

If you plant the plants, do the invertebrates follow? An assessment of the establishment of indigenous invertebrates in urban forest restoration sites in Christchurch

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Eligible for student prize

The impact of urbanisation on biodiversity can be reduced by the protection and rehabilitation of remnant habitat along with re-vegetation of suitable areas with indigenous plant species. Successful restoration should restore biological functions and the integrity of ecosystems but this is often only evaluated on the success of establishing native plant cover. The hypothesis of “if you build it they will come” is seldom tested. The biodiversity and abundance of terrestrial invertebrates as criteria of success will help to test this hypothesis. My study investigates invertebrate communities in ecological restoration sites within Christchurch. A Malaise trap study done by Richard Toft in 2003 has been repeated in full, this focused on Lepidoptera, Coleoptera and fungus gnats (Diptera: Sciaroidea). Also the Malaise trapping component of studies done at the restoration sites of Travis Wetland (1998) and Styx Mill Conservation Reserve (2007) were repeated. Preliminary results clearly show that the invertebrate community of the old growth forest remnant, Riccarton Bush, is clearly differentiated from nearby gardens. Of the 16 exotic Lepidoptera species recorded only four were found in Riccarton Bush and only one of 19 exotic Coleoptera identified. The sampled restoration sites fall in between gardens and Riccarton Bush in their composition. I am currently testing the hypothesis that invertebrate communities of restoration sites are becoming more like Riccarton Bush over time. The key to the enhancement of native biodiversity in an urban setting is successful restoration projects. Repeating these surveys and the resulting data analysis allows us to determine if the invertebrates do really follow the plants and whether some management readjustment is needed to achieve the outcome of a fully functioning ecosystem.

