

**Kaitiaki o nga taonga:**  
**New frontiers in the management of the endangered North Island Brown kiwi**

Kiwi are regarded as one of the most fascinating and atypical birds in the world, captivating the interest of scientists all over the globe that have tried to find answers to their many enigmas. However, these mysterious creatures have managed to keep most of their secrets for over a century and thus there is still a lot to be known about their basic ecology even nowadays. If something can be assumed about kiwis, is that nothing can be assumed about kiwi.

New Zealand is notorious for their effort in saving their unique fauna, pioneer in many radical conservation actions that have saved several iconic species from extinction. However, as scientific knowledge evolves it becomes clear that some of these actions may have unforeseen negative consequences for their future viability. One of the most successful strategies was the translocation of individuals of endangered species to offshore islands to create new populations but with little regard to their genetic health and variability. An example that illustrates this situation is the case of Northland and particularly the Bay of Islands (BoI), where 24 North Island Brown kiwi (*Apteryx mantelli*) were translocated to three small pest-free offshore islands (14 to Moturua, seven to Moturoa and just 3 to Motuarohia). Although the numbers in all three islands increased exponentially, we now know that the problems derived from low genetic diversity (i.e. inbreeding depression) would eventually lead to a population breakdown if no further actions were taken. Being aware of the situation, the BoI community (including the Iwi, DoC, the Council, conservation groups, and landowners) decided to try and improve the situation of the birds by translocating individuals from the islands to the mainland and vice-versa, although with no clear goals or action plan. Therefore, they contacted Massey University's BECP (*Behavioural Ecology and Conservation Programme*) led by Dr Isabel Castro for advice and collaboration in the design of a specific project for the BoI kiwi populations.

The primary purpose of this partnership was the creation of a long-term management plan to ensure the future survival and genetic health of the BoI kiwi, but it soon became clear that this collaboration could be used as a basis for a wider cooperation in the region and help the community in many other ways. Thus, we developed a working plan with three main goals: Community engagement (1), Research (2) and Applied conservation (3). Specifically, we want to create a new model of management where the local community, led by the Iwi, will be involved in all different stages of development from the organization to the actual hands-on work. This will be achieved through the training of local residents on important management techniques and the employment of key people to carry out on the ground tasks, to establish an operational network that will take over the monitoring and management of the populations. In order to obtain the best results, we will collect genetic samples from kiwi all over Northland and use next generation sequencing (NGS) to study the genetic diversity and allelic richness of the diverse kiwi populations in Northland. The information obtained will then be used with the most advanced techniques in re-introductions and translocations to create a model for meta-population management to retain and increase the genetic diversity in all independent kiwi populations. As a final goal, we aim to create a working dynamic that can serve as a model that could be implemented to other species and aspects of active conservation by the regional local communities in New Zealand and ultimately worldwide.