

Biocultural restoration of the Smooth Davidson's Plum (*Davidsonia johnsonii*)

Improving genetics and incorporating cultural knowledge for species recovery

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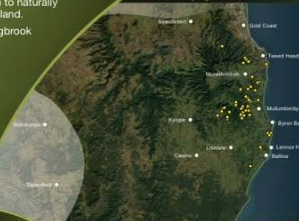
The Smooth Davidson's Plum is an endangered rainforest tree only known to naturally occur in the Bundjalung Nation in north-east NSW and south-east Queensland.

Only about 30 locations are known, from just south of Ballina to Springbrook and Tallebudgera.

Populations are geographically isolated from each other. Reproduction is via root suckers (clones) and the tree does not produce fertile seed. Cross-pollination does not occur between sites, which may be the reason for the lack of production of viable seed.

Smooth Davidson's Plum locations

The light shading approximately indicates the Bundjalung Nation extent



Genetics

Samples have been collected from 264 Smooth Davidson's Plum trees across its range.

The aim is to assess the species' genetic diversity within and between sites, including the extent of clonality vs sexual reproduction. This information will be used to select the optimal combination of trees for the translocation sites. A second objective is to investigate evidence for the historic dispersal of the species by Bundjalung peoples, however it is anticipated that low genetic diversity will make this difficult to assess.



Translocation

A genetically-informed conservation translocation will be undertaken to bring plants from different sites together to encourage cross-pollination.

This aims to improve genetic diversity and thus increase the resilience of the species to future threats.



Culture

The Aboriginal cultural study investigates the importance of Smooth Davidson's Plum as a traditional resource and also explores its deeper connection to Country. This could reveal how the plant fits into traditional ecological knowledge, spiritual beliefs and land management practices of Aboriginal people. By examining the cultural significance and potential past dispersal by Aboriginal people the study may uncover important aspects of the relationship between Aboriginal people and their Country, highlighting the intertwined nature of biodiversity and cultural heritage.



© Dianne Brown. An Aboriginal woman, talking about bush foods and culture

genetics

on-ground work

On-ground works

Bush regeneration and revegetation at high priority sites will aim to restore and improve habitat. Aboriginal ranger teams will be provided training and employment opportunities to assist with this work.



Bush tucker

Impacts of the bush tucker industry will be investigated to determine if the industry is having a negative effect on wild populations.



Acknowledgements

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⁴ www.environment.nsw.gov.au

