for a specific project depend on the species of interest, resources, funding and time available and the monitoring objectives. There is a significant amount of pressure involved in the selection of appropriate monitoring methods for wildlife projects. However, selection is difficult, particularly as methods are rarely validated against known populations, or against methods that are considered more robust.

In the process of determining population variables for Rakiura tokokea, our project explores and compares the use of invasive (catching, attaching VHF transmitters & tracking) and non-invasive (camera trapping & acoustic recorders) methods of monitoring, with the overall aim of increasing the accuracy and reliability of non-invasive methods so they can be used with more confidence. There are four sites on Stewart Island where we have been comparing the use of VHF transmitter tracking & territory mapping with a grid of trail cameras and acoustic recorders. Additionally, we extended the use of transmitters in two of these locations throughout the 2019-2020 breeding season in order to conduct a novel investigation of chick survival. The value of results from this project are three-fold. Firstly, a comparison of monitoring methods that are considered different levels of robustness is rare in the literature and will be a useful tool for method selection, particularly in the NZ context where call counts and VHF telemetry (for kiwi) are popular. Additionally, the information gained through this comparison of monitoring methods will build on current estimates of the density, stability and trajectory of the Rakiura tokoeka population. And finally, we have discovered novel information regarding adult breeding behaviour and the survival, recruitment and impact of invasive pests on chicks.

Funding support from BNZRF has assisted through all stages of this project, and we are looking forward to pulling together the results over the next ten months. Follow our journey at https://www.facebook.com/StewartIslandkiwi and/or contact me at emmafeenstra@gmail.com

Photos: (Left) A Rakiura tokoeka chick get a transmitter, (Centre) training local volunteers in VHF telemetry methods, and (Right) a big beautiful Rakiura tokoeka wahine gets her transmitter checked.