Mapou *Myrsine australis*

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Introduction and Methods

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 streams. Though the role of exotic woody species such as willow is well recognised for improving bank stability, 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.

Side view of canopy and root sytem of a 5-year old plant (see text box for dimensions)

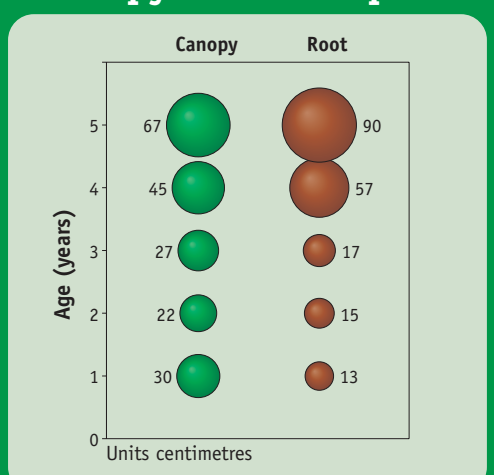
A trial was established in 1999 to assess growth performance of twelve 1 to 5 year-old native riparian plant colonisers. Ten plants were extracted each year and growth parameters measured.

Plan view of 5-year old root system (see text box for dimensions)

Results

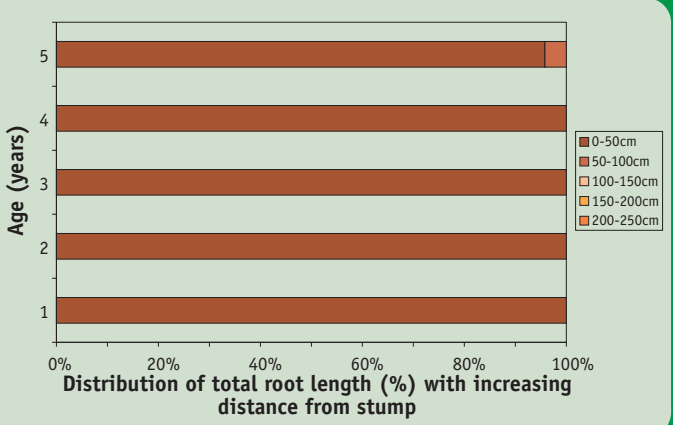
Tree Height

Canopy and Root Spread



Root Depth

Root Length Distribution



Distribution and Site Preferences

Occurrence	North, South and Stewart Islands
Local occurrence	forest margins and scrublands
Altitudinal range	sea-level to 900 m
Preferred soils	no preference
Moisture	not too dry and not too wet
Properties	very wind tolerant

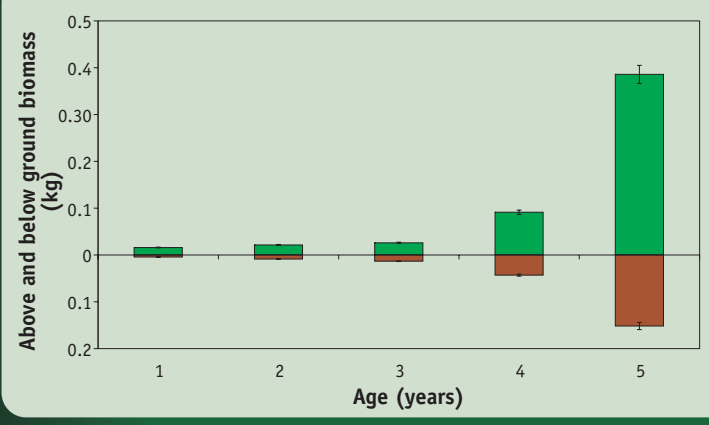
Summary of growth characteristics at age 5

Mean height	1.3 m, 6 m in adult trees
Mean canopy	0.7 m
Mean root spread	0.9 m
Max. root depth	0.2 m
Mean above ground biomass	0.4 kg
Mean below ground biomass	0.1 kg

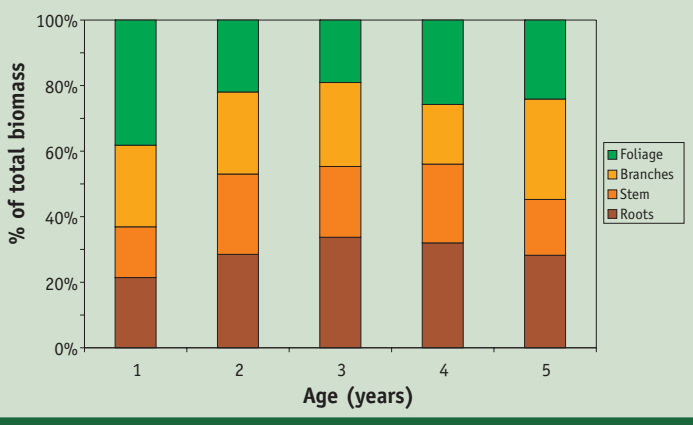
Notes: Is hardy and grows rapidly in infertile soil with ample moisture but displayed slow growth in fertile alluvial soils. Well suited for use as low shelter during early and intermediate stages of revegetation and restoration.

Suitable for streamside stabilisation of small streams with stable banks and in conjunction with other species. Its shallow rooting depth makes it unsuitable for riverbank stabilisation in situations where bank height exceeds the maximum rooting depth (<2 m) of adult trees.

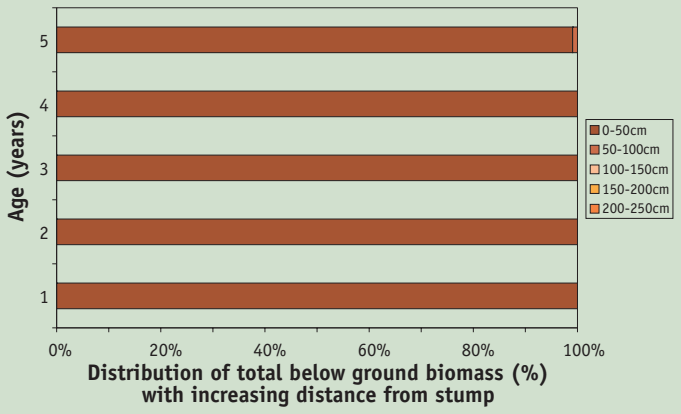
Biomass



Total Plant Biomass



Root Biomass Distribution



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http://icm.landcareresearch.co.nz/science_themes/freshwater/stabilising_characteristics_of_nz_native_riparian_plants.htm