

Restoration management of a planted podocarp/ hardwood forest, Travis Wetland, Christchurch

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Restoration of indigenous vegetation communities are dramatically increasing in Christchurch with in excess of 100 projects underway throughout the city. Most projects are community driven and focussed on getting 'plants in the ground' as quickly as possible. Despite the presence of a city-wide voluntary network (the Bush Society), which publishes a newsletter, runs a website and provides nursery support, resources available to these groups are generally limited. We see two main issues aside from resourcing: firstly, there has been a general lack of scientific study associated with these projects, and secondly, there is a lack of cohesive planning from local authorities to link these regenerating areas so species can disperse between and invade new habitats.

The aims of our study are twofold (1) to develop an ecosystem approach to restoration of our site which is a 1 ha area within the 50 ha Travis Wetland Nature Heritage Park; and (2) to aid other projects by attempting to maximise restoration effort with limited resources.

To do this, we will plant as the main canopy species kahikatea (*Dacrycarpus dacrydioides*). We will monitor forest development over time comparing two treatments: (a) planting a diversity of canopy and subcanopy species along with kahikatea reflecting current restoration plantings that emphasise climax vegetation, versus (b) planting kahikatea only to achieve stand structure that mimics regeneration after natural disturbances.

We will measure survivorship, growth and cover of plants in a range of soil texture and drainage classes, and the invasion of indigenous plants as well as the changes in invertebrate diversity and abundance over time. We will also test different planting treatments and maintenance techniques currently being used by practitioners, and derive the cost of restoration by quantifying volunteer hours, opportunity costs and materials. We will then disseminate this information to the wider restoration community in Christchurch.

A strength of our study is we have consulted widely with City Council staff, the Travis Wetland Trust and senior researchers in restoration design, and have local residents involved in the clearance and maintenance of individual plots.