

Translocation of the endangered braided-river grasshopper *Brachaspis robustus*

Tara J. Murray ^{*1}, Richard F. Maloney ²

¹ School of Forestry, University of Canterbury, Private Bag 4800, Christchurch, 8140

² Terrestrial Ecosystems and Species Unit, Department of Conservation, Private Bag 4715, Christchurch Mail Centre, Christchurch, 8140

Brachaspis robustus is a nationally endangered grasshopper found only on riverbeds and associated terraces in the Mackenzie Basin braided river systems. They are cryptic and specialised in their habitat use and have small, patchy, declining populations. Invasive weeds and introduced predators are thought to be the main factors threatening *B. robustus* survival, and populations are expected to continue to decline without management. Unfortunately we know little about *B. robustus* ecology or the exact nature of threats to its survival, and have no effective tools for its recovery. Canterbury University, the Department of Conservation and Environment Canterbury have commenced a project to better understand grasshopper ecology and the importance of predation and disturbance on grasshopper persistence and population growth. Here we showcase the first stage in the study; the implementation of a wild-wild grasshopper translocation to learn about the importance of predation on grasshopper populations. Six 15m² riverbed habitats were created on the Lower Ohau River terraces using local mixed river gravels. Three plots were located inside a predator-proof fence and three others in an adjacent area without an active predator-proof fence. 186 grasshoppers were collected from five wild populations. Individuals were sexed, measured and marked before being distributed between the six plots. Initial monitoring indicates grasshoppers survived the translocation and are continuing to develop all in the release sites. Predator density, grasshopper survival and grasshopper dispersal are being assessed fortnightly. Monitoring and research will continue in the plots for several years to fully understand predation dynamics and to assess the suitability of methods for future successful translocation of this species into natural habitats within the historic range of *B. robustus*. Outcomes will be used to support management strategies to promote long term species recovery and persistence.

