

Cabin production

The cabin has been designed and built by Vaughan Kearns of Ruapehu Sawmill, Raetihi. Vaughan is an experienced alternative species sawmiller and has been heavily involved in the Specialty Wood Products programme.



^ Vaughan Kearns and Cabin prototype, featuring *Cryptomeria japonica* cladding.

The cabin featured is the second cabin built by Vaughan and his staff at Ruapehu Sawmill. The first prototype featured attractive *Cryptomeria japonica* (Japanese cedar) cladding. A larger three-roomed cabin which includes a bathroom is also available.

Anyone interested in commissioning a cabin with customised components is welcome to contact Vaughan Kearns to discuss options available: ruapehusawmills@extra.co.nz or **027 445 7138**

ACKNOWLEDGEMENTS:

The cabin building project is a partnership between Ruapehu Sawmill, the Specialty Wood Products Research Partnership, and Te Uru Rākau's Forestry and Wood Processing Industry Transformation Plan.



THE SPECIALTY WOOD PRODUCTS RESEARCH PARTNERSHIP (2015-2023) WAS MANAGED BY FOREST GROWERS RESEARCH.

Specialty species cabin: showcasing alternative timbers

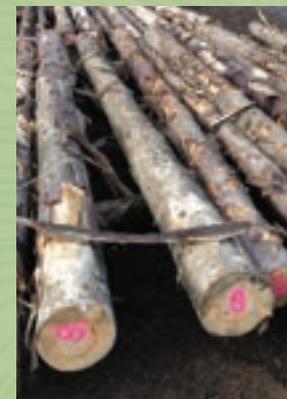
A range of wood and wood products from New Zealand-grown alternative species have been used to build a strong, sustainable two-roomed cabin. The cabin has been built to demonstrate the diversity of locally grown timbers that are available and well-suited to small-scale construction projects such as this one.



^ Cabin under construction, Ruapehu sawmill.

The cabin-building project comes at the end of the seven-year Specialty Wood Products Research Partnership (SWP), where wood scientists developed and tested new wood products made from some of New Zealand's most widely grown alternatives to radiata pine, including cypresses, eucalypts and Douglas-fir.

Some of the products tested during the SWP have been used in the cabin. The project's initial aim was to utilise and test thermally modified cypress timber which came from relatively young trees (age 20 years). Thermal modification involves heating timber to high temperatures in the absence of oxygen. The process increases the durability and stability of some species. During the SWP it was proved to be a very successful way of treating young cypress timber.



^ The young cypress logs and dimensional timber produced from the logs at Ruapehu Sawmill.

Cabin design

The cabin comprises a main room and a small kitchen. It has an internal floor footprint of 4.8m x 3.2m.

It is designed to be oriented to make the most of the sun's natural light and heat. The north side has the largest window; the east side where the kitchen is located will receive the morning sun and has a medium-sized window. The west side has a small window designed to provide ventilation in hot weather, and the south wall has no windows.

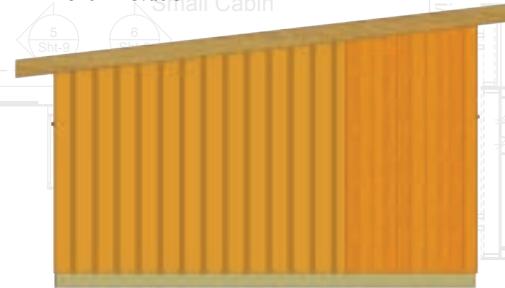
The cabin is insulated to above the new H1 standards for the North Island. The windows and door are doubled-glazed aluminium.

There is a small porch which allows people to enter the cabin under shelter.

The simple kitchen contains a sink, benchtop, under-cupboards and a small refrigerator/freezer. The cabin is fully wired, with four inside lights and two exterior lights, all serviced through a 32-Amp-rated switchboard.



North Elevation



South Elevation



East Elevation



West Elevation



Left Front Isometric

Components

The project was born from the concept of challenging the durability of thermally modified cypress in a 'real world environment' rather than just the research environment where it had initially been tested. It has grown into the opportunity to showcase other products that emerged from

the SWP, such as the engineered eucalypt flooring and eucalypt laminated veneer lumber (LVL). The cabin also displays other timbers milled and sold into New Zealand markets by Ruapehu Sawmill, one of the North Island's leading specialty timber providers.

Roof frames	Grand fir, Douglas-fir, cypress*
Roof sarking	Western red cedar
Wall frames	Cypress, <i>Eucalyptus fastigata</i> LVL
Cladding	Thermally modified poplar and cypress
Barge boards	Cypress
Ceiling linings	Poplar plywood
Wall linings	Cypress horizontal tongue and groove
Feature wall	Thermally modified cypress
Flooring	<i>Eucalyptus obliqua</i> with poplar/birch plywood backing
Support beams under cabin	Cypress

*Cypress timbers used: *Cupressus macrocarpa*, *C. lusitanica*, *Chamaecyparis x ovensii* (Ovens cypress) and *Ch. lawsoniana* (Lawson cypress).



^ L-R: Linseed oiled interior cypress timber; thermally modified cypress feature wall; entrance porch; Thermally modified poplar cladding; engineered eucalypt flooring.