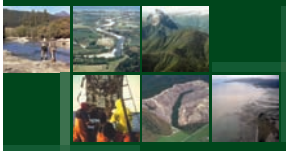


# Performance of native riparian plants – how different are they?



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## Introduction

The composition and extent of stream-side vegetation influences how well a riparian area functions and hence has a major impact on the state of a waterway. Though the role of exotic woody species such as willow is well recognised for improving bank stability, the information on the performance of native woody species is limited. Thus, there is a need to quantify their effectiveness particularly as stream restoration enhancement projects involving native species increase in popularity.

## Methods

Trial established in 1999 to assess growth performance of 12 natural riparian plant colonisers. Ten plants extracted each year and growth parameters measured.



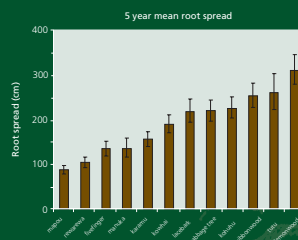
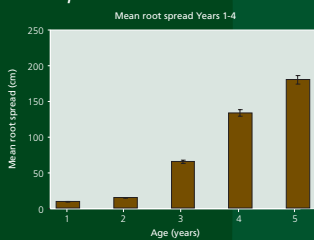
Compressed air lance to remove soil around roots

## Plants

Common Name	Botanical Name
Karamu	<i>Coprosma robusta</i>
Ribbonwood	<i>Plagianthus regius</i>
Kowhai	<i>Sophora tetraptera</i>
Lemonwood	<i>Pittosporum eugenioides</i>
Kohuhu	<i>Pittosporum tenuifolium</i>
Lacebark	<i>Hoheria populnea</i>
Mapou	<i>Myrsine australis</i>
Fivefinger	<i>Pseudopanax arboreus</i>
Cabbage tree	<i>Cordyline australis</i>
Rewarewa	<i>Knightia excelsa</i>
Manuka	<i>Leptospermum scoparium</i>
Tutu	<i>Coriaria arborea</i>

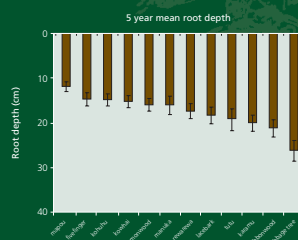
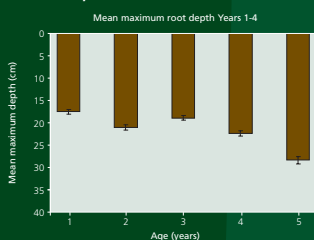
## Results

### Root Spread



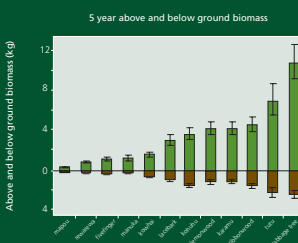
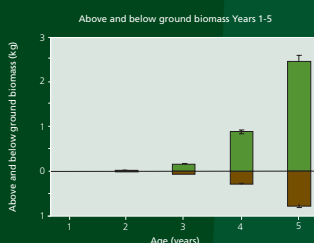
Top performers:  
ribbonwood, tutu,  
kohukohu, &  
lemonwood

### Root Depth



Top performers:  
ribbonwood,  
cabbage tree, tutu,  
& karamu

### Plant Biomass



Top performers:  
tutu, ribbonwood,  
& cabbage tree

## Conclusions

These early colonising riparian plants are relatively fast growing with above- and below-ground growth attributes well suited to colonising steep and unstable riparian slopes where shallow soil failure is prevalent and/or on banks of small, stable streams where the substrate is rocky with skeletal soils. However, their relatively shallow-rooted habit limits their usefulness for bank protection on larger, unstable streams subject to channel aggradation/ degradation, unless prior installation of structural protection works is undertaken.

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