

Climate Ready Revegetation in the Yass Valley Newsletter

Summer 2024/25

Welcome to YAN's Climate Ready Revegetation newsletter!
We're excited to share information and updates about our project.



February 2024 working bee at Wattle Valley Nursery, Bowning-Bookham Landcare
Photo: Sarah McGrath

The *Climate Ready Revegetation in the Yass Valley* project is at the forefront of science and practice, working to bolster ecological resilience in the face of projected climate change. Initiated by dedicated and passionate Landcare volunteers, the project continues to be directed and carried out by volunteers, with the support of a paid Project Officer and the YAN Coordinator.

Since spring 2023, we have received funding from the NSW Environmental Trust. This funding, which extends through to spring 2027, enables us to employ a part-time Project Officer. Having this support allows us to relieve some of our volunteers' workload and helps streamline and coordinate the many components of the project.

We are certainly achieving great results! During the 2023-24 season, our

four nurseries propagated and distributed around 15,000 climate-ready tubestock to regional landholders and land managers. With funding from the Michael King grant, we purchased 119 new seed collections from diverse, carefully selected provenances to maximise the genetic diversity of the plants grown in our nurseries.

We have also established monitoring arrangements to track the success of our climate-ready plants in the field, allowing us to learn, improve, and adapt our practices. Alongside these efforts, we have hosted community events, strengthened our network, and lots more.

We look forward to continuing this important work and to having you involved!

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The Climate Ready Revegetation Project is led by the Yass Area Network of Landcare Groups (YAN), which includes Landcare groups from Bowning-Bookham, Murrumbateman, Yass, and Sutton, along with Friends of Yass Gorge. Each group has its own unique focus and priorities, shaped by its local members.

The Climate Ready project is currently YAN's only network-wide initiative. We welcome all feedback and inquiries 🌱

Contact: climateready@yan.org.au, or coordinator@yan.org.au

Find out more: <https://yan.org.au/projects/climate-ready-revegetation-project>

Follow us: www.facebook.com/YAN.Landcare.Groups



Highlights from the past year

In recognition of the innovation and success of YAN's Climate Ready Revegetation project, we secured a four-year grant from the NSW Environmental Trust to support a part-time Project Officer. Sonya Duus joined us in this role in October 2023 and has since collaborated closely with our dedicated team of volunteers to advance every aspect of the project. Over the past year, some key achievements include:



Around 15,000 climate-ready tubestock propagated and distributed to regional landholders and land managers

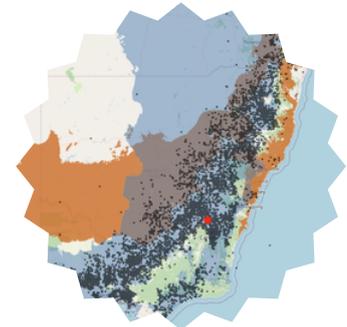
Jointly nominated for the 'Climate Innovation' Landcare NSW Award, along with Boorowa and Hovells Creek Landcare Groups



A mid-winter celebration of our many wonderful volunteers



Improving processes for assessing species and selecting provenances for seed sourcing



A field day on restoring vegetation structure and function for climate resilience



Purchasing 119 new seed collections from diverse provenances to maximise genetic diversity



Sharing information about our project with ANU students, LLS staff and others



... just to name a few 😊



In a nutshell, what is Climate Ready Revegetation?

Climate Ready Revegetation aims to prepare our local ecosystems for the impacts of climate change. Our project focusses on producing tubestock at our Landcare nurseries, employing two key strategies:

Selecting resilient native species: We grow local native species that have evidence of being able to survive in our projected future climatic conditions.

Enhancing genetic diversity: By sourcing seeds from a wide range of provenances (locations), we expand the genetic pool, supporting greater adaptability in subsequent generations once the tubestock are established in the landscape.

To learn more about these strategies, check out the last page of this newsletter!

Local versus non-local: how well do they grow?

Propagating from seed sourced from a wide range of provenances is a central part of our project. We are often asked, “will plants grown from seed collected far away actually grow in our region?”

To answer this question, we are conducting an experimental trial with three species—*Eucalyptus melliodora* (Yellow Box), *Acacia deanei* (Deane’s Wattle) and *Dondonaea viscosa* (Sticky Hop Bush)—to assess whether there is a difference in the 3-5 year survival rates between plants grown from local and non-local seed sources.

All our trial sites are hosted by volunteers on private land. There are two large sites, with over 500 plants at each, and 6 smaller trial sites. In total, there are 1,710 plants in the trial, planted in 2021.

Each year the landholders monitor the plants, and tell us whether they are dead, alive, or uncertain.

The results show that, to date, there is no real difference between the survival of tube stock grown from local and non-local seed. This gives us confidence to continue our work.



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Photos: Janette Hannan

Our Project Partners & Supporters

The Climate Ready Revegetation Project has greatly benefitted from guidance, expertise, and support provided by Dr Nola Hancock, AdaptNSW and Greening Australia ACT.

The project is financially assisted by the NSW Government through its Environmental Trust. We receive additional support from Landcare Australia’s Michael King grants, which enable us to source seeds from a variety of provenances.

We look forward to strengthening our partnership with the genetics team at the Botanic Gardens of Sydney as we continue to advance the project.



Hooray for our Volunteers!

Volunteers are the heart and backbone of YAN's Climate Ready Revegetation Project.

Some volunteers guide the project as part of the project team, while others manage nurseries, assist with seed sourcing, and conduct germination testing. Many turn up in all seasons to help grow plants and perform other essential nursery work. The volunteer committees of our member groups provide vital support for the project. Volunteers also host Climate Ready trial plantings, and landholders along with other community members work tirelessly to get plants in the ground.

Altogether, approximately 100-150 people volunteer their time in roles connected to the Climate Ready Revegetation Project. In one year alone, this dedication can total as much as 4,500 hours of contributed time.

We are truly humbled and deeply grateful for everyone's commitment!



YAN Landcare Nurseries: Growing a Resilient Future

We take great pride in our volunteer-run Landcare native plant nurseries. Each nursery operates with its own unique approach, yet there is strong collaboration and coordination among them—particularly in cultivating Climate Ready seedlings for distribution throughout the Yass Valley.

Our three Landcare nurseries are located in Murrumbateman, Yass, and the 'Wattle Valley' nursery operates on private land in the Bowning-Bookham area. Until 2024, a fourth nursery was also active on private land in the Bango district.

We cannot thank the managers and volunteers at these nurseries enough for their incredible dedication and effort in growing Climate Ready plants for the future.



We are also very grateful to have the Alexander Maconochie Centre (AMC) in Canberra as part of our nursery network.

At the AMC, a skilled horticulturist trains detainees in plant propagation and care. Members of Murrumbateman Landcare could see a potential fruitful partnership with the AMC and so reached out to them.

Through this collaboration, Murrumbateman Landcare provides Climate Ready seed. The AMC team grows the tubestock, and the plants are returned to Murrumbateman Landcare for distribution to local landholders for restoration projects.

Nursery Spotlight

In 2024, Judy and Graeme Fountain made the difficult decision to hang up their gardening gloves after eight years of dedicated nursery management on their farm north of Yass.

As cherished members of YAN's nursery network, they made an immense contribution by cultivating tens of thousands of vibrant native plants. These plants have enriched local revegetation efforts and left a lasting legacy on the landscape.

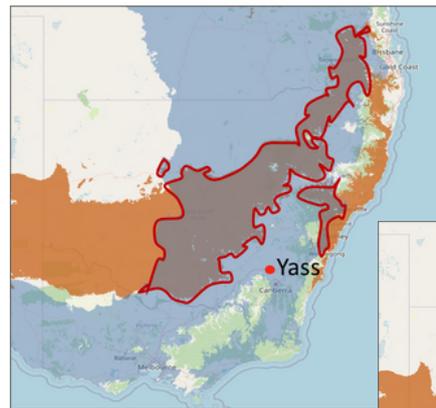
In addition to growing Climate Ready tubestock, Judy and Graeme propagated 4,000 native plants to help regenerate a Bemboka farm after the devastating 2019 fires. They have also grown a wide variety of Koala habitat trees and participated in other vital projects.

We take our hats off to their incredible efforts!



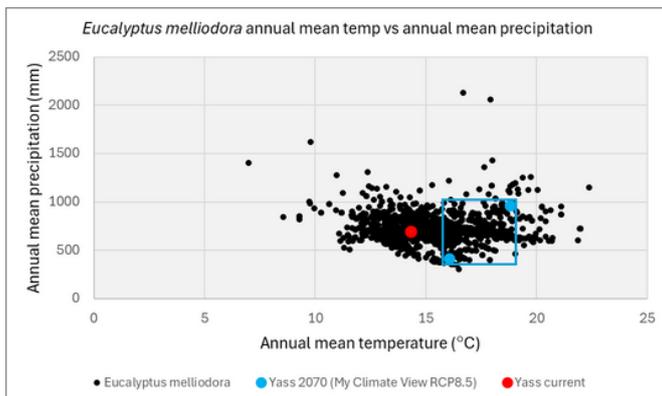
Assessing Species

As mentioned above, a core strategy in our project is selecting local species with a strong likelihood of surviving our future environmental conditions. To do this, we examine each species' natural distribution to determine if they grow in areas that *currently* experience environmental conditions similar to those expected in the Yass region in the *future*. While there are many different climatic variables to consider, we start with annual mean temperature and annual precipitation.



Left: The area outlined in red represents regions that *currently* experience climate conditions similar to those expected in the Yass region in the *future*. For more details, visit yan.org.au/yan-blog/213

Right: The black dots indicate the current distribution of *Eucalyptus melliodora* (Yellow Box); the areas outlined in red represent regions that *currently* align with the Yass region's projected *future* climate conditions



We also analyse occurrence records for each species using scatterplots, plotting annual mean temperature against annual precipitation. By overlaying a rectangle on the scatterplot to represent Yass's projected future climate, we can visually assess whether a species currently grows in areas with conditions similar to those anticipated for Yass in the coming years.

Sourcing Seed

After identifying which species are most likely to survive our future climate, the next step is to source seed for these species. This forms the second key strategy in our climate-ready approach: sourcing seed from a diverse locations (or 'provenances') to maximise the genetic diversity of plants grown in our Landcare nurseries. Genetic diversity helps species adapt to environmental change.

The project team has developed specific guidelines for seed sourcing. Based on YAN nurseries' experience, growing 40 species is manageable. So, for each of these 40 climate-ready species, we aim to source seeds according to criteria, including:

- From at least six different locations, covering at least four bioregions
- Including at least one collection from the local area
- Spanning the species' entire distribution and climate range, with a focus on the hottest and driest parts of its range
- From places that *currently* experience climatic conditions similar to those expected in the Yass region in the *future*

We purchase seed from commercial retailers, so while we strive to adhere to these criteria, we are sometimes constrained by the availability of seed and the level of seed collection information provided.



Photo: Sarah McGrath