Landcare-led Landscape Resilience

Tools and data for restoration decisions

Climate Ready Farm Forestry

OBJECTIVES

Within the previously failed Camden White Gum *(Eucalyptus benthamii)* which failed due to the climatic differences between the Sydney basin where the tree is endemic and the Coolamon area. It was decided to use already existing and establish methodologies of farm forestry and adding in a climate ready element to the project planting.

WHAT IS SUCESS

Sucess is the establishment of a farm forestry trial using Bull Oak *(Allocasuarina luehmannii)*. Unlike traditional farm forestry plantings the provenance of the seed stock will be collected from multiple climate analogues of the coloamon region to build in climate resilience. Alternatively unlike other climate ready planting, the differing provenance sourced plants will not be randomly distributed but planted in designated rows to compare long term survival growth rates.

Typical established farm forestry planting

Failed Cambden White Gum planting

KEY STEPS

1. Define the areas climate analogs for this project we used the climate change in the Australian web resource.
2. Choose resilient species with consideration. Allocasuarina luehmannii was selected for short term planting, that could be alternatively be used as a seed production area while growing up to be a great timber tree.
3. Using the climate analogue data and the Atlas of Living Australia, 5 potential climate ready provenance areas were selected. Unfortunately, due to time constraints and a lack of seed, we were only able to source seed from close by and the Narrandera area (hotter dryer climate).

CLIMATE CHANGE IN AUSTRALIA WEBSITE

How to research climate analogues of your area NSW using the Climate Change in Australia website:

1. Navigate to the 'Climate Projections' section and select 'Climate Analogues'
2. Enter your town as the location of interest
3. Choose the desired time period (e.g., 2050) and emissions scenario (e.g., high or low)
4. Run the analogue search
5. Review the results, which will show locations with similar projected climates to your future climate
6. Analyse the map and data to understand potential climate shifts
7. Use this information to inform adaptation strategies for agriculture, infrastructure, and natural resource management
8. Consider exploring the Climate Projections for global warming levels to understand impacts at different temperature thresholds

This approach will provide valuable insights into your potential future climate, enabling informed decision-making for climate readiness.

Mature Bulloak at Narrandera collection site

SPECIES PROFILE

Scientific Name: Allocasuarina luehmannii
Common Names: Buloke, Bull Oak, Bull Sheoak, Bull-oak
Family: Casuarinaceae
Description:

- Tree growing 5-15m high with rough, deeply fissured bark and ascending branches.
- Branchlets pointing up, to 40 cm long with 10–14 tightly appressed teeth forming whorls.
- Dioecious (separate male and female trees)
- Cones are hairy when young, 5-12 mm long and 8-20 mm in diameter.

Conservation Status:

- Listed as threatened in Victoria
- Allocasuarina luehmannii Woodland in the Riverina and Murray-Darling Depression Bioregions is an Endangered Ecological Community in NSW.

Timber Uses:

- Dark red, very hard, strong, and heavy wood
- Moderately durable but unsuitable for in-ground use
- Used for, wood turning, and historically for shingles and tool handles.

"Farm forestry, but adding in a climate-ready element"

RESOURCES

- Revegetation Guides are a great place to start to learn about how to climate ready revegetation projects: www.revegetation.org.au
- Revegetation guides deeper reads https://revegetation.org.au/?page_id=7975
- Royal Botanic Gardens Restore and Renew Web Tool www.restore-and-renew.org.au
- Climate Change in Australia https://www.climatechangeinaustralia.gov.au/en
- Farm Forestry resources https://www.lls.nsw.gov.au/help-and-advice/private-native-forestry
- Climate Future Plots https://www.greeningaustralia.org.au/projects/climate-future-plots

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