Australian Network for
Plant Conservation Inc



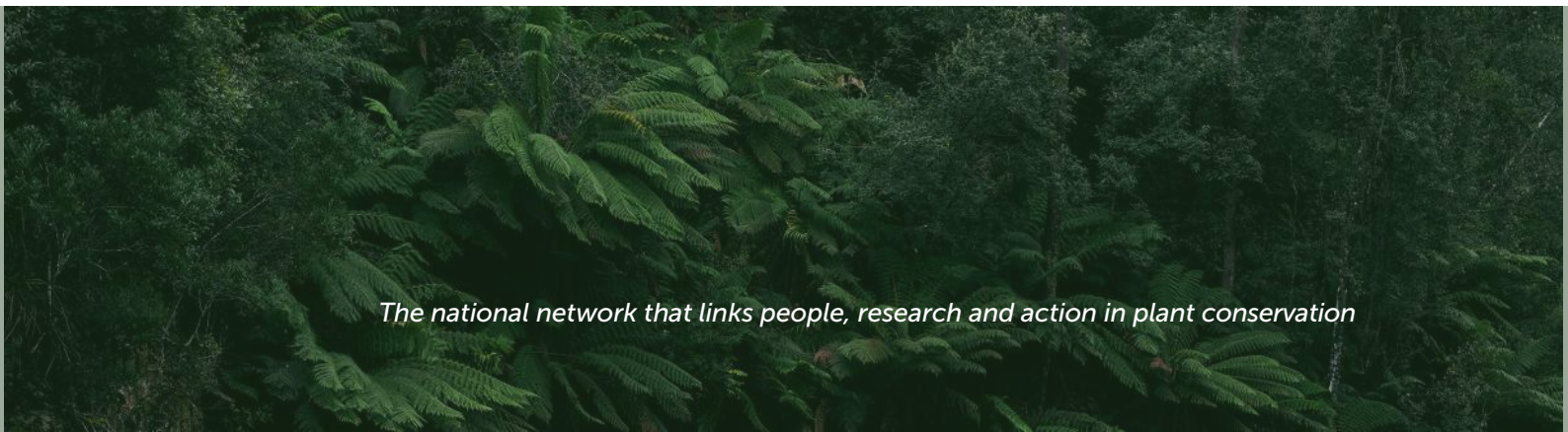






The Australian Network for Plant Conservation Inc.

President's Report 2022



Australian Network for Plant Conservation Inc. (ANPC)

PRESIDENT'S REPORT

To the Annual General meeting, 16 November 2022

I am very proud to say that 2022, our 31st year, has once again been a very successful year for the ANPC and our role as Australia's key plant conservation organisation.

In early 2022, COVID-19 continued to restrict our ability to hold face-to-face events. However, like many organisations, we have adapted well to the online space. In their place, we have held virtual webinars, symposia and training workshops, and successfully organised and ran the 13th Australasian Plant Conservation Conference as our first hybrid event in April.

The ANPC has continued to receive significant project and grant funding this year to keep us extremely active in the plant conservation sphere, as well as financially viable. We have extensively collaborated with partners across the country to:

- Provide safe custody for Native Guava (*Rhodomyrtus psidioides*) which is at risk of extinction due to Myrtle Rust.
- Prevent rare plant extinction and reduce impacts of future fires, continuing our field surveys and assessments of species of national significance potentially adversely impacted by the 2019/2020 fires.
- Provide education on Victorian threatened plant translocations through a free two-day online symposium.
- Produce the Plants Going Places video and podcast series to share stories of plant translocations in Victoria.
- Promote the third edition of ANPC's 'Plant Germplasm Conservation in Australia' guidelines and complete a survey to understand how the Guidelines are being used.
- Coordinate a four-part webinar series on the Germplasm Guidelines hosted in collaboration with the BGANZ Collections and Records Management Group.
- Hold the second day of the Australian Academy of Science Fenner Conference on the Environment 'Exceptional times, exceptional plants' as a hybrid event.
- Produce nine videos on various aspects of the Germplasm Guidelines.
- Promulgate and share the endorsed Healthy Seeds Roadmap.

ANPC President Dr Tony Auld addressing the 13th Australasian Plant Conservation Conference in Albury.
Sceenshot by Chris Fernance

PROJECTS

Safe Custody for Native Guava

https://www.anpc.asn.au/safe-custody-for-native-guava/

The ANPC commenced leading a new and exciting project in May this year, a collaboration between botanic gardens and government agencies in QLD, NSW, the ACT and Victoria to deliver conservation actions for the Native Guava (*Rhodomyrtus psidioides*) using a pilot dispersed-custody model (metacollection). This species is listed as Critically Endangered under federal, New South Wales and Queensland legislation. Native Guava was common and in good health before Myrtle Rust was introduced to Australia in 2010 but has suffered significant declines as a result of this pathogen. Ex situ (offsite) conservation is needed to ensure this species will survive while long-term recovery options are pursued.

Recent cutting propagation of Native Guava Rhodomyrtus psidioides *at Mt Annan, August 2022.*

Credit Amelia Martyn Yenson

This project is providing a coordinated national response to the conservation of this species across its range through the following activities:

1/ Boosting ex situ conservation through collection of Native Guava germplasm from NSW and Queensland. Genetic analysis of this new material will allow us to better understand population dynamics in the wild.

2/ Providing resources for maintaining potted Native Guava collections in Queensland and NSW.

3/ Engaging with researchers and promoting partnerships to provide Native Guava plants for further research. This can include tissue culture trials, susceptibility assays, RNAi vaccine trials, genetic research and investigating host/pathogen interactions.

4/ Supporting the creation of an in-ground living collection of Native Guava at several locations across NSW, Victoria, Queensland and the ACT. This dispersed living collection of 60 individual plants will contain genetic lineages from the NSW germplasm collection.

5/ Raising awareness of Myrtle Rust and promoting the project by creating a short video.

We'd like to thank our partners for their generous support and commitment to this project:

- NSW Department of Planning and Environment (DPE).
- Queensland Departments of Environment and Science and Agriculture and Fisheries.
- Australian Botanic Garden Mount Annan (ABGMA -Science Education & Conservation Division and the Horticulture Management Division).
- Blue Mountains Botanic Garden Mount Tomah.
- Australian National Botanic Gardens.
- Dandenong Ranges Botanic Garden.
- Lismore Rainforest Botanic Gardens.
- Research Centre for Ecosystem Resilience, Royal Botanic Garden Sydney.

This project is supported by funding from the Australian Government.

Australian Government

Post-fire funding from San Diego Zoo Wildlife Alliance

https://www.anpc.asn.au/prevent-rare-plant-extinction-and-reduce-impacts-of-future-fires/

This four-year project aims to prevent rare plant extinction and reduce impacts of future fires in eastern Australia. Our progress to date:

1/ Funding has supported (in combination with other funding sources) the assessment and preparation of 'Fire regimes that cause biodiversity decline' as a Key Threatening Process (KTP) under the national Environment Protection and Biodiversity Conservation Act (EPBC Act) which was formally listed in April 2022 *https://www.dcceew.gov.au/environment/biodiversity/threatened/key-threatening-processes/fire-regimes-that-cause-declines-in-biodiversity*. Funding also helped develop guidance on recovery actions to build the resilience of biota to future fires, through lead authorship of a major technical report, and contributed to three journal articles (see Appendix 1). These articles are aimed at building the human contribution to the resilience of biota to future fires by quantifying the mechanisms of risk and investigating new approaches to reduce the incidence of future fires.

(a)

(b)

Understorey dynamics in Jarrah forest exemplify the drivers of fire risk measured in Zylstra et al. *(2022). Recently burned Jarrah (a) has a dense understorey of germinated shrubs and saplings that burned seven times more frequently than the same forest left unburnt for around 50 years, which develops an open understorey. (b) Processes of growth and forest succession such as self-thinning and self-pruning act as 'ecological controls' on wildfire spread and severity (Zylstra* et al. *2022a). Credit: Philip Zylstra*

Banksia paludosa *subsp* astrolux *is one of the target species being surveyed by the ANPC following the 2019/2020 bushfires. A Conservation Assessment report has been prepared and shows decline in some sites due to very low post-fire recruitment levels. Credit: Tony Auld*

2/ Species of national significance that were potentially adversely impacted by the 2019/2020 fires were identified, with a focus on those not currently recognised as threatened and with restricted geographic ranges. A priority list of species for field inspections was developed to identify factors threatening their recovery after fire. Unfortunately, the field surveys suffered from significant delays due to COVID-19 lockdowns and travel restrictions, and more recently from road and track closures due to heavy rainfalls and flooding in eastern Australia. Two groups of taxa were chosen (which were not targeted by other similar efforts such as state and federal government initiatives):

(i) Species which allowed comparisons of those with canopy versus soil seed banks and between resprouting versus obligate seeding plants. The focus was on NSW endemics, as NSW was the part of Australia most impacted by the 2019/2020 fires, and to easily collaborate with NSW Department of Planning and Environment (DPE) and universities. Standardised field data sheets were developed. The ANPC is also working with University of New South Wales (UNSW) to undertake IUCN Red List assessments and Conservation Assessments for some of these species.

(ii) Epiphytic orchids in north-eastern NSW. A group of eleven of these orchids, which occur on rocks and/or trees, have been chosen to examine the risk of fire severity on their survival. The 2019/20 fires are thought to have hit many of these species particularly hard because they are killed by intense fire due to a lack of both an underground dormant phase and a persistent seed bank from which to recover. These surveys commenced in September 2022 and will document the impact of the fires, establish the geographic distribution and population size of the remaining populations, and inform conservation assessment and threatened species listing. The focus so far has been on *Plectorrhiza purpurata, Sarcochilus aequalis* and *Tropilis angusta* (syn. *Dendrobium angustum*). A recently found population of *Plectorrhiza purpurata* was found to be heavily impacted, with most host plants dead and all epiphytes on those plants killed.

Epiphytic orchid Plectorrhiza purpurata *growing in Cottan-Bimbang National Park. Credit: Lachlan Copeland*

3/ This project has supported the development and release of a video on Myrtle Rust (including in the post-fire environment) in conjunction with the Queensland and NSW governments, and indigenous stakeholders in south-east Queensland and on the NSW North Coast. The video was released on 2 November 2022 ***https://www.anpc.asn.au/myrtle-rust/***. We are also planning to undertake more post-fire surveys of the impacts of Myrtle Rust on Myrtaceae species, to follow up on our 'Fire and Rust' project from last year (***https://www.anpc.asn.au/fire-and-rust/***).

Plants Going Places

https://www.anpc.asn.au/plants-going-places/

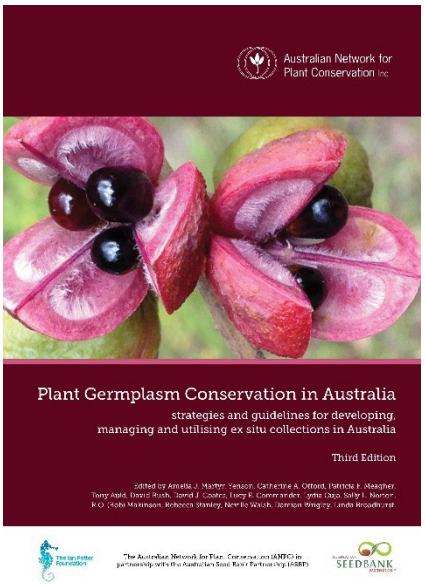
The ANPC completed a two-year Biodiversity Conservation grant from the Ross Trust in July 2022. The "Plants Going Places" project aimed to educate and inform both environmental scientists and practitioners on the translocation of threatened plants, for the benefit of Victoria's threatened plant species. Three videos were produced, with accompanying podcasts which explored the stories of past and current translocation projects in the Melbourne region. This series provides an insight through the eyes of practitioners to investigate what makes a translocation successful. Thanks to our producer Chantelle Doyle and videographer Michael Lawrence-Taylor for making these ground-breaking videos.

This project also supported the free online Victorian Translocation Symposium which was held over two half days on 21 and 28 July 2022. We had 26 experts and experienced practitioners in plant translocations present recent work during the Symposium. This attracted an audience of 299 registrants with around a third of these attending the live events. We were also able to provide recordings of the Symposium on our ANPC YouTube channel and these have been viewed 495 times. Thank you to everyone who joined us and for all our fantastic speakers, we appreciate you spending your time to share your expertise with our community.

*Murnong (*Microseris scapigera*) – the subject of one of the Plants Going Places videos. Credit Michael Lawrence-Taylor.*

3rd edition of the Germplasm Guidelines

https://www.anpc.asn.au/plant-germplasm/



As mentioned in my report last year, the third edition of the ANPC's Germplasm Guidelines was released in September 2021 and as of June 2022 at project completion had more than 700 downloads. '*Plant Germplasm Conservation in Australia - strategies and guidelines for developing, managing and utilising ex situ collections*' was a joint publication of the ANPC and the Australian Seed Bank Partnership, and was supported by The Ian Potter Foundation.

In 2022, we undertook extensive promulgation of the Guidelines which included four webinars, a video series and three conference presentations, as well as the second day of the Australian Academy of Science Fenner Conference on the Environment in June. Through these opportunities we have reached a wide range of audiences engaged in conservation, both in Australia and internationally. We were able to highlight best practice and amplify the contribution of many organisations engaged in ex situ plant conservation.

Evaluation of the Guidelines' impact indicates that we are influencing practical conservation activities as well as provoking conversations on best practice within and between organisations. The Guidelines are already being cited in review papers, as well as papers referring to techniques such as dormancy classification (Emery and Collette 2021) and concepts around collection utilisation (Breman *et al.* 2021). It has been cited in reports on forest genetic resources in Australia (Lott and Read 2021) and the Strategy for the Australian Native Seed Sector developed from Project Phoenix (Van Moort *et al.* 2021).

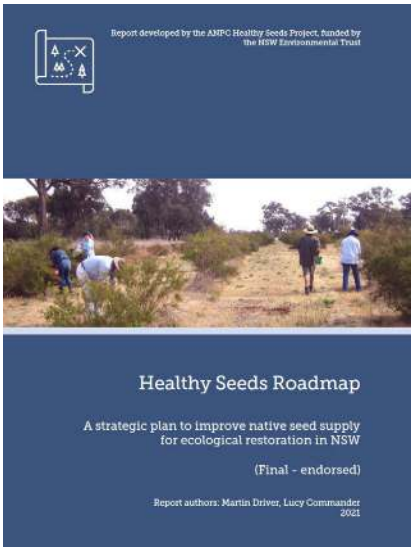
It's also referred to, along with the ANPC's Translocation Guidelines, in the Threatened Species Action Plan 2021-2026, with an action under Target 8 to: "Support and promote best practice guidelines for key recovery actions (including the use of…protocols for translocations, ex situ conservation and seed collection)."

The Germplasm and Translocation Guidelines are also starting to be incorporated into national plant Conservation Advices (CAs), including drafts on public exhibition for *Pultenaea rodwayi, Leionema westonii* and *Leionema coxii* (e.g., DAWE 2021).

Healthy Seeds

https://www.anpc.asn.au/healthy-seeds/

Stage 1 of the Healthy Seeds project, funded by the NSW Environmental Trust was completed in December last year. One outcome of this project was the '*Healthy Seeds Roadmap - A strategic plan to improve native seed supply for ecological restoration in NSW*' which was formally adopted by the Trust this year. A four-page summary of the Roadmap is also available. We are now working with the Trust on the planning stage for the development of Stage 2.

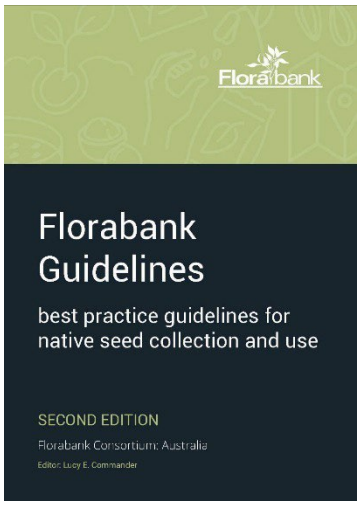


Key recommendations of Healthy Seeds Roadmap:

1. COORDINATION: Co-ordinate seed supply and demand, plan restoration, identify infrastructure and seed production needs, provide training, and communicate research needs and outcomes at state and regional levels.

2. LICENCING & RECORD KEEPING: Ensure that licencing systems are more efficient, effective, useful and fit for purpose; licence applications have clear instructions, and achieve the aim of preventing over-harvesting and having a net positive environmental impact. Adopt and implement minimum standards for seed collection (including data collection) and use these to underpin regulatory approvals. Use appropriate record keeping systems and provide data to the buyer to improve transparency in seed quality.

3. PROJECT MANAGEMENT: Restoration projects and funding models must take into consideration the logistics of the seed supply chain, the time required for seed sourcing, propagation (if needed), implementation and monitoring, as well as the variability of climate from year to year. In some cases, this may mean project budgets and grant timelines should be extended from one year to five or more years.



4. RESTORATION PLANNING: Co-ordinate and plan areas to be restored and seed requirements at a regional level to strategically plan resource allocation and forecast seed requirements. Assist restoration planning and inform seed collection requirements by developing vegetation guides for each region. Identify existing regional infrastructure (e.g. seed stores, seed production areas), and determine infrastructure requirements.

5. TRAINING: Initiate and implement a sector-wide training program in seed literacy to improve restoration community capacity.

The ANPC is now a formal partner on the Florabank Consortium to oversee the promotion and implementation of the Florabank Guidelines which were updated and released last year as part of the Healthy Seeds project *https://www.florabank.org.au/guidelines* *https://www.anpc.asn.au/florabank/*

SUBMISSIONS

The ANPC continued to maintain its involvement in The UN Decade on Ecosystem Restoration 2021 – 2030 this year with 13 other Australian environmental organisations through the Restoration Decade Alliance a consortium that supports the goals of the UN Decade in Australia. The decade aims to halt the degradation of ecosystems and restore them.

In September 2022, the ANPC made a submission in response to the invitation issued by the Department of Climate Change, Energy, the Environment and Water to provide comment on the Government's proposal to develop a legislated framework to underpin a voluntary National Biodiversity Market. At this stage, the ANPC does not support the development of the National Biodiversity Market as it is unclear whether it will be set up to accommodate global best practice with a focus on avoidance in any proposed biodiversity offsetting, in addition to facilitating landholders' investment in conservation and restoration. There is a lack of evidence to show that offset schemes actually deliver predicted biodiversity outcomes. Assessing their effectiveness is difficult, not least because loss of habitat occurs immediately and any gains may take decades to be delivered effectively.

Experts have raised concerns about the effectiveness of biodiversity offsetting and its ability to deliver the anticipated environmental outcomes. Concerns relate to difficulties in quantifying biodiversity values for market purposes, and in establishing offset markets (i.e. supply and demand requirements), challenges in re-creating nature, time lags in restoring areas, failure to account for declining base lines, failures to effectively manage offsets sites and protect offset sites in perpetuity, and perverse outcomes. In particular, in NSW the very recent report of the Auditor General makes sobering reading. To date all the 'markets' have led to ongoing, if not increased, biodiversity decline without a reversal of past trends. Most schemes in Australia do not apply global best practices, for example, no more habitat loss for Critically Endangered species or Threatened Ecological Communities.

The Australian community continues to demonstrate strong interest and support for plant conservation. To meet these expectations, the ANPC is playing a key role in facilitating and communicating plant conservation initiatives and information across Australia. This is reflected in the ongoing participation of land managers, government departments, industry, botanic gardens, the volunteer conservation movement and the broader community in ANPC workshops and conferences as well as the requests we receive from other organisations and government agencies to participate in and comment on various flora conservation initiatives.

I continue to be greatly impressed by the dedication and breadth of knowledge of ANPC members, and staff. We still face many significant challenges for plant conservation in Australia and beyond. We need to ensure that we continue to effectively promote the inherent value and cultural significance of our unique and wonderful flora to the broader Australian community and remain true to our core business of facilitating Australian plant conservation, threatened species recovery, ecological restoration and remnant vegetation management.

APCC13 CONFERENCE 'Seeds to recovery'

https://www.anpc.asn.au/conferences/apcc13/

The 13th Australasian Plant Conservation Conference was originally due to be held in April 2021 in Albury NSW but was postponed due to COVID-19. The conference was held as a hybrid event with the in-person component hosted in Albury from 3 - 7 April 2022. We had 91 people join us at the Albury Entertainment Centre and a further 54 attendees online for the plenary sessions and workshops. Our conference opened with a Welcome to Country from Wiradjuri elder, Aunty Edna Stewart, followed by opening addresses from Albury Councillor Ashley Edwards, NSW Member for Albury Justin Clancy, and the Federal member for Farrer and the then Minister for the Environment, Sussan Ley. Dr Tony Auld gave the ANPC President's address before plenary sessions began.

Under the overarching theme 'Seeds to Recovery', 63 speakers and 13 posters covered topics under four conference subthemes (1) bushfire recovery, (2) seeds, (3) conservation of threatened species and communities and (4) engaging people with conservation /restoration. We also held two workshops with a series of short presentations, discussions, and polls on meeting ambitious restoration goals in the UN Decade on Ecosystem Restoration and selecting species and provenances (a showcase of tools, templates and approaches).

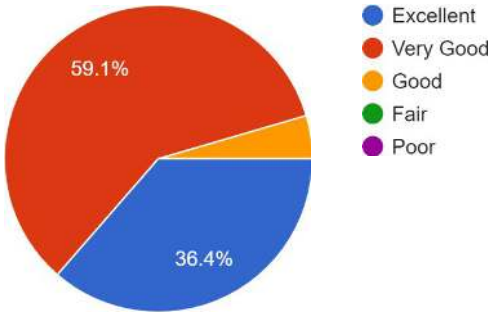
Our in-person attendees then had a choice of two field trips. One group set out to the west and visited seedbank facilities in Deniliquin and looked at Seed Production Areas along the way. The other group set off east to look at the extent of recent wildfires and discuss associated restoration, weed incursion and grazing management. There was also a post-conference field trip to the Euroa Arboretum for a tour of the Seed Production Areas and Seedbank facilities.

Recordings of the conference were made available to delegates through our website for those who may have missed a session. A summary of the conference was published in APC and the ANPC Twitter page ***https://twitter.com/ANPlantC*** and Facebook page ***https://www.facebook.com/AustralianNetworkForPlantConservation*** also posted many photos from the week and a conference commentary for each session. Conference photos can be viewed at ***https://www.flickr.com/photos/anpc albums/72177720299048739***

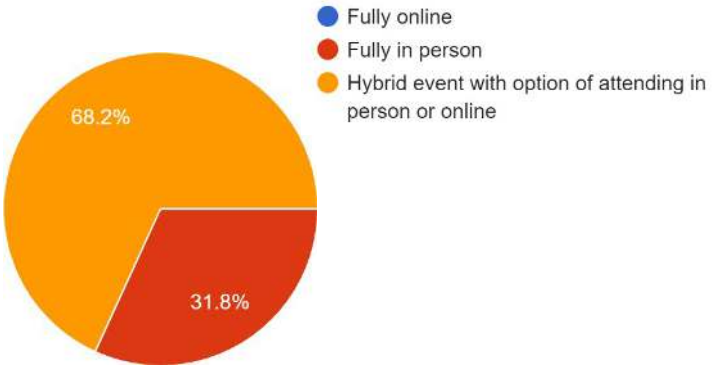
I would like to thank all our Conference partners ***https://www.anpc.asn.au/conferences/apcc13/partners/*** and the conference organising committee for all their time and hard work organising this conference: Ros Walls and Rachael Orr (AlburyCity); Phil Falcke (North East CMA); Jim Begley (Goulburn Broken CMA); Jodi Price (Charles Sturt Uni); Damian Wrigley (ASBP); Natasha Lappin (Murray LLS); Singarayer Florentine (Federation Uni); Judy Kirk (Wooragee Landcare); and ANPC staff Martin Driver, Lucy Commander, Amelia Martyn Yenson, Christine Fernance and Jo Lynch. We look forward to seeing everyone again for the 14th Australasian Plant Conservation Conference to be held in 2024!

Images on this page: (top) all in person delegates, credit Chris Fernance, screenshots of our panelists from workshop 1 (left) and workshop 2 (right).

Overall, how would you rate the APCC13 conference?



For future conferences, which would you prefer?



We received some great delegate feedback in our Evaluation Survey on the themes and presenters (as well as the catering!). We really appreciated this and for the next conference we will be focusing on making the workshops more interactive, facilitating more formal networking and mixing in activities to break up the day.

"Made valuable connections with collaborators!"

"Learnt a lot out of many of the presentations - but often it was the conversation afterwards that led to the exciting conversation"

"Net working with other professionals"

"Networking with other seed practitioners was very important to me."

better understanding the depth of research going on and the effort being put in to save endangered species,

"I developed networks beyond the scope of my current position that could provide additional opportunities for collaboration."

"Conservation success depends on collaboration!"

As a landholder with a conservation agreement what I like most about the conferences is keeping up with what's happening in the science and conservation strategies being used.

"Connecting with other people doing similar work"

"I enjoyed the balance of scientific and on ground presentations"

"Great work by the organisers and the mix of online and in-person worked really well, the conference venue staff did a great job."

WORKSHOPS AND OUTREACH

'Plant Treasures' video series

https://www.youtube.com/c/AnpcAsnAu/playlists

The Ian Potter Foundation grant along with WWF and Botanica by Air Wick (through the ASBP's The Rare Bloom Project™) provided funding to produce a total of nine videos to promote and share the new Germplasm Guidelines and its content. The videos, listed below, include interviews with chapter authors and footage of ex situ conservation processes in action and were produced by Chantelle Doyle and Michael Lawrence-Taylor.

- Plant Treasures: introduces the Guidelines - why they were updated and what is included in the new edition - and showcases the ex situ conservation of Australia's national plant treasures.
- Assessing seed storage behaviour: identification of non-orthodox seeds and alternatives to seed banking.
- The role of the nursery and living collections in ex situ conservation
- Using ex situ collections of Australian native species: Translocation and other end uses.
- Techniques including: cutting propagation, collection and processing of fern spores and using differential scanning calorimetry (DSC) to identify freezing-sensitive seeds
- Some light-hearted musings from authors of the guidelines.
- Images of Australia's diverse flowers and seeds.


'Plant Treasures – in conversation' webinar series

https://www.youtube.com/c/AnpcAsnAu/playlists

Four webinars were held between February and June this year on different aspects of the Germplasm Guidelines, co-hosted with the support of the Botanic Gardens Australian and New Zealand (BGANZ) Collections and Records Management group (BCARM). Themes included:

- data collection and record keeping.
- biosecurity in ex situ collections.
- the role of the nursery and living collections in conserving native plants species (3 hr special).
- an introduction to seed testing and germination.

Thank you to everyone who joined us at these webinars and to all our fantastic speakers, we appreciate you spending your time to share your expertise with our community. A special thank you to Emma Simpkins (nee Bodley) of BCARM for hosting these sessions, and the BGANZ Communications staff Sam Moon and Rebecca Harcourt for their support.

Australian Academy of Science Fenner Conference on the Environment 'Exceptional Times, Exceptional Plants'

We held Day 2 of the Australian Academy of Science Fenner Conference on the Environment as a hybrid event from the Shine Dome, Canberra on 2 June 2022 (by invitation only). This was funded by the Australian Academy of Science Fenner Conference on the Environment grant and The Ian Potter Foundation (IPF). We had 14 people attend for the full day, four people attend for part of the day, and 26 people attend online either from work/home or hubs in WA, Vic or NSW. We started the day with a speech from IPF Senior Project Manager, Louise Arkles, and an evaluation of the Germplasm Guidelines project outputs and impact, with polls to capture audience feedback about how the Guidelines are/will be used and how we can continue sharing the content. We continued with welcomes from Dr TJ Higgins on behalf of the AAS and Jacqui Goonrey, Director of the Office of the Threatened Species Commissioner.

The rest of the day was dedicated to discussion and activities about plants that require complementary methods of ex situ conservation, in addition to seed banking, and the types of habitats and threat combinations that require prioritisation of these methods for both threatened and at-risk species. We plan to use the evaluation session in our reporting and strategic planning for ANPC; and the exceptional species discussion to write up a scientific paper in the next year. Recordings were made available to all attendees. Thanks to Amelia, Chris, Jo and the Germplasm Guidelines steering committee for all their assistance in planning and on the day.

(Left) Delegates of the Australian Academy of Science Fenner Conference on the Environment outside the Shine Dome, Canberra. Credit Jo Lynch and (right) screenshot of delegates during the Conference.

'Plants Going Places' video series

https://www.youtube.com/c/AnpcAsnAu/playlists

Three videos have been released, with accompanying podcasts, which explore the translocation in the Melbourne region of the following plants:

1/ Spiny Rice-flower (*Pimelea spinescens* subsp. *spinescens*) - explores the successes and failures of mitigation translocations when a threatened plant is growing in an intended development location. We explore the question: Do offsets really work? The Spiny Rice-flower is arguably Australia's most salvaged plant and has a few valuable lessons to teach - about ecology, collaboration and open accessibility of knowledge.

Debbie Reynolds (Trust for Nature) being interviewed for the Spiny Rice-flower video. Credit: Michael Lawrence-Taylor.

2/ Murnong (*Microseris scapigera*) - a type of Yam Daisy. For the Wurundjeri Woi Wurrung and other Aboriginal groups in south-eastern Australia, Murnong has been an important cultural food source for thousands of years. But today only three populations remain in Melbourne.

3/ The popular plant family – orchids. With their specialised biology and pollinator-specific associations, orchids have gained a reputation for being difficult to propagate. This video discusses how to grow and restore orchid populations when faced with many challenges.

Dr Noushka Reiter (Royal Botanic Gardens Victoria) being interviewed on the Orchid video. Credit: Michael Lawrence-Taylor.

'Plants Going Places' Victorian Translocation Symposium

https://www.anpc.asn.au/news/plants-going-places-translocation-symposium/

This free online Symposium was held over two half days on 21 and 28 July 2022. The intention was to hold three in-person workshops in Victoria in early 2022, however we needed to pivot to online due to ongoing COVID-19 concerns at the time. We had an excellent line up of 26 experts and experienced practitioners in plant translocations provide a variety of presentations on their recent work during the Symposium. This attracted a wide range of 299 registrants. We were also able to provide recordings of the Symposium on our ANPC YouTube channel and these have been viewed 495 times. Thank you to everyone who joined us and for all our fantastic speakers, we appreciate you spending your time to share your expertise with our community. The results of the evaluation survey were very positive and we look forward to being able to hold similar events in the future.

"The facilitator was marvellous, her enthusiasm shone through. Every speaker sharing their passion made for informative, specialised, quality education."

"The range of topics/speakers was excellent."

"It's great that it was free and available to all interested parties"

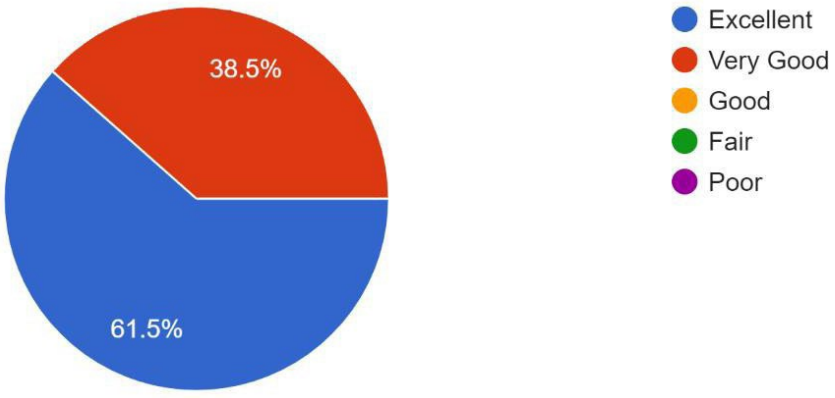
"Lots of food for thought and inspirational hearing about various projects and outcomes."

"Each presentation addressed different aspects of translocation and so conveyed a diversity of different techniques, opportunities and stories. It was valuable to highlight that translocation looks different for each species."

"It's great to have a forum whereby experts can freely share their knowledge and open opportunities to network and connect in a professional manner"

"a great job of coordinating all the speakers and providing enthusiastic commentary in between talks".

Overall, how would you rate the Symposium?



Online training in Myrtle Rust for Native Guava project

The ANPC undertook online training for botanic garden personnel working on the Native Guava project on 19 August 2022, and it was recorded and made available to those who could not attend on the day. A big thankyou to Amelia Martyn Yenson for coordinating the training and to Bob Makinson (ANPC), Craig Stehn (DPE) and Veronica Viler (The Australian Botanic Garden Mount Annan) for their presentations on Myrtle Rust, project monitoring (using paper-based forms and the Epicollect app) and plant management including spraying. An evaluation survey recorded great feedback on the training. We look forward to hosting an open access webinar on Myrtle Rust in the first half of 2023.

ANPC's Bob Makinson presenting background information on Native Guava at the online training in Myrtle Rust.

Dead Native Guava trees at Bongil Bongil National Park, NSW, 2013, only two years after the arrival of Myrtle Rust. In recent surveys in NSW and QLD, no adult trees remain of this once common rainforest plant. Credit Peter Entwistle

Myrtle Rust information hub and donation drive

https://www.anpc.asn.au/myrtle-rust/

The ANPC's Myrtle Rust information hub was further developed and updated this year to continue our contribution to response capabilities both here in Australia and overseas. Myrtle Rust, an introduced fungal disease, is a major threat to Australia's flora. It infects hundreds of species in the Myrtaceae family. Since this disease was introduced to Australia in 2010, at least five native plants have jumped straight to the 'Critically Endangered' category as a direct result of the disease and are faced with extinction in the wild in the very near future.

The ANPC has been at the centre of attempts by concerned scientists and conservation practitioners to develop a coordinated and funded national response to this threat. Much of this work has been on a voluntary basis or at best a shoestring budget.

In early November we launched a Donation Drive to raise funds for our work on Myrtle Rust. You can donate to this urgent cause here ***https://www.anpc.asn.au/donate/donation-drive-myrtle-rust/***

Conference presentations

Amelia Martyn Yenson (Project Manager):

- 13th Australasian Plant Conservation Conference (Albury, 3-7 April 2022) on Germplasm Guidelines.
- 1st International Plant Translocation Conference (online, held in Rome, 20-23 June) on Germplasm Guidelines.
- The National Landcare Conference (Sydney, 23-25 August 2022) on Germplasm Guidelines.
- The Germplasm Conservation Symposium at the 7th Global Botanic Gardens Congress (Melbourne, 25-30 September 2022) on Germplasm Guidelines.

Martin Driver (former Project Manager):

- 13th Australasian Plant Conservation Conference (Albury, 3-7 April 2022) on Healthy Seeds project and Roadmap.
- 13th Australasian Plant Conservation Conference (Albury, 3-7 April 2022) ran field trip #1 on seeds and restoration.

Lucy Commander (former Project Manager):

- 13th Australasian Plant Conservation Conference (Albury, 3-7 April 2022) on Florabank Guidelines and seed supply chain.
- 1st International Plant Translocation Conference from 20-23 June (online, held in Rome) on Translocation Guidelines.

Chantelle Doyle (former Project Manager)

- 1st International Plant Translocation Conference (Rome, 20-23 June), presented a perspective of Australian translocation practitioners. Won best presentation (as voted by her peers) and resulted in a review paper led by Chantelle with 20 authors from around the world and recently submitted to Plant Ecology, which discusses and suggests global mitigation translocation standards, and the need for databases.

Images: (Top) Lucy Commander presenting at the IPCC13 and Chantelle Doyle presenting at the first International Plant Translocation Conference held in Rome.

Dr Lydia Guja (ANPC Committee member) and Dr Gemma Hoyle (both from ANBG)

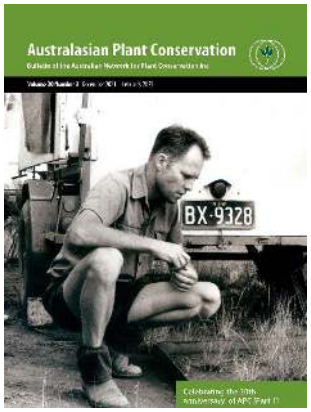
- 7th Seed Ecology Conference of the International Society for Seed Science (Spain, 6-9 September 2022). ANPC posters promoting the Translocation Guidelines, Florabank Guidelines and Germplasm Guidelines.

Images: (left) Dr Gemma Hoyle presenting a poster on the recently revised Plant Germplasm Conservation in Australia and (right) Dr Lydia Guja presenting a poster on the recent publications revised by the ANPC.

Australasian Plant Conservation (APC)

APC, our quarterly bulletin, has continued to publish high-quality articles relevant to a broad range of plant conservation practitioners and managers, under the continued editorship this year of Heidi Zimmer and assistant editors Nathan Emery and Selga Harrington. This year, APC has featured a wide range of articles on orchids (following on from our Orchid Symposium in 2021), bushfire recovery, Myrtle rust, cryopreservation, need for an ecosystem restoration strategy, ANPC events and guidelines, regular news from the Australian Seed Bank Partnership as well as papers from our biennial conference in April 'Seeds to Recovery'. We were also proud to produce two special editions to mark the 30th anniversary of the ANPC. To celebrate this milestone, APC presented articles on the history of the ANPC along with members' retrospectives and reflections on plant conservation issues (and changes over the past 30 years).

I would like to sincerely thank Heidi, Nathan and Selga for all their efforts over the past year in ensuring that APC continues to be a quality and well-respected publication communicating Australasian plant conservation issues. Thank you also to the many authors who have contributed to these editions this year. The Spring 2022 edition which will be out soon, will be Heidi's last after four years, so a special thank you to her for all her efforts in making APC such an excellent source of information for plant conservation and a warm welcome to Nathan as the new editor.



Social media

Our outreach efforts continue to expand through social media with the regular sharing of news and events in plant conservation via Twitter, Facebook and LinkedIn. Regular posting has seen an increase in subscribers across all channels, our monthly email newsletter ANPC e-news now reaches over 1,000 subscribers. While our social media channel followers have grown by 6-10 percent.

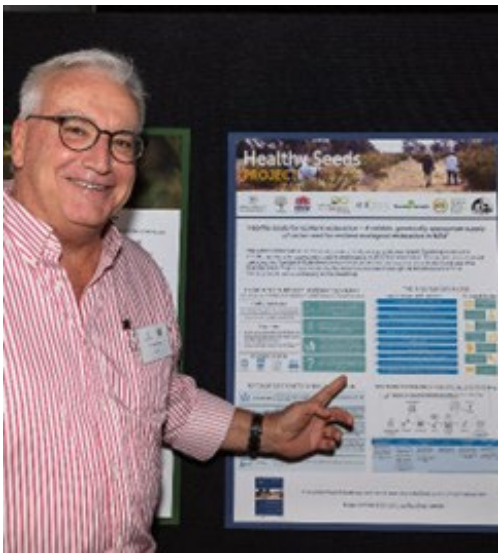
We ran some paid promotional posts on Facebook which saw our YouTube subscriber number double and our promoted videos receiving 200-300 extra views.

You may also have seen the ANPC's work was mentioned in the ABC's article "*Invasive myrtle rust fungus poses 'unprecedented' risk to native trees*", the Guardian's article "'*Silent extinction': myrtle rust fungus spreads to WA's Kimberley*" and The Sydney Morning Herald's article "*Ten days to plant 6000 native orchids? Easy for army of volunteers*".

STAFFING

Many thanks to all our staff who work above and beyond the call of duty for the ANPC. Their dedication, advice and support make my role and the work of the Committee much more effective and ensures that the ANPC continues to function as a highly respected conservation organisation. It has been wonderful to see all the results of their excellent work come to fruition in 2022.

Martin Driver ended his role as the Healthy Seeds Project Manager in April. A huge thank you to Martin for managing the Healthy Seeds project, overseeing the Florabank Guidelines update and developing the Roadmap, which was approved by the Environmental Trust in July 2022; along with his tremendous assistance with the organisation of APCC13. He is continuing to work in an ex officio role on behalf of the ANPC currently liaising with the NSW Environmental Trust regarding the implementation of the Roadmap and the development of Stage 2 of the project.



Project Manager Martin Driver presenting the Healthy Seeds Roadmap poster at the 13th Australasian Plant Conservation Conference. Credit Christine Fernance

Project Manager Amelia Martyn Yenson with Native Guava planted at ANBG. Credit Zoe Knapp

Dr Amelia Martyn Yenson led the promulgation of the Germplasm Guidelines this year, including the production of the Plant Treasures videos and webinars and various presentations. I also acknowledge her outstanding efforts facilitating the very successful Day 2 of the Fenner Conference. And on behalf of the ANPC, I'd like to congratulate Amelia on receiving the Marsh Award. Presented at the 7th Global Botanic Gardens Congress in September, Amelia received the 2022 Marsh Award for International Plant Conservation in recognition of her work managing the revision of the Germplasm Guidelines. The Marsh Award recognises an individual in the early to mid-stages of their career who has made a significant achievement in the conservation of rare and endangered plant species and plant diversity. Since June 2022, we are fortunate that Amelia has continued her work for the ANPC through managing the current federally funded Safe Custody of Native Guava project.

We were fortunate to be able to employ Chantelle Doyle for a few months this year to plan and facilitate the highly successful online Victorian Plant Translocation Symposium.

Christine Fernance has continued to do a superb job as our Communications Manager this year, further growing the ANPC's reach via social media, ANPC e-news, project promotions, and implementing communication strategies for each project and the ANPC.

Our Business Manager, Jo Lynch, has continued her excellent work in the office with grant applications and reports, along with overall project and budget management. Sincere thanks to our office volunteer Robert Hawes, who has helped enormously with various administrative and financial tasks this year.

From left: ANPC Project Manager and video producer Chantelle Doyle facilitating the ANPC's online Plants Going Places Victorian Plant Translocation Symposium, Chris Fernance and Jo Lynch.



I am grateful to all the Committee members for their tremendous support over the year. All the Committee members have significant commitments outside the ANPC, and it is often challenging to devote the time required to be active committee members. The involvement in the committee by all members is a clear demonstration of their dedication to the ANPC and its goals in improving plant conservation. I would especially like to thank Meredith Cosgrove who is leaving the committee this year, and I sincerely thank her for her time and support.

FUNDING

Our financial situation will be reported on in detail separately at the AGM but our key sources of income this year have included:

- NSW Environmental Trust.
- The Ian Potter Foundation.
- Australian Government's Wildlife and Habitat Bushfire Recovery Program.
- San Diego Zoo Wildlife Alliance
- The Ross Trust
- Australian Academy of Science.
- Memberships and donations.

The hosting of the ANPC by the Australian National Botanic Gardens remains a crucial support for us, and a major contribution by the ANBG to the national effort for plant conservation. This includes provision of office space, computers, phones, electricity, furniture, and a printer. I would like to sincerely thank the Gardens for this support, and look forward to continuing this close relationship into the future.

THE COMING YEAR

2023 will again be a very busy year for the ANPC as we plan to undertake the following:

- Develop a five-year strategic plan for the ANPC.
- Begin planning our 14th Australasian Plant Conservation Conference to be held in 2024.
- Continue surveys of threatened epiphytic orchids and other plant species affected by the 2019/20 fires.
- Further promulgate the Healthy Seeds Roadmap and plan for Stage 2 of the project.
- Organise a webinar on our Native Guava project, with a focus on Myrtle Rust and how ex situ conservation can help tackle this threatening process.
- Convene a post-fire plant recovery symposium.
- Undertake fundraising to build on our work on the Myrtle Rust threat.
- Seek further funding for essential projects and the ANPC Project Manager roles.
- Write up a scientific paper on exceptional species following the Fenner Conference held June 2022.
- Seek funding to update and maintain the Australian Plant Translocation Database that the ANPC hosts for free on our website.

I have really enjoyed this last year as President. It was great to finally be able to hold APCC13 in Albury and to spend time with people face-to-face, and to see the success of our past and current efforts, including the Fenner Conference and the Germplasm Guidelines. This year the ANPC again has a number of achievements to be very proud of and plant conservation endeavours are certainly keeping us very busy, and highly relevant. Thank you to everyone involved for your efforts that help build the ANPC as the go-to organisation for plant conservation. This highlights the ongoing strength of the organisation and those working for ANPC. Once again, I am privileged to work with all of you and for an organisation that does so much for plant conservation in Australia. As we begin new initiatives covering a broad range of topics, I know that the ANPC can continue to play a leading role in plant conservation across Australia and the region more broadly.

Dr Tony Auld
President
Australian Network for Plant Conservation Inc.

APPENDIX 1: References

Department of Agriculture, Water and the Environment (2022). Fire regimes that cause biodiversity decline as a key threatening process. Canberra, ACT.

Zylstra, P.J. (2021). Linking fire behaviour and its ecological effects to plant traits, using FRaME in R. *Methods Ecol. Evol.,* 12, 1365–1378.

Zylstra, P.J., Bradshaw, S.D.A. and Lindenmayer, D.B. (2022). Self-thinning forest understoreys reduce wildfire risk, even in a warming climate. *Environ. Res. Lett*., 17, 044022.

Zylstra, P.J., Wardell-Johnson, G.W., Falster, D.S., Howe, M., McQuoid, N. and Neville, S. (2022a). *Ecological controls on flame height in southwest Australian forests*. In Review.

APPENDIX 2: Citations of the Germplasm Guidelines (3rd edition) as at 28 June 2022

Martyn Yenson AJ, Offord CA, Meagher PF, Auld TD, Bush D, Coates DJ, Commander LE, Guja LK, Norton SL, Makinson RO, Stanley R, Walsh N, Wrigley D, Broadhurst L (Eds.) (2021) 'Plant Germplasm Conservation in Australia: strategies and guidelines for developing, managing and utilising ex situ collections. Third edition.' Australian Network for Plant Conservation, Canberra. Available at ***https://www.anpc.asn.au/plant-germplasm/***

Citations in academia and policy

The Guidelines are already being cited in review papers, as well as papers referring to techniques such as dormancy classification (Emery and Collette 2021) and concepts around collection utilisation (Breman *et al.* 2021). It has been cited in reports on forest genetic resources in Australia (Lott and Read 2021) and the Strategy for the Australian Native Seed Sector developed from Project Phoenix (Van Moort *et al.* 2021).

It's also referred to, along with the translocation guidelines, in the Threatened Species Action Plan 2021-2026, with an action under Target 8 to: "Support and promote best practice guidelines for key recovery actions (including the use of…protocols for translocations, ex situ conservation and seed collection)."

The Germplasm and Translocation Guidelines are starting to be incorporated into national plant Conservation Advices (CAs), including drafts on public exhibition for *Pultenaea rodwayi, Leionema westonii* and *Leionema coxii* (e.g., DAWE 2021). All the 125 CAs that UNSW will be doing for post-2019/2020 impacts will have both Germplasm and Translocation Guidelines references.

Breman E, Ballesteros D, Castillo-Lorenzo E, Cockel C, Dickie J, Faruk A, O'Donnell K, Offord CA, Pironon S, Sharrock S, *et al.* (2021) Plant Diversity Conservation Challenges and Prospects—The Perspective of Botanic Gardens and the Millennium Seed Bank. *Plants* 10, 2371. ***https://doi.org/10.3390/plants10112371***

DAWE (2021) Conservation advice for *Leionema coxii* (Cox's leionema), Canberra. This publication is available at the ***SPRAT profile for Leionema coxii (Cox's leionema).***

Emery NJ, Collette JC (2021) Seeds of the threatened dry rainforest tree *Cadellia pentastylis* (Surianaceae) are non-dormant. *Seed Science Research* 31, 333–337. ***https://doi.org/10.1017/S0960258521000301***

Hardstaff LK, Sommerville KD, Funnekotter B, Bunn E, Offord CA, Mancera RL (2022) Myrtaceae

in Australia: Use of Cryobiotechnologies for the Conservation of a Significant Plant Family under Threat. *Plants* 11, 1017. ***https://doi.org/10.3390/plants11081017***

Lott R, Read SM (2021) *Status of Australia's Forest Genetic Resources 2021. Australia's Country Report for The Second Report on the State of the World's Forest Genetic Resources*. Prepared for the Food and Agriculture Organization of the United Nations. ABARES Research Report 21.15. November 2021, Canberra. CC BY 4.0 ***https://doi.org/10.25814/dnv3-vj64***

Turner SR, Cross AT, Just M, Newton V, Pedrini S, Tomlinson S, Dixon K (2022) Restoration seedbanks for mined land restoration. *Restoration Ecology* e13667. ***https://doi.org/10.1111/rec.13667***

Van Moort JP, Lobb A, Baker L (2021) A Strategy for the Australian Native Seed Sector. Project Phoenix, Greening Australia: Melbourne, Victoria. ***https://www.greeningaustralia.org.au/project-phoenix-resources/***

APPENDIX 3: Selected publications co-authored by ANPC staff and President

Auld TD, Keith DA (2022) Plant conservation in Australia. *Australasian Plant Conservation* 30(4): 3-6.

Auld TD et al. (in press) Frameworks for identifying priority plants and ecosystems most impacted by major fires. *Australian Journal of Botany* (in press).

Commander LE, Martyn Yenson AJ, Coates DJ, Bradbury K, Makinson B, Offord CA, Broadhurst L, Auld T, Gibson-Roy P (2022) Why Australia needs an Ecosystem Restoration Strategy. *Australasian Plant Conservation* 30(4): 13-18.

Keith DA, Allen SP, Gallagher RV, Mackenzie BDE, Auld TD *et al*. (2022) Fire-related threats and transformational change in Australian ecosystems. *Global Ecology and Biogeography* 31: 2070-2084.

Funnekotter B, Bunn E (2022) Cryopreserving plants for long-term conservation. Australasian Plant Conservation 30(4): 8-10.

Gallagher, R., et al. and Auld, T.D. (2022). An integrated approach to assessing abiotic and biotic threats to post-fire plant species recovery: lessons from the 2019-20 Australian fire season. *Global Ecology and Biogeography* 31: 2056–2069.

Martyn Yenson AJ, Nadarajan J, Funnekotter B, Sommerville KD (2022) Australian Academy of Science Fenner Conference on the Environment 'Exceptional Times, Exceptional Plants'. *Australasian Plant Conservation* 30(4): 26-29.

Scobie K (2022) Conserving priority species at the Australian National Botanic Gardens. *Australasian Plant Conservation* 30(4): 10-12.