Landcare-led Landscape Resilience

Tools and data for restoration decisions

Climate Ready Seed

OBJECTIVES

The primary objective of Wagga Wagga Urban Landcare (WWUL) in this project was to compare the germination, establishment and growth of seedlings grown using seed sourced from different climatic regions. The source regions were chosen for their alignment with alternative future climate projections for the Wagga region, with the hope that it would assist in WWUL's future seed sourcing for revegetation projects.

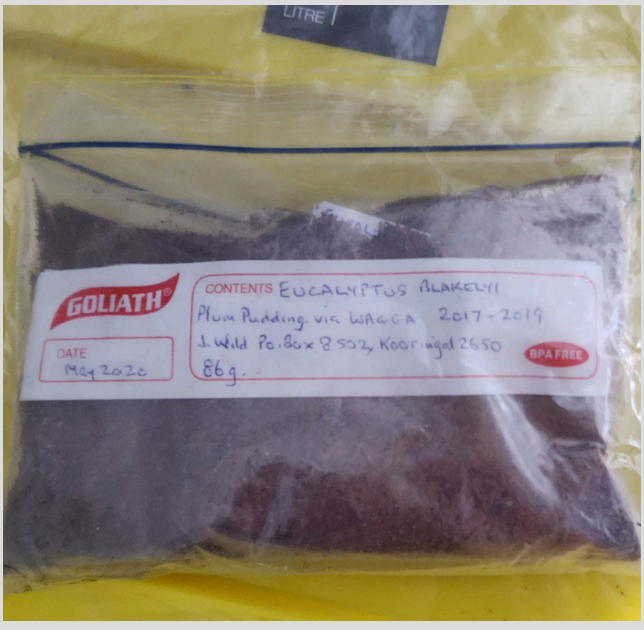
WHAT WAS INVOLVED?

WWUL worked together with Adapt NSW and Wagga Wagga City Council to compile a list of 25 species commonly used in local revegetation projects. This was then refined and reduced to five species which have a suitable projected future range (determined by Adapt NSW).

For each species, we needed to source seed from plants growing:

- In our local area,
- In a hotter-drier (HD) climate, and
- In a colder-wetter (CW) climate.

HD and CW locations were determined by modelling of climate projections for Wagga Wagga, with ten possible locations provided for each species for each of HD and CW.



Locally collected Eucalyptus blakelyi seed, sourced from a private collector



An example of a seed sourcing map, showing Colder-Wetter locations for Acacia implexa

KEY STEPS

- Create a map for each species, showing all possible HD and CW locations
- Create a database of potential seed collectors and suppliers, including commercial retailers, not-for-profit native seed groups, private collectors, and Landcare groups in each potential source region. Contacts were gathered through internet searches as well as contacts within the native seed industry and Landcare networks
- Contact seed collectors and suppliers across the range of locations until seed from appropriate provenances were found for each species
- Place an order for the required amount of viable seed (typically between approximately 2 to 5 grams).

KEY LEARNINGS FROM EXPERIENCE

- The time-consuming nature of the task meant that it was unable to be completed by Department staff or WWUL volunteers ; we ultimately needed to create a dedicated, paid role to undertake the task
- Some species were unable to be sourced from the nominated locations, due to two abnormally wet seasons which resulted in poor viable seed set. Inaccessibility due to flooding at the time of our request was another issue
- Recording of seed collection details by suppliers was variable and often only provided general locations (rather than specific GPS locations)
- The dormancy of *Themeda triandra* is variable and poorly understood. Seed for this species must be collected as seed florets, rather than pure seed, as the seed is difficult to separate. This meant that only experienced collectors offered this species for sale

Seed sourcing required a dedicated, paid role

COST CONSIDERATIONS

The costs charged by seed suppliers was highly variable - ranging from $1 to $14 per gram of seed. The cost can be influenced by:

- Collection location,
- Cleaning and labour time,
- Administration costs associated with larger suppliers,
- Postage and travel.

Rarity of seed did not tend to influence cost.



Themeda triandra seed florets in germination tray

RESOURCES

Revegetation: There are ample resources available if you are not working in an area covered by a revegetation guide. Contact your Local Landcare Coordinator or Natural Resource Management agency for further details.

- South West Slopes and Riverina Revegetation Guides: **https://revegetation.org.au/**
- NSW state Government Trees near me app: **https://www.treesnearme.app/explore**

Climate Ready tools:

- Royal Botanic Gardens Restore and Renew Web Tool www.restore-and-renew.org.au
- Climate Change in Australia www.climatechangeinaustralia.gov.au/en/
- Greening Australia Climate ready restoration www.greeningaustralia.org.au/climate-ready-restoration/
- Adapt NSW www.climatechange.environment.nsw.gov.au/home

Some useful native seed suppliers:

- Australian Tree Seed Centre: www.csiro.au/en/about/facilities-collections/collections/atsc
- Nindethana: www.nindethana.net.au/
- Seed World Australia: www.seedworld.com.au/
- Seeding Victoria: www.seedingvictoria.com.au/

Australian Government | Future Drought Fund | Murrumbidgee Landcare Incorporated | 25 Years+ Supporting our Local Landcare Groups | Holbrook Landcare Network

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