

Finding a better redwood

Bill Libby has many years' experience in researching and evaluating coastal redwood, not only in their natural range in California, but in countries such as France, Chile and New Zealand. Bill uses a system for evaluating and comparing different seedlings and clones, which ranks the tree on the basis of stem form, branch habit and angle, growth rate and incidence of defects.

In August 2008 I was fortunate to be able to revisit the redwood trials at Russell Reservation, tucked in the foothills on the eastern side of San Francisco Bay. Three Californian foresters who have visited New Zealand and are involved in redwood management also took the opportunity to spend the day with Bill to learn about the newer clones and their performance. Russell Reservation was previously a sheep, orchard and Christmas tree farm gifted to Berkley University for forestry trials in 1962. Set in the coastal Mount Diablo range at 207metres, it receives 300-400mm of variable rainfall. Bill describes the climate as not coastal but not fully continental with temperatures varying between minus 10°C and in the high 30s in summer.

The Redwood trials were planted in 1989 It is in a rural setting, and is protected from development as it

is in the upper catchment of one of the city's water reservoirs. The valley floor where the trials are planted is moist in winter, but there is no stream bed, and both times I have visited in summer it has been hot

and dry, reminding me of the valleys behind Havelock North and in the port hills of Christchurch.

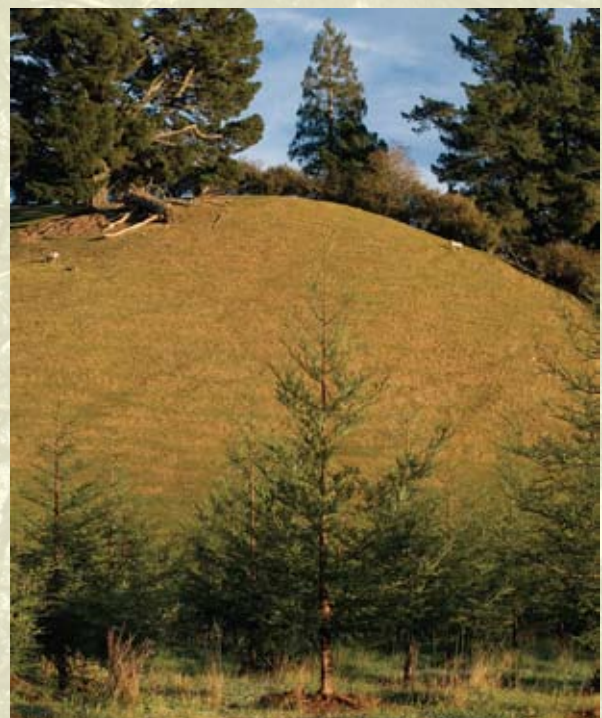
The trials were planted in 1989 in a number of different sites in the valley, and include *Pinus radiata* trials from the six natural populations.

As a replicated trial it is important to visit each clone on a number of sites as there are some harsh sites where all clones have struggled.

Bill demonstrated how the ranking system works, and how a clone's performance can change over time, altering its relative ranking. Fortunately, the clones we have introduced into New Zealand from Russell Reservation material continue to have above-average growth and form, with one being a real stand out. We have them all planted out in conjunction with our Kuzer trial, and the next step is to test the wood properties of these new clones.



Eighteen-year-old clones in Russell Reservation.



Mt Heslington nursery trial site in Nelson.

