PROJECT PHOENIX

A STRATEGY FOR THE AUSTRALIAN SEED SECTOR (DRAFT)

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Across all of our Project Phoenix activities and actions we pay respect to the Traditional Owners and Custodians of the lands and waters on which we work. We honour the resilience and continuing connection to country, culture and community of all Aboriginal and Torres Strait Islander people across Australia. We recognise the decisions we make today will impact the lives of generations to come.

ACKNOWLEDGEMENTS

The ACIL Allen team would like to acknowledge the generous contribution of participants from across the native seed sector in developing this Strategy.

Greening Australia would like to acknowledge the hard work and dedication of the Project Phoenix Management Team: Samantha Craigie, Patricia Verden, Brian Ramsay, Irene Walker, Courtney Sullivan, Rowan Wood, Paul Della Libera, Kim Philliponi and Ella Campen.

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EXECUTIVE SUMMARY

Why do we need a strategy?

Native seeds are the foundation of Australia's biodiversity and are widely used in conserving and restoring our landscapes and creating opportunities for communities (such as Traditional Owners and conservation/Landcare) and businesses (such as seed collectors, restoration practitioners, native foods, gardens and novel products).

Australia has great biodiversity with over 21,000 different species of native plants. Some of these are commonly sourced and are readily available but some are threatened species protected by legislation.

In 2019–20 Australia suffered its worst bushfires in 20 years. Over 35 per cent of Australia's nationally listed ecological communities were impacted. In the months after the 'Black Summer' bushfires it was realised that the time had come to sure up the sustainable supply of native seed to be prepared for risks and catastrophes such as fire, flood, drought and climate change.

This Strategy has been designed around two central challenges for Australia to make better use of native seeds to manage landscapes and realise opportunities.

These challenges are:

1. **Seed banks need to make the full diversity of Australian native plant species and their genetics available for posterity and active use**
2. **The Australian native seeds sector needs to attract the resources to sustain its skills and capacity to respond when required.**

The native seed sector is disparate, dynamic and complex and native seed has many uses which are often inter-related and continually evolving but all participants have a role to play in overcoming these challenges for the future of Australian biodiversity.

While these differences can create resilience, it makes it difficult to achieve common goals or surmount challenges that are bigger than what each participant or group of participants can do individually.

This Strategy has been designed to find a coordinated approach to sector development by setting objectives to remove barriers that everyone faces and to realise outcomes that will benefit the whole sector.

How this Strategy has been developed

This Strategy was developed through research and broad engagement with the sector from January to June 2021 and was overseen by an External Steering Committee (ESC) with a diverse membership, including government agencies, land managers, the national nursery association, and restoration practitioners. The role of the ESC has been to provide advice and validate the Strategy.

This Strategy was informed by:

- a series of ranging interviews with sector participants to scope the Strategy
  - identifying key themes and additional members of the sector to be consulted
- 14 design workshops with participants from across the sector which focused on these key themes, and state, territory and national perspectives[1]
- a draft prepared for consideration by the ESC, Greening Australia and the Commonwealth Government, prior to public consultation from July–August 2021.

The Strategy acknowledges that native seed is important to Traditional Owners and a key element of the Strategy delivery will be working with Traditional Owners to build a culturally appropriate and inclusive sector. While efforts were made to include Traditional Owners in the Strategy's development, more work is needed to ensure the Strategy meets the needs of Traditional Owners.

Six strategic objectives

This Strategy outlines six strategic objectives (see **Figure ES1**) for Australia to make better use of native seeds to manage landscapes and realise opportunities.

[1] Greening Australia (2021) Project Phoenix Development Workshop Recordings. Accessed 1 June 2021: https://www.greeningaustralia.org.au/project-phoenix-development-workshop-recordings/.

FIGURE ES1. STRATEGIC OBJECTIVES

Source: ACIL Allen

This Strategy has been designed to support all participants by overcoming common barriers such as:

- poor availability of many types of information (including market-based information)
- diverse and competing views
- burdensome and complex regulation
- inconsistent and unpredictable demand and supply.

Each of the six objectives aims to remove a common barrier through a series of 12 activities.

Strategic Objective 1: Quality

1. Adopt an existing framework for standards that is nationally agreed but voluntary.
2. Find an owner for the standards so they can be maintained, adapted and developed over time using existing systems and processes.
3. Promote the benefit of using standards to larger seed supplier, purchasers and users.

Strategic Objective 2: Market coordination

4. Develop a schedule of **regionally**-based fora (through the NRMs or Landcare) to facilitate information sharing and networking accompanied by a widely circulated regular sector summary of trends and opportunities.
5. Develop a policy and planning sector summary integrated with spatial mapping and other existing databases and tools.
6. Design a regionally networked exchange portal with a brokerage function to support sharing of demand and supply-side information.

Strategic Objective 3: Information sharing

7. Develop a single connected network of information databases on areas relevant to native seeds from the regional to the national level (integrate this with information developed in Strategic Objective 2).
8. Make use of existing structures and funding co-design R&D priorities with a focus on public good to improve R&D support/outcomes.

Strategic Objective 4: New industries

9. Ensure those who want to develop new industries have access to funding and supports that exist to do so.
10. Coordinate and collaborate better through fora (Strategic objective 2) and information (Strategic objective 3).

Strategic Objective 5: Smarter regulation

11. Improve permits/licensing through review of state/territory legislation across all jurisdictions.

Strategic Objective 6: Sector leadership

12. Establish transitional leadership in the form of a partnership arrangement with state/territory representatives focused on Strategy implementation. A peak body should be fostered and supported to promote standards.

Outcomes lead to benefits for all

The benefits from the activities under this Strategy (see **Figure ES2**) will result in a native seed system that is:

- visible and connected
- enabled by successful enterprises and thriving communities
- supported by programs and initiatives
- providing sustainable native seed supply.

FIGURE ES2. STRATEGIC OUTCOMES

Source: Greening Australia

CHALLENGE AND STRATEGIC OBJECTIVES

Background and purpose

Project Phoenix arose from the recent bushfires and longstanding recognition that we can and must do better with our native seeds. It is a $5 million project, involving experts and representatives from across the native seed sector, in 30 activities (Project Phoenix activities, see Appendix A) that are delivering against eight strategic priorities. Project Phoenix is funded by the Federal Government's $50 million Bushfire Wildlife and Habitat Recovery package.

Developing and coordinating a ten-year native seed and landscape restoration strategy, including engagement with key stakeholders.

Project Phoenix has presented the opportunity for developing and coordinating a ten-year native seed and landscape strategy, including engaging with key stakeholders. The strategy aims to create a ten-year strategic road map. It aims to start building the systems that enable the sector to improve the physical repositories of native seed (e.g. seed banks or soil seed banks) so that Australia can better manage restoration and rehabilitation of landscapes and support biodiversity and also mitigate the risks of bushfires, drought and other catastrophes.

This Strategy has been developed through research and broad engagement with the sector from January to June 2021 (see Appendix B, Appendix C and Appendix D). This has been overseen by an External Steering Committee (ESC) with a diverse membership, including government agencies, land managers, the national nursery association, and restoration practitioners. The role of the ESC has been to provide advice and validate the Strategy.

Strategy development has been informed by ranging interviews with the ESC and sector participants to scope the Strategy, and identify key themes and additional members of the sector to be consulted. This was followed by 14 design workshops focused on the Strategy's objectives, and state, territory and national perspectives.[2] A draft of the Strategy was prepared for consideration by the ESC, Greening Australia and the Commonwealth Government, prior to public consultation from July–August 2021.

The Strategy acknowledges that native seed is important to Traditional Owners and a key element of the Strategy delivery will be working with Traditional Owners to build a culturally appropriate and inclusive sector. While efforts were made to include Traditional Owners in the Strategy's development, more work is needed to ensure the Strategy meets the needs of Traditional Owners.

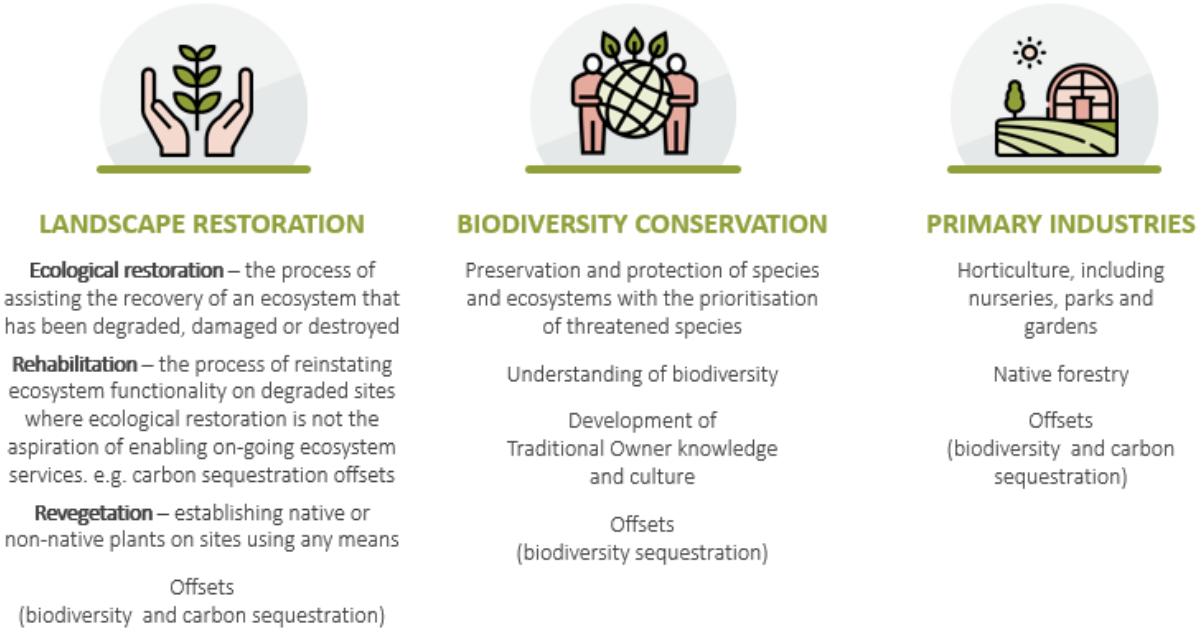
[2] Greening Australia (2021) Project Phoenix Development Workshop Recordings. Accessed 1 June 2021: https://www.greeningaustralia.org.au/project-phoenix-development-workshop-recordings/.

Sector overview and drivers

Someone is always working with native seeds somewhere.

Native seed has many uses which are often inter-related and continually evolving, creating a dynamic and complex sector (**Figure 1**). They are used extensively in landscape restoration, especially when in situ seed banks need to be augmented. Biodiversity conservation provides an enduring core of the sector, including a well-developed research network and an increasing focus on Traditional Owner knowledge and culture. Primary industries are a long-standing part of the sector through horticulture, forestry and increasingly vegetation offsets.

FIGURE 1. THE NATIVE SEED SECTOR USES



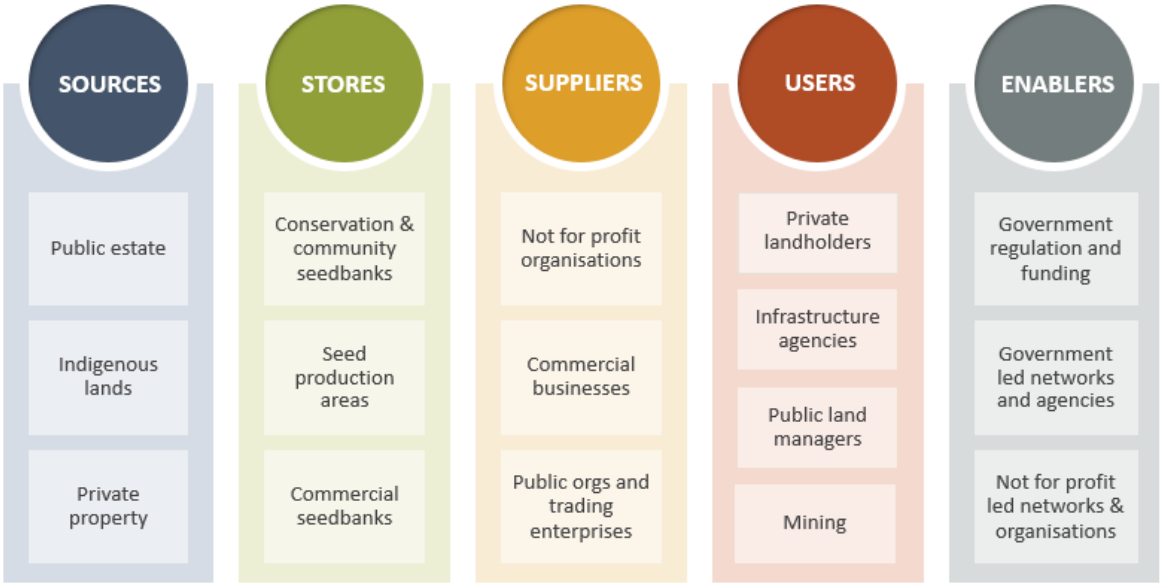
Source: ACIL Allen

The native seed value chain applies to all the sub-sectors and are often interlinked (**Figure 2**).[3] Native seeds need to be sourced, relying on an extensive network of mostly small business collectors. Seed for conservation purposes is mostly funded through and collected by government and philanthropy. These are stored in seed banks and produced in seed production areas for posterity (conservation) or to provide native seeds for seeding and propagation. The stores for seeding mostly operate independently, in line with the needs of the region or supplying businesses. The users of native seeds are a mixture of private landholders (rural, industrial and urban), infrastructure agencies and public land managers (including local, state and federal governments).

[3] Society for Ecological Restoration Australasia (SERA) (2021). *National standards for the practice of ecological restoration in Australia*. Edition 2.2. Available from: www.seraustralasia.com.

Users have an array of supply arrangements including maintaining their own capability, directly engaging native seed suppliers on repeat or spot-contracts or outsourcing to third parties. Government plays an important role in enabling the value chain through regulation, funding of direct seed collection and driving demand as well as the direct activities and network facilitation of various agencies. The importance of not-for-profit and private entities are also important enablers, as they seek to promote and directly invest in increased native vegetation for conservation and offsetting purposes.

FIGURE 2. THE NATIVE SEED VALUE CHAIN



Source: ACIL Allen

Overall ,the sector is impacted by highly variable demand and constrained supply. A snapshot of the native seed sector is presented in **Figure 3**.

Demand for native seed is growing, though highly variable (in time and geography) and expected to accelerate over the next decade due to:

- sustained focus on preserving threatened plant species and communities
- ongoing requirements to rehabilitate land following development
- restoration of landscapes following acute (e.g. fire) and chronic (e.g. vegetation decline) degradation
- increased large-scale plantings related to biodiversity and carbon sequestration opportunities
- increased focus on environmental, social and governance factors

- Australian commitments to international conventions such as UN Convention on Biological Diversity[4] and the potential for future commitments such as the Nagoya Protocol[5]
- commercial opportunities for native seeds and land managers including Traditional Owners.

Supply is mostly limited by access to seed and land, as well as variability due to seasonal conditions, incomplete information on demand, and poor coordination and resourcing (such as timing, funding, infrastructure, skills and knowledge and lack of seed production beyond wild populations) across the sector. This is limited by climate change and deterioration of vegetation.

It is difficult for the sector to manage the impacts of unpredictable supply and demand. This is made more challenging by the diversity of roles, perspectives and priorities of each of the participants. However, the barriers to growing and developing the sector are similar across the participants. These common barriers are:

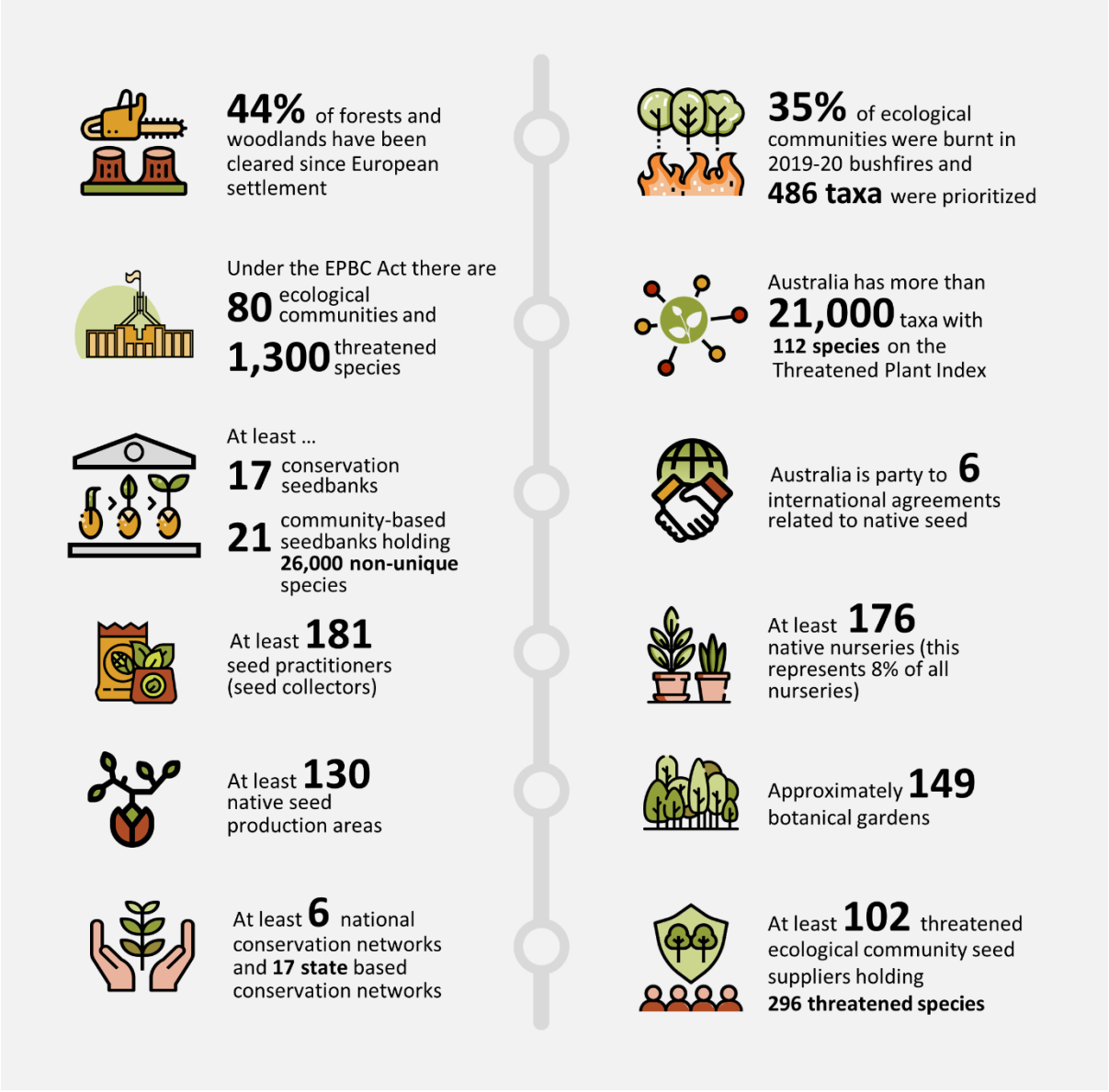
- poor availability of information
- diverse and competing views
- burdensome and complex regulation.

This Strategy has been designed to overcome these common barriers to support all participants and enable the native seed sector to deliver benefits for all Australians.

[4] Australia has been committed to the UN Convention on Biological Diversity (UNCBD) since 1993, it is one of three 'Rio Conventions'. It has three objectives (1) conservation of biodiversity (2) sustainable use of its components (3) fair and equitable sharing of the benefits arising from the use of genetic resources. The UNCBD provides an important framework for integrating Australia's policies of natural resources, environment and biodiversity management. Under the CBD all parties are required to have a national biodiversity strategy and action plan, guiding national implementation of the CBD's Strategic Plan and its Aichi Biodiversity Targets. Australia runs a joint approach across all States and Territories as well as local governments and using this structure a new Strategy for Nature and a digital hub was designed.
Australia's Strategy for Nature 2019–2030: https://www.australiasnaturehub.gov.au/national-strategy Australia's Nature Hub: https://www.australiasnaturehub.gov.au/

[5] Australia is not currently a signatory to the Nagoya Protocol under the UNCBD.

FIGURE 3. A SNAPSHOT OF THE NATIVE SEED SECTOR



Source: Project Phoenix Activities 1.4, 2.2, 2.3, 2.4 and 5.3 completion and final reports.

Challenges

Native seeds are the foundation of Australia's biodiversity and are widely used in conserving and restoring our landscapes. Native seeds create opportunities for communities (such as Traditional Owners and conservation/Landcare) and businesses (such as native foods, gardens and novel products). This Strategy sets two challenges for Australia to make better use of native seeds to manage landscapes and realise opportunities.

Seed banks need to make the full diversity of Australian native plant species and their genetics available for posterity and active use.

As the world changes, Australia needs to ensure we retain our native plant species and prevent them from becoming lost forever. Our challenge is firstly, to maintain species in the wild, and secondly, to ensure that seed banks can provide insurance for species to remain available to supplement and restore ecosystems impacted by short and long-term land use changes and catastrophic events.

This includes soil seed banks and the full range of functioning seed stores, which serve Australia's ecosystems. This will require improvement, growth and maintenance of the existing national conservation and restoration seed bank and seed production networks to ensure genetically diverse and viable seeds are available in perpetuity.

> The Australian native seeds sector needs to attract the resources to sustain its skills and capacity to respond when required.

The need for native seed is always changing. Catastrophic events, climate change, threatened species, restoration requirements, conservation initiatives and other opportunities all require native seeds. The timing and location are not always predictable. However, we know the location of degraded landscapes and can forecast the probable location of bushfires across Australia. Australia requires a platform that can scale as needed. This means a market and infrastructure systems readily able to regionally source, store and use seed sustainably across the nation along with the organisations and skills to do so. Buyers of seed also need to understand the value of quality seed and be willing to pay.

Strategic objectives

Six strategic objectives have been developed to meet the challenges (**Figure 4**). The rationale, objectives, major activities and key performance indicators for each are presented in the following chapters.

FIGURE 4. STRATEGIC OBJECTIVES

STRATEGIC OBJECTIVE 1: QUALITY

Rationale

Quality standards are essential for developing the native seed sector. Standards for the collection, cleaning and storage of native seed exist but are not nationally agreed and it is unclear how widely they are adopted.

Buyers of seed or non-paying users of seed, such as researchers or some restoration practitioners, need quality assurance to know that they will receive value for money, and/or value for time invested, in terms of genetic and species diversity, provenance and germination success rates. Suppliers of seed need guidance to improve practice and provide assurance.

Poor seed collection and storing practices are common among some sector participants. This may continue without strong quality standards, documentation and data management systems, minimum qualifications and competencies, and adoption/enforcement. These include exploitation of threatened communities and Traditional Owner-held lands, inadequate seed storage and sub-optimal planting and management of seed in the field. These damage the reputation of the sector as a whole.

Goal

To agree on, promote and actively adopt one 'living' set of national best practice standards (or Code of Practice) and functional data systems for (possibly voluntary) use across the sector.

A 'living' standard needs to be flexible to allow for ongoing adjustment as the native seed sector matures and to incorporate new research and development as it emerges.

A single, national good practice standard will improve:

- quality, quantity and diversity (species and genetic) of native seeds
- documentation of outcomes from native seeds: for multiple uses, from collection and production, through to storage
- market signals (i.e. purchase price or fee for service) through the adoption of standards in the way programs and contracts specify the need for native seed.

The sector will need time for the 'living' standard to develop and be adopted, and its use should initially be voluntary. The sector could consider mandating use of the standard as it develops over time.

Major activities

The native seed sector has several standards for the collection and storage of seeds but none are 'living' standards or nationally agreed, and it is unclear how widely they are adopted. Governments and users of seeds are increasingly seeking to ensure quality outcomes are achieved from restoration projects. However, contract specifications, compliance checking and enforcement of 'make good' provisions are variable.

The sector could choose a range of frameworks to design and deliver standards. The sector should consider the elements that can be adopted in a voluntary manner and can be scaled and adapted over time (e.g. minimum standardised testing requirements, labelling and database management, certification, licensing, monitoring, reporting and compliance etc). This should consider the cost effectiveness of each element.

Further thought should be given to partnering with Traditional Owners to inform the quality standard. This should consider intellectual property rights of Traditional Owners, culturally appropriate seed collection practices and support for Indigenous-led seed collection on country. In working with Traditional Owners, all native seed sector participants should uphold the principles of free, prior and informed consent.

To deliver on **QUALITY**, the following activities are needed:

1.a Develop a single nationally agreed framework for standards.

i. **Option 1:** adopt an existing framework but ensure this can be adapted, as needed, for example:
   - *FloraBank Guidelines* (second edition under development, due in 2021)
   - *Plant Germplasm Conservation in Australia* (3rd edition under development, due in 2021)
   - International principles and standards for native seeds in ecological restoration (Pedrini and Dixon, 2020)
   - Revegetation Industry Association of Western Australia (RIAWA) Seed Standards[6]
   - Australian Seed Federation's (ASF) National Code of Practice for Seed Labelling and Marketing.[7]

ii. **Option 2:** develop a new framework, while making use of existing frameworks, where possible. For example, this could take a pick-and-mix approach from the existing standards.

1.b Find an owner for the standards, ideally independent and with existing processes and systems, to maintain and further develop the standards.

[6] Revegetation Industry Association of Western Australia (2021). RIAWA Standards & Accreditation. Accessed 1 June 2021: https://www.riawa.com.au/accreditation.
[7] Australian Seed Federation (2021). *National Code of Practice for Seed Labelling and Marketing*. Accessed 1 June 2021: https://www.asf.asn.au/code-of-practice/.

i. **Option 1**: Find an existing independent body with the capacity to promote the use of the standards and adapt the standards over time (e.g. Australian Network for Plant Conservation, Australian Seed Bank Partnership, Australian Seed Federation).

ii. **Option 2**: Establish a new body to own the standards. This could consider establishing a peak industry body.

1.c Promote the benefits of using standards to larger seed suppliers and seed purchasers (such as governments/mines). This should demonstrate the value of using the standards in offering or contracting requirements and the potential to reduce risk and waste and improve revegetation outcomes.

i. **Option 1**: work with governments and large seed purchasers to align contracts with the standards.

ii. **Option 2**: develop schedules for governments and large seed purchasers to readily incorporate the standards into their contracts (including government contracts with service providers, e.g. Natural Resource Management areas).

Key performance indicators

- 1–2 years:
  - A 'living' minimum standard, based on a best practice framework, is identified and adopted.
  - An owner for the standards is found and national promotion of the standards begins with the sector and with government and large seed purchasers.
- 3 years:
  - 75 per cent of large seed purchasers use the standards as part of their contracting arrangements.
  - 50 per cent of seed suppliers have adopted the standards.
  - The standard is evaluated, reviewed and adapted in line with findings and new information (in year 3).
- 5–10 years:
  - 75 per cent of large seed purchasers use the standards as part of their contracting arrangements.
  - 75 per cent of seed suppliers have adopted the standards.
  - The standard is evaluated, reviewed and adapted in line with findings and new information (in years 6 and 9).
  - Quality of the seeds bought and sold improves due to improved buyer awareness driving quality standards.
  - Quality of restoration outcomes increases due to better lesson sharing and improved seed quality.
  - Quality of seed banking and viability in longer-term storage improves due to better knowledge development and information sharing.

STRATEGIC OBJECTIVE 2: MARKET COORDINATION

Rationale

The native seed sector does not actively collect or share information on demand and supply. There is poor visibility and access to information on:

- seed price and seed quality (related to quality standards)
- quantity, location and timing of upcoming demand for seed and
- quantity, quality, location and timing of seed supply.

In addition, the sector would be more coordinated, collaborative and efficient if there was better information on who is buying and selling seed, the sector's capability and resources (e.g. seed banks, seed production areas, seed sorting and testing services, other specialised equipment or facilities, specialised skills and capabilities), who upholds the good practice standards, who holds the capabilities and resources and where they are located.

Current demand for native seeds relies predominantly on the rehabilitation requirements associated with mining, land use planning, transport and infrastructure. Conservation is significant but smaller in scale. Both areas of demand are informed and driven by government policies on threatened species, conservation, landscape restoration, biodiversity offsets and natural disaster recovery. Further, there is a long-standing network of community groups and increasing interest in native seeds for carbon offsets, native foods, novel products and ornamental uses.

Despite the many existing and potential uses for native seeds, there is uncertainty around what, where and when different types of seeds will be needed, where these can be sourced from, in what quantity and quality, and at what price. Uncertain demand makes it difficult for businesses to invest in physical assets, research and development (R&D), quality processes, systems or workers.

With governments and their agencies as the primary drivers of demand and the primary funder of conservation outcomes, it is important that they have an understanding of the sector, its public good benefits and its market potential (e.g. restoration, forestry, nurseries, and new or complementary industries). Governments and their agencies need information to support policy development and assist with the financial security of the sector over time.

While the need, sharing and outcomes of accessible and transparent information are similar across the sector, participants have different priorities, for example:

- Commercial and not-profit organisations need information on the demand for native seed to make decisions on seed production areas, seed banks and storage requirements and on investing in worker skills and capabilities.

- The conservation sector needs information on priority areas and policies to secure new types of funding and, as for commercial and non-profit organisations, to make decisions on seed production areas, seed banks and storage requirements and on investing in worker skills and capabilities. This could include providing services and/or equipment on a cost recovery/commercial basis.

Goal

To enable the native seed sector to make coordinated market decisions by better sharing market-based information and connecting organisations and networks.

- On the demand side there needs to be:
  - Utilisation of the comprehensive mapping tool for restoration scenarios for risks such as fire and other landscape-related issues. *Bushfire impacts — A national model for assessing local landscape restoration priorities*[8] provides a framework that can assess the need for native seed based on the condition of vegetation in a landscape pre- and post-fire; the severity of the fire; the condition of the landscape and the composition of the community.
  - A summary of conservation and landscape restoration policy priorities (in the form of a 'policy and planning sector summary') connected to spatial mapping. This will be dynamic, regularly updated and identify the location of upcoming public and private programs across Australia.
  - Resources to inform buyers, so they know what they are asking for (e.g. provenance, genetic diversity, quality), how to ask for it (e.g. required specifications), lead times required to collect/produce seed, how to evaluate whether the offered seed is of sufficient quality and how to store the seed.
  - An exchange portal. This will facilitate users to buy and sell seed and record pricing and contractual information where possible.
- On the supply side, there also needs to be a network-style exchange portal or regional network coordination of seed supply and demand systems that can feed into such a portal. This will enable seed suppliers to work together to fulfil demand for large or complex projects and to share information, resources and services and develop the sector.

Major activities

To deliver on **MARKET COORDINATION**, the following activities needed are:

2.a Hold an annual forum where participants from across the sector and the supply chain can network and discuss sector issues at a national and regional level. This should have specific sessions for different parts of the sector, including dissemination of R&D (see *Strategic Objective 3: Information and Knowledge*).

[8] Pickup, M and McDonald, T (2021). *Bushfire impacts — A national model for assessing local landscape restoration priorities*, Project Phoenix.

i. **Option 1**: a national event with a combined conference and exhibition (market stall) format with networking opportunities. These should be hosted annually in a different state or territory each year, and be funded through a system where people purchase tickets to attend the event (with multiple options for engaging). It should be considered whether it is practical to partner with an existing forum, such as Landcare Annual Conference or the Australasian Seed Science Conference.

ii. **Option 2**: a series of state-based or regional events with a similar format to Option 1. This would be held at the same time each year in each state/region. This would use a mixed-media approach (face-to-face and online) where nationally-relevant information is provided through a digital platform and augmented with state/regional information sessions. This would be funded through a ticketed system (with multiple options for engaging).

2.b Develop a 'state of the industry'/'policy and planning sector summary' and build a dynamic spatial mapping database of upcoming projects (infrastructure builds and landscape management) and likely location of natural hazards (link to *Bushfire impacts — A national model for assessing local landscape restoration priorities*).[9] This would assess the possible requirements for seed (quantity, location and timing), with a focus on larger government-related projects.

i. **Option 1**: desktop review of upcoming projects (to be provided by funding agencies in a timely manner) with an assessment of the risk of the likelihood of the project going ahead.

ii. **Option 2**: work with federal and state/territory governments to get the required information to build a database. This could include contractual information.

iii. **Option 3**: work with existing seed databases to coordinate, update and make available relevant information.

2.c Design a networked exchange portal with a function to match buyers and sellers to support sharing of demand- and/or supply-side information.

i. **Option 1**: focus on providing demand-side information, such as pricing and contractual information to inform the sector on upcoming needs. This could be aligned with the dynamic mapping spatial database and link to *Bushfire impacts — A national model for assessing local landscape restoration priorities*.[10]

ii. **Option 2**: focus on supply-side and develop a network of regional seed suppliers who can share information on what they have access to. This will allow suppliers to coordinate to fulfill contracts.

iii. **Option 3**: develop a single exchange that works for both the demand and supply sides of the market at both a national or a regional level.

[9] Pickup, M and McDonald, T (2021). *Bushfire impacts — A national model for assessing local landscape restoration priorities*, Project Phoenix.
[10] Pickup, M and McDonald, T (2021). *Bushfire impacts — A national model for assessing local landscape restoration priorities*, Project Phoenix.

Key performance indicators

- 1 year:
  - Planning for the inaugural annual forum commences.
  - Regional coordination networks are fostered and supported.
  - Work has begun on a 'state of the sector'/'policy and planning sector summary' for demand-side information.
  - Work has begun to inform educate buyers of seed.
  - Work has begun on a universal database and an exchange portal for information sharing.
- 2 years:
  - The inaugural annual forum is held.
- 3 years:
  - Infrastructure, services and resources are better shared/accessed.
  - Quality of the seeds bought and sold improves due to better buyer awareness driving higher quality standards.
  - Policy and program decisions are better informed.
  - Sector participants understand how the native seed sector is positioned within the broader policy system (i.e. climate, agriculture, emergency response).
  - The native seed sector is more aware of relevant issues and has a better coordinated voice and action.
- 5–10 years:
  - Achieve more progress on the three-year KPIs.

STRATEGIC OBJECTIVE 3: INFORMATION SHARING

Rationale

The native seed sector faces challenges to accessing a range of other information such as best practices, techniques and approaches (in addition to market information). A lack of accessible information hinders the development of the sector including capacity building as well as decision-making by businesses, institutions and policy makers. Better coordination of and access to information across the sector is essential for the sector to mature.

Two critical components of capacity building are coordinating existing knowledge, and generating, applying and disseminating new knowledge through R&D.

A core area of existing knowledge that needs to be made more available is regional vegetation and distribution guides for all regional natural resource management (NRM) regions. This is needed to set the benchmark of regional needs and support plant outcomes through knowledge and research. This can be used as a tool for specific research and knowledge needs.

R&D aims to better understand and improve seed storage, use and conditions to achieve optimal results. Beyond this, R&D could:

- build capacity in the sector
- investigate new market opportunities, emerging issues (e.g. climate-adjusted translocation), and novel uses of native seeds
- distribute the evidence base on why and how native seeds can achieve conservation, restoration and commercial outcomes (e.g. using the Healthy Seeds Project11)
- embrace and value Traditional Owner knowledge and perspectives and explore opportunities for two-way learning
- coordinate across the sector to share lessons and focus on the areas of most need.

Frameworks for structuring and funding R&D can be leveraged from existing platforms as identified in *Applied research — Communities of practice, people and science*,[12] including, for example:

- **AgriFutures Australia's Emerging Industries Program**, which is designed to develop industries through R&D and capacity building.[13]

[11] Australian Network for Plant Conservation (2021). *Healthy seeds for resilient restoration*. Accessed 1 June 2021: https://www.anpc.asn.au/healthy-seeds/.
[12] Baker, L (2021). *Applied research — Communities of practice, people and science*, Project Phoenix.
[13] AgriFutures Australia. (2021). *About the AgriFutures Emerging Industries Advisory Panel.* Rural Industries Research & Development Corporation. Retrieved from https://www.agrifutures.com.au/emerging-industries-advisory-panel/.

- **Australian Government Biodiversity Stewardship**, which supports innovation and trialling of new programs to help farmers to increase biodiversity on their land. The program will include a Biodiversity Trading Platform to connect farmers with buyers of biodiversity outcomes to support private biodiversity markets.[14]
  - **This includes the Australian Government Carbon + Biodiversity Pilot**, which is trialling a market-based approach to reward farmers for improving on-farm biodiversity, together with carbon projects under the Emissions Reduction Fund.[15]
- **Australian Government National Environmental Science Program** (NESP), which funds environment and climate research to build the evidence base for decision-makers and support positive environmental, social and economic outcomes.[16]
- **Australian Government Research and Development Tax Incentive** (RDTI), to offset some of the cost of eligible R&D activities undertaken by businesses to gain access to expert resources to conduct R&D (through self-R&D or a Research Service Provider).[17]
- **Australian Research Council Linkage Projects**, which enable long-term strategic research partnerships to use and transfer skills, knowledge and ideas, and support innovation and commercialisation.[18]
- **CSIRO's Innovation Connections**, which is a 'match-making' service that connects researchers, businesses and investors to commercialise products, innovate and solve problems. It aims to grow jobs, profits, exports and resilience, and provides access to competitive funding.[19]

Key areas of focus for applied R&D for the sector include:

- Biodiscovery — novel uses for native seeds (noting the potential implications of rights and benefit sharing).
- Native seed biology, genetics and germination — improving our understanding of and developing good practice approaches for germinating challenging species (i.e. seed enhancement technology). This will build our understanding of the technologies and methods needed for seed production, storage and use and monitoring and maintenance.

[14] Australian Government Department of Agriculture, Water and Resources (2021). *Biodiversity Stewardship*. Retrieved from https://www.awe.gov.au/sites/default/files/2021-05/biodiversity-stewardship-factsheet.pdf
[15] Australian Government Department of Agriculture, Water and Resources (2021). *Carbon + Biodiversity Pilot*. Retrieved from https://www.agriculture.gov.au/ag-farm-food/natural-resources/landcare/sustaining-future-australian-farming/carbon-biodiversity-pilot
[16] Australian Government Department of Agriculture, Water and Resources (n.d.). *National Environmental Science Program.* Retrieved from https://www.environment.gov.au/science/nesp.
[17] Australian Taxation Office. (2021). *Research and development tax incentive.* Retrieved from https://www.ato.gov.au/Business/Research-and-development-tax-incentive/
[18] Australian Research Council. (2021). *Linkage Projects.* Commonwealth of Australia. Retrieved from https://www.arc.gov.au/grants/linkage-program/linkage-projects
[19] CSIRO. (2021). *Innovation Connections.* Retrieved from https://www.csiro.au/en/work-with-us/funding-programs/programs/innovation-connections/about-the-program.

- Unknown taxa and flora — exploring and documenting unknown taxa and flora. This may also contribute economic benefits to Australia.[20]
- Building scale and developing markets — growing the capacity of the sector to respond to large-scale events and to contribute to areas such as domestic food supply, including the:
  - native ornamentals/garden/landscapes
  - native foods/ bush foods industry.

Goal

To support the native seed sector through access to new and existing knowledge, that is readily available, accessible and applied to support practices.

This will mean, the native seed sector is better:

- informed to grow
- coordinated to reduce overlap and duplication of effort, leverage skills and capabilities and improve the efficient use of limited resources
- placed to maximise opportunities and minimise risks.

Major activities

To deliver on **INFORMATION AND KNOWLEDGE**, the following activities are needed:

3.a Develop a single connected network of information databases on areas relevant to native seeds — a 'one-stop-shop' approach.

i. Option 1: A connected network of existing online databases of information designed to:

- Be regionally focused and geographically linked for each NRM region and should include:
  - vegetation guides
  - basic and applied R&D
  - capacity e.g. skills, services, infrastructure and resources (funding, equipment etc.)
  - access to land (licensing/permits/guidelines)
  - standards
  - education and training (tailored to the needs of the region and easy to use, including resources and training workshops)
  - Linked to the market-based information system described in *Strategic Objective 2: Market Coordination and Bushfire impacts* — A national model for assessing local landscape restoration priorities.[21]

[20] Deloitte Access Economics (2021). *Cost benefit analysis of a mission to discover and document Australia's species for the Australian Academy of Science*. Perth: Deloitte Access Economics.
[21] Pickup, M and McDonald, T (2021). *Bushfire impacts — A national model for assessing local landscape restoration priorities*, Project Phoenix.

- Be able to be wrapped up for a national perspective and filtered by location, to support local coordination.
- Resemble an open-source, Wikipedia-style platform, where users share information and links to existing databases. The quality of information is curated by the database users.
- Be financially supported through a revenue stream, such as advertising or a subscription/membership-based model (with multiple options for engaging or classes of membership).
- Be hosted and implemented by an existing organisation/information provider.
- Have annual sector summaries produced, which provide a summary of information on developments across the key areas.

3.b Develop and adopt an outcomes-focused and collaborative R&D framework with priorities for the native seed sector. This should be led by a 'peak body' with members from across the sector.

i. **Option 1**: use existing structures and funding to develop and deliver practical outcomes on R&D priorities that are co-designed across the sector in conjunction with regional networks needs and activities.

Key performance indicators

- 1 year:
  - Develop online regional vegetation guides.
  - An online database is established.
  - Native seed sector participants leverage opportunities to secure R&D funding from existing models.
  - The 'peak body' engages with the sector to develop R&D priorities.
- 2 years:
  - The online database is updated and used by native seed sector participants.
  - Native seed sector participants can meet face-to-face at an annual forum.
  - Intended R&D outcomes, priorities and activities are identified by the native seed sector.
  - Cross-sectoral R&D partnerships are established based on intended R&D outcomes.
  - Annual sector summaries (policy, R&D, funding, training, etc.) are published.

- 5–10 years:

  The online database and face-to-face engagement drive collaboration and coordination across the sector, informed decision-making and more efficient use of resources:

  - Better availability of information drives more informed R&D priorities. This includes monitoring progress towards and updating R&D outcomes over time.
  - R&D is better coordinated and it becomes less common for areas of the sector to operate in silos.
  - R&D is delivered according to the sector's intended outcomes.
  - Knowledge is built on seed banking techniques, seed ecology, germination, taxonomic, genetics and the impacts of climate change.
  - Skills, education and training are more accessible and transferred, which builds the capacity of the sector and retains and attracts new employees.
  - The native seed sector is more aware of relevant issues and has a more coordinated voice and action.

STRATEGIC OBJECTIVE 4: NEW INDUSTRIES

Rationale

There are two primary industry development opportunities:

- **Specialist niches**: industries with a low number of species and premium products, for example, native foods/ bushfoods, ornamentals, biodiscovery and medicines etc.
- **Bulk products**: industries with a large scale of land and species, for example, carbon or biodiversity offsets.

New industries are more likely to grow and invest in innovation if there is a supportive, thriving community. The bigger the ecosystem, the more efficiently businesses can access resources (e.g. specialist services); the greater knowledge sharing and potential for spill-over benefits; and the lower the risk of investing in innovation.[22]

Given that the native seed sector has limited resources, the 'peak body' is unlikely to be able to specifically support new and emerging industries to develop. As such, new industries should use existing supports, such as:

AgriFutures Australia's Emerging Industries Program[23] supports a number of emerging rural industries, including native plants such as Kakadu plum and native pepper. It uses a phased approach to industry development through research, development and extension (RD&E) from 'Prospecting' through 'Growing industry capability' to 'Consolidation'.

Research funding is provided by AgriFutures Australia (and typically includes voluntary industry contributions) where there is a clear commercial Strategy for growing a new industry through R&D.

A panel advises on the current state of emerging rural industries, recommendations aligned with AgriFutures' research priorities, dissemination, adoption and commercialisation of R&D, and encourages partnerships, industry contributions and co-investment. This approach would be suitable for use in specialist niches and bulk products.

[22] https://www.industry.gov.au/data-and-publications/stimulating-business-investment-in-innovation/strategic-recommendation-2

[23] AgriFutures Australia. (2021). *About the AgriFutures Emerging Industries Advisory Panel.* Rural Industries Research & Development Corporation. Retrieved from https://www.agrifutures.com.au/emerging-industries-advisory-panel/.

Australian Government Research and Development Tax Incentive[24] (RDTI) is a national scheme that provides a tax benefit to offset some of the cost of undertaking eligible R&D activities. The RDTI provides an incentive for businesses to undertake R&D or for smaller businesses to access to expert R&D services by partnering with registered Research Service Providers (universities, CSIRO and private companies that are approved by the Australian Government). The objectives of the RDTI are to boost competitiveness and productivity across the economy by encouraging industry (and smaller firms) to undertake R&D and additional R&D. This approach would be suitable for use in specialist niches and bulk products.

Biodiversity offsetting through the **Australian Government Biodiversity Stewardship**[25] including the **Australian Government Carbon + Biodiversity Pilot**.[26]

These programs support the development of the biodiversity and carbon offset industries by providing incentives to farmers to increase the biodiversity on their land and connect buyers and sellers of biodiversity outcomes. This approach would be suitable for use in specialist niches and bulk products.

Australian Government Business supports Australian businesses by providing information, grants, and services from across government.[27] This approach would be suitable for both specialist niches and bulk products.

Goal

To foster the growth of new and emerging industries to increase economic activity.

This will boost economic activity in the native seed sector and create opportunities across existing parts of the sectors and develop new areas.

Major activities

To deliver on **NEW INDUSTRIES**, the following activities are needed:

4.a Ensure sector participants have access to industry development funding, knowledge and support through existing mechanisms, supported by the R&D framework and the network of online databases.

i. **Option 1**: leverage AgriFutures Emerging Industries Program. This can be done on an industry by industry basis or as a consortia with a focus on specialist niches.

[24] Australian Taxation Office. (2021). *Research and development tax incentive.* Retrieved from https://www.ato.gov.au/Business/Research-and-development-tax-incentive/.
[25] Australian Government Department of Agriculture, Water and Resources (2021). *Biodiversity Stewardship*. Retrieved from https://www.awe.gov.au/sites/default/files/2021-05/biodiversity-stewardship-factsheet.pdf
[26] Australian Government Department of Agriculture, Water and Resources (2021). *Carbon + Biodiversity Pilot*. Retrieved from https://www.agriculture.gov.au/ag-farm-food/natural-resources/landcare/sustaining-future-australian-farming/carbon-biodiversity-pilot.
[27] Australian Government (2021). *Support for businesses in Australia*. Retrieved from https://business.gov.au/.

ii. **Option 2**: use information compiled in the policy sector summary to understand opportunities for bulk products such as the Australian Government Carbon + Biodiversity Pilot.

iii. **Option 3**: both option 1 and option 2.

4.b Develop new industries through better regional coordination and collaboration across regional sector participants through organised fora (through the network of online databases and annual forum (see *Strategic Objectives 2* and *3*).

Key performance indicators

- 1 year:
  - The online database stores information on the availability of resources (infrastructure, funding etc.), skills, knowledge etc.
  - Establish and support regional coordination in identified priority locations.
- 2 years:
  - Sector participants developing new and emerging industries have access to information and resources.
  - Sector participants form partnerships to develop new and emerging industries.
  - Sector participants increasingly use existing support programs.
  - Existing support programs receive more applications and requests related to native seed/plants/products.
- 5–10 years:
  - Opportunities to develop new industries are better explored.
  - More native seed/plants/products industries are supported by existing support programs.
  - The scale and number of industries related to native seeds increases.

STRATEGIC OBJECTIVE 5: SMARTER REGULATION

Rationale

The regulatory system governing the native seed sector is complex. The *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* (*EPBC Act 1999*) allows the Australian Government to join with the states and territories enabling a truly national scheme to protect the environment, heritage and biodiversity conservation.[28] The other related areas that are governed through federal and state-based legislation are:

- access to land owned by different groups under a large number of jurisdiction-based environmental planning Acts and jurisdictional conservation covenants that are important in defining land tenure and
- access to land across Australia including: Crown land, native title, national parks, travelling stock reserves, roadside land, water, reservoirs and dams, carbon planting sites, forestry and mine rehabilitation sites.

Work conducted as part of Project Phoenix provides some high-level findings on the role of regulation.

Psst... Everything you wanted to know about native seed licensing[29] provides a high-level overview of the national licensing and regulatory system that governs native seeds. The key findings of this review were:

- Licensing systems are highly variable across jurisdictions.
- In some states/territories, more than one permit is required.
- Application processes are not easy to understand, information on cost and time frames is not clearly displayed, and the time taken for a licence/permit to be assessed or renewed is burdensome.
- Not fit for purpose
- Only the ACT has an online portal that is clear and easy to use (NSW has an online portal, yet only for a scientific licence).
- Costs vary between free and $290 per annum; some licences are annual and some are for up to five years.

[28] https://www.environment.gov.au/epbc/about
[29] Birnie, Z (2021). *Psst... Everything you wanted to know about native seed licensing*, Project Phoenix.

Everything you wanted to know about access to land for native seed collection[30] provides a high-level overview of the legislation that governs land access for native seeds. The key findings of this review were:

- In addition to the *EPBC Act 1999*, there are a large number of jurisdiction-based environmental planning Acts and conservation covenants (agreements) that are important in defining land tenure and access across Australia.
- There are requirements for seed collectors (for commercial and private use and conservation) to have a licence/permit to access land to collect seed. This is in addition to any licence granted to collect seed.
- Permissions for (non-private) land access are administered at a local, state and federal government level.

Goal

To better protect threatened species, biodiversity and land tenure while improving access (supply) through smarter regulation.

Reviewing and amending state and territory legislation and regulations that relate to the *EPBC Act 1999* can assist in better protecting threatened species, controlling land access/property rights, protecting traditional knowledge/IP and supporting the development of the native seed sector.

This is a complex task especially as many of these regulatory instruments focus on a range of issues, not just the native seed sector (e.g. the *EPBC Act 1999* and environmental planning Acts) and can have statutory time frames for review that do not align across jurisdictions.

Gains for the sector can be achieved by focusing, to start with, only on a cross-jurisdictional review and reform of the state and territory licences/permits under the *EPBC Act 1999* that relate to native seed collection.

The sector needs a principles-based licence/permit system inspired by a set of national guidelines allowing states/territories flexibility in administration, maintaining species and diversity protection, and making it easier to do business. This will reduce unnecessary regulatory burden (including cost) and duplication, make the requirements more uniform and streamline the processes across all jurisdictions.

[30] Birnie, Z (2021). *Everything you wanted to know about access to land for native seed collection*, Project Phoenix.

Major activities

5 Conduct a cross-jurisdictional good practice[31] review of licensing and permits relating to native seed collection for all states and territories. This should consider (but not be limited to):

i. Understanding the need for licences/permits and ensuring that any licence/permit is fit-for-purpose. This should ask:

- are licensing/permits the most appropriate regulatory tool for each part of the native seed sector: conservation, rehabilitation, Traditional Owners, forestry, nursery/horticulture and offsets?
- Investigate the role of regional coordination, accreditation and database systems to meet the needs of compliance and data recording and amalgamation.
- are other tools better suited to achieving these outcomes?

ii. Providing accessible information on the licence's:

- purpose
- end user and uses
- cost and duration
- requirements
- restrictions on amount of seed that can be collected for different land types.

iii. Reducing burden on collectors/small businesses:

- clear information on licence requirements
- ease of application process (time, cost, online access)
- time taken to approve/grant
- costs of compliance.

iv. Pricing licence fees in line with the cost to government to administer the licence.

v. Reducing duplication across borders (cross-border collection requires multiple permits)

vi. Making local and state government licences more uniform

vii. Streamlining compliance/reporting requirements across jurisdictions.

[31] Review should be in line with good practice principles of licensing e.g. https://www.ipart.nsw.gov.au/files/sharedassets/website/trimholdingbay/pwc_-_a_best_practice_approach_to_licensing_schemes_-_guidance_material_-_march_2013.pdf

Key performance indicators

- 1 year:
  - A good practice review of the licensing/permits in the sector under the *EPBC Act 1999* is conducted.
  - Areas of reform are identified.
- 2 years:
  - Reviews at a state and territory level (or where devolved to local government, at a local government level) occur on cost recovery, compliance and delivery of licences/permits.
- 3 years:
  - A set of national principles/guidelines to inform the jurisdictional regulation are developed.
- 5–10 years:
  - Reforms are implemented across jurisdictions (based on sector outcomes) guided by national principles.
  - There is less burden on seed collectors and the government, in terms of cost and time taken to apply for, comply with, report against and monitor compliance with licences/permits.
  - There is consistency across jurisdictions in terms of costs and processes.
  - There is better awareness of licensing/permit requirements.
  - Seed collectors find it easier to work across jurisdictions.
  - There is better access to and protection of land and species and more secure supply.

STRATEGIC OBJECTIVE 6: SECTOR LEADERSHIP

Rationale

The diversity of the sector means that there are many groups that could lead its development. Yet each is focused on a specific area of the sector and no one group can provide overall leadership. This limits the ability of the sector to:

- represent, promote or provide/coordinate services to develop itself
- implement this Strategy.

Goal

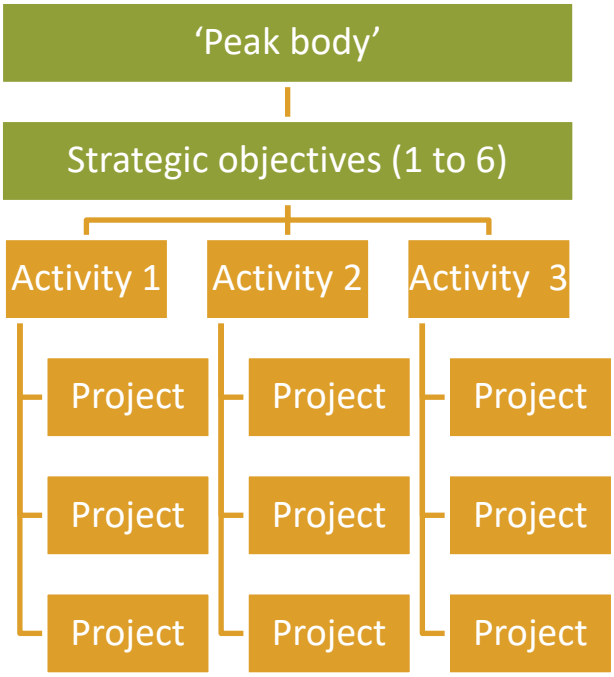
To develop a single voice for coordinated action in the sector to ensure strategic leadership and foster future growth and development of the sector.

Leadership, and possibly a 'peak body', are important for developing the sector. The 'peak body' could:

- implement this Strategy
- represent the sector in policy processes
- promote the use of native seeds and better native seed practices
- set quality standards and provide accreditation
- facilitate networks, share information and offer training.

Figure 5 provides an overview of the peak body's oversight of the Strategy.

FIGURE 5. THE PEAK BODY'S OVERSIGHT OF THE STRATEGY



The importance of establishing a 'peak body' and providing these services have been noted and recommended before. The real question is: *how and when can this be achieved?* In practice, three criteria need to be met to allow the leadership function to emerge:

- alignment of interests — between the businesses, associations and others across the sector to establish a clear identity and agenda
- value proposition — the services offered are unique to, or best delivered at a sectoral level
- financial viability — leading organisations and individuals are willing and able to provide the resources needed to lead or support the 'peak body'.

Alignment of interests

The sector shares interest in improving knowledge and use of native seeds, yet not always on the outcomes this achieves. There are strong areas of alignment among organisations and groups whose ongoing success depends on native seeds that are planted:

- These businesses and organisations are seeking practical standards and ways to improve. They are interested in promoting wide-spread use of native seed for many purposes.
- That share interest in understanding native seeds in more detail (e.g. specific species/locations).
- Seeking to understand and pursue new uses of native seed for economic/cultural purposes.

Value proposition

These interests meet around *Strategic Objective 1: Quality*. Leadership can provide practical guidance, a grounding for internal business and market quality systems, and in time, accreditation.

Representation in policy is the most challenging value proposition. Different areas of the sector focus on different outcomes and there are existing organisations that fulfill the function. The number of policy process include, but are not limited to, biodiversity (threatened and non-listed species) conservation, landscape restoration, offsets, natural resource management, landcare, land-use planning, Traditional Owner affairs, development of non-profits and (small) business/industry, and taxation. Finding a practical mechanism to build agreement and represent the sector across a range of policies is not possible in the short-term.

Facilitating networks, coordination, information sharing and training are needed to create links across the sector, improve service provision and build the identity of the sector. While this function would be the easiest to deliver nationally, it is best delivered at a regional level or by other existing groups such as Landcare and NRMs rather than by a 'peak body', potentially enabled through a nationally agreed package.

Financial viability

The sector needs resources to create and then sustain its leadership function. At present, the sector relies on the goodwill of key organisations and periodic grants (e.g. Project Phoenix). To be sustainable, the sector needs to be willing to invest in leadership, through membership subscriptions, fee-for-service approaches and/or sustained government or private grants.

Major activities

There is no best way to achieve sector leadership. The sector needs to adaptively grow its leadership by using existing groups and structures (i.e. a phased approach) until there is a clear need and support for a new or re-purposed structure.

The first and most obvious activity is to create a group to implement the Strategy. This could be a coalition, which:

- should include sector participants and government members
- could be structured as an informal coalition or formal partnership and
- should be tasked with overseeing, rather than implementing the Strategy.

The other major activity is to progress an independent 'peak body', which can attract members from businesses that depend on native seeds. The 'peak body' could support the ongoing development and promotion of the sector standards.

6.a Establish a joint industry-government coalition to oversee the Strategy.

i. **Option 1**: convene a (bi)annual forum to monitor Strategy progress.

ii. **Option 2**: develop a partnership agreement (with state/regional representatives) to implement the Strategy.

6.b Foster a national member based 'peak body'

i. **Option 1**: establish a 'peak body' (new or from an existing organisation i.e. a chapter of Australian Seed Federation).

ii. **Option 2**: establish a 'peak body' to manage licences and promote the standards.

Key performance indicators

- 1 year:
  - Strategy leadership group agreed and operating.
- 2 years:
  - Peak industry body active.
- 3 years:
  - Review the Strategy and leadership needs of the sector.
- 5–10 years:
  - The sector is more aware of relevant issues and has a more coordinated voice and agenda for action.

NEXT STEPS

This chapter focuses on implementing the Strategy, including where the priorities lie, the preferred options for delivering the Strategy over time and evaluating the Strategy.

Where do the priorities lie: analysis of options

The major activities proposed are extensive and include options. They will require commitment and resources beyond what is available that will need to be secured from industry, government and others during implementation. They also do not need to all occur at once. To assist prioritisation, a multi-criteria analysis of the major activities and options was conducted using a relative qualitative assessment based on all the Strategy inputs (see **Table 1**). The criteria are:

- potential for impact — to significantly contribute to the strategic objective within 5–10 years
- capacity for ownership — within sector for an organisation/group to lead the activity/option
- reach across sector — distribution of the impact across the sector
- ease of implementation — effort, cooperation and resources to implement the activity/option
- probability of success — measure of risk association with the activity/option.

The key assessment insights against each of the strategic objectives are as follows:

Strategic Objective 1: Quality

- Focus needs to be on agreeing to a national framework of existing standards and their promotion and adoption. The updated *FloraBank* and *Germplasm Guidelines* due for release and aligned with leading domestic and international standards.
- This will require clarifying ownership and establishing a promotional/adoption program.

Strategic Objective 2: Market coordination

- A schedule of regionally-based fora (through the NRMs or Landcare) is needed to facilitate information sharing and networking accompanied by a widely circulated regular sector summary of trends and opportunities.
- There is potential for demand and/or supply side brokerage of native seeds. A single national brokerage is not necessary given sectoral diversity. A commercial brokerage on a regional level is preferable as most projects require regional/local seed for regional/local projects.

Strategic Objective 3: Information and knowledge

- Improving online information provision linked to market coordination activities will assist.
- Co-designing R&D priorities with a focus on public good will improve R&D support/outcomes.

Strategic Objective 4: New industries

- Needs to engage on Strategy and alignment but recognise initiatives may be run separately.

Strategic Objective 5: Smarter regulation

- Improving permits/licensing is a national priority for government across all jurisdictions.

Strategic Objective 6: Sector leadership

- Establishing transitional leadership following Project Phoenix is a priority, focused on Strategy implementation. A peak body should be fostered and be supported to promote standards.

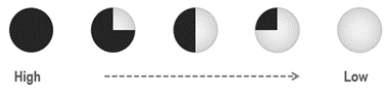
Qualitative assessment of the priorities for each Strategic Objective is not definitive. Views will vary across the sector according to the perspectives of stakeholders. As part of the Strategy consultation, stakeholders are encouraged to complete the multi-criteria assessments.

TABLE 1. RELATIVE ASSESSMENT OF THE MERITS OF OPTIONS FOR IMPLEMENTING THE STRATEGIC OBJECTIVES

OPTION		POTENTIAL FOR IMPACT	CAPACITY FOR OWNERSHIP	REACH ACROSS SECTOR	EASE OF IMPLEMENTATION	PROBABILITY OF SUCCESS
STRATEGIC OBJECTIVE 1: TO AGREE ON, PROMOTE AND ACTIVELY ADOPT ONE 'LIVING' SET OF NATIONAL BEST PRACTICE STANDARDS (OR CODE OF PRACTICE) FOR (VOLUNTARY) USE ACROSS THE SECTOR						
1.a	**Develop a single nationally agreed framework for standards.**					
1.a.i	Adopt an existing framework but ensure this can be adapted, as needed.					
1.a.ii	Develop a new framework, while making use of existing frameworks.					
1.b	**Find an owner for the standards, ideally independent and with existing processes and systems, to maintain and further develop the standards.**					
1.b.i	Find an existing independent body.		N/A			
1.b.ii	Establish a new body to own the standards.		N/A			
1.c	**Promote the benefits of using standards to larger seed suppliers and seed purchasers.**					
1.c.i	Work with governments and large seed purchasers to align contracts with standards.					
1.c.ii	Develop schedules for governments and large seed purchasers to readily incorporate the standards into their contracts.					
STRATEGIC OBJECTIVE 2: TO ENABLE THE NATIVE SEED SECTOR TO MAKE COORDINATED MARKET DECISIONS BY BETTER SHARING MARKET-BASED INFORMATION AND CONNECTING ORGANISATIONS AND NETWORKS						
2.a	**Hold an annual forum where participants from across the sector and the supply chain can network and discuss sector issues.**					
2.a.i	A national event with a combined conference and exhibition (market stall) format with networking opportunities.					
2.a.ii	A series of state-based or regional events held at the same time each year in each state/region.					

OPTION		POTENTIAL FOR IMPACT	CAPACITY FOR OWNERSHIP	REACH ACROSS SECTOR	EASE OF IMPLEMENTATION	PROBABILITY OF SUCCESS
2.b	**Develop a 'policy and planning sector summary' and build a dynamic spatial mapping database of upcoming projects (infrastructure builds and landscape management).**					
2.b.i	Desktop review of upcoming projects with an assessment of the risk of the likelihood of the project going ahead.					
2.b.ii	Work with federal and state/territory governments to get the required information to build a database.					
2.b.iii	Work with existing seed databases to coordinate, update and make available relevant information.					
2.c	**Design a networked exchange portal with a brokerage function to support sharing of demand- and/or supply-side information.**					
2.c.i	Focus on providing demand-side information, such as pricing and contractual information to inform the sector on upcoming needs.					
2.c.ii	Focus on supply-side and develop a network of seed suppliers who can share information on what they have access to.					
2.c.iii	Develop a single exchange that works for both the demand and supply sides of the market.					
STRATEGIC OBJECTIVE 3: TO SUPPORT THE NATIVE SEED SECTOR THROUGH ACCESS TO NEW AND EXISTING KNOWLEDGE, THAT IS FREELY AVAILABLE, ACCESSIBLE AND APPLIED TO SUPPORT PRACTICES						
3.a	**Develop a single connected network of information databases on areas relevant to native seeds — a 'one-stop-shop' approach.**					
3.a.i	A multipurpose connected network of existing online databases.					
3.b	**Develop and adopt an outcomes-focused and collaborative R&D framework with priorities for the native seed sector.**					
3.b.i	Use existing structures and funding to develop and deliver practical outcomes on R&D priorities that are co-designed across the sector.					

OPTION		POTENTIAL FOR IMPACT	CAPACITY FOR OWNERSHIP	REACH ACROSS SECTOR	EASE OF IMPLEMENTATION	PROBABILITY OF SUCCESS
STRATEGIC OBJECTIVE 4: TO FOSTER THE GROWTH OF NEW AND EMERGING INDUSTRIES TO INCREASE ECONOMIC ACTIVITY						
4.a	**Ensure sector participants have access to industry development funding, knowledge and support through existing mechanisms.**					
4.a.i	Leverage AgriFutures Emerging Industries Program.					
4.a.ii	Use information compiled in the policy sector summary (2.b) to understand opportunities for bulk products.					
4.a.ii	Both 4.a.i and 4.a.ii					
4.b	**Develop new industries through better coordination and collaboration across sector participants (2.a and 3.a).**					
STRATEGIC OBJECTIVE 5: TO BETTER PROTECT THREATENED SPECIES, BIODIVERSITY AND LAND TENURE WHILE IMPROVING ACCESS (SUPPLY) THROUGH SMARTER REGULATION						
5.	**Conduct a cross-jurisdictional good practice review of licensing and permits relating to native seed collection.**					
STRATEGIC OBJECTIVE 6: TO DEVELOP A SINGLE VOICE FOR COORDINATED ACTION IN THE NATIVE SEED SECTOR TO ENSURE STRATEGIC LEADERSHIP AND FOSTER FUTURE GROWTH AND DEVELOPMENT OF THE SECTOR						
6.a	**Establish a coalition to maintain leadership dialogue and implement the Strategy.**					
6.a.i	Convene a (bi-annual) forum to monitor and manage implementation with representation across all sub-sectors and the supply chain.					
6.a.ii	Develop a partnership agreement to implement the Strategy.					
6.b	**Foster a national 'peak body'**					
6.b.i	Establish a native seed 'peak body' (new or existing).					
6.b.ii	Authorise or 'licence' the 'peak body' to manage and promote the standard (1.1).					



Implementing preferred options over time

An implementation schedule for the Strategy activities is outlined in **Table 2**. Building momentum and strengthening networks is central to implementing the Strategy. If the sector focuses on only one activity or interest, this will reinforce the differences across the sector. The upcoming release of the updated *FloraBank Guidelines*, *Germplasm Guidelines* and other Project Phoenix project reports is an opportunity to address the challenge that is most commonly raised and shared across the sector: poor availability and access to information. This links directly to Strategy activities 2.a.ii (regional fora) and 2.b.ii (policy and planning sector summaries). These activities will create the platform for industry and government stakeholders to discuss, prioritise and co-design the other Strategy activities.

Industry and government need to jointly decide how and when to implement and manage the Strategy's activities. We recommend this starts with a stakeholder forum (Strategy activity 6.a.i) to establish the guiding principles that will be used to transition the current leadership of Project Phoenix to a Strategy implementation partnership in 2022.

In developing the partnership, the key considerations are to assign a leader and working group members for each Strategic Objective. This needs the leadership group to expand beyond Project Phoenix's External Steering Committee to ensure the leadership group has the appropriate skills and representative members of the sector. Participation also depends on leaders being able to contribute their own resources.

Successful implementation of the Strategy depends on awareness and promotional campaigns.

Evaluating the Strategy

Table 3 provides the time frame for monitoring the Strategy's progress against the KPIs for the Strategic Objectives and major activities. Evaluation is an important tool for understanding how well the Strategy is being delivered and is performing. There is an opportunity for three main evaluations over the life of the Strategy. These include:

- **Post-commencement evaluation** — This would take place in years 1–2 of the Strategy and assess whether or not the Strategy was implemented successfully, and what lessons can be learned from the process. The findings would identify what is and is not working well, the barriers and enablers to the success of the Strategy, and whether the Strategy is on track to achieve its strategic objectives.
- **Mid-term outcomes evaluation** — This would take place in year 5 of the Strategy and would assess how well the Strategy has performed against the strategic objectives and KPIs. This would consider the purpose of the Strategy, the available resources, the activities that have been conducted, the reach of the Strategy across the sector, how appropriate the Strategy is (how well the activities meet the sector's needs), and whether it occurred on time and was efficient (the available resources have been used to produce the most valued outcomes at the lowest costs) and effective (the Strategy has made a difference aligned to the strategic objectives). This also considers whether the Strategy was equitable in meeting the needs of different groups.
- **Final outcomes evaluation** — This would take place in year 11 of the Strategy. It would be similar to the mid-term outcomes evaluation, yet assess the full life of the Strategy.

TABLE 2. IMPLEMENTING PREFERRED OPTIONS OVER TIME (DARK GREEN INDICATES COMPLETION, LIGHT GREEN INDICATES PREPARATION TIME)

YEARS		0.5	1	1.5	2	2.5	3	3.5	4+
STRATEGIC OBJECTIVE 1:QUALITY To agree on, promote and actively adopt one 'living' set of national best practice standards (or Code of Practice) for (voluntary) use across the sector									
1.a Develop a single nationally agreed framework for standards									
1.a.i	Adopt an existing framework for standards.								
1.2 Find an owner for the standards, ideally independent and with existing processes and systems, to maintain and further develop the standards									
1.b.i	Enable an existing independent body to govern the standards.								
1.c Promote the benefits of using standards to larger seed suppliers and seed purchasers									
1.c.ii	Develop schedules for governments and large seed purchasers to readily incorporate the standards into their contracts.								
STRATEGIC OBJECTIVE 2: MARKET COORDINATION To enable the native seed sector to make coordinated market decisions by better sharing market-based information and connecting organisations and networks									
2.a Hold an annual forum where participants from across the sector and the supply chain can network and discuss sector issues									
2.a.ii	A series of state-based or regional events held at the same time each year in each state/region so as to enable participants from across the sector and the value chain to network and discuss sector issues.								
2.b Develop a 'policy and planning sector summary' and build a dynamic spatial mapping database of upcoming projects (infrastructure builds and landscape management)									
2.b.ii	Develop a 'policy and planning sector summary' by working with government to build an online database.								
2.c Design a networked exchange portal with a brokerage function to support sharing of demand- and/or supply-side information									
2.c.iii	Develop a single exchange that works for both the demand and supply sides of the market.								
STRATEGIC OBJECTIVE 3: INFORMATION AND KNOWLEDGE To support the native seed sector through access to new and existing knowledge, that is freely available, accessible and applied to support practices									
3.a Develop a single connected network of information databases on areas relevant to native seeds — a 'one-stop-shop' approach									
3.a.i	A multipurpose connected network of existing online databases.								
3.b Develop and adopt an outcomes-focused and collaborative R&D framework with priorities for the native seed sector									
3.b.i	Use existing structures and funding to develop and deliver practical outcomes on R&D priorities that are co-designed across the sector.								

YEARS	0.5	1	1.5	2	2.5	3	3.5	4+
STRATEGIC OBJECTIVE 4: NEW INDUSTRIES To foster the growth of new and emerging industries to increase economic activity								
4.a Ensure sector participants have access to industry development funding, knowledge and support through existing mechanisms.								
4.a.iii Leverage AgriFutures Emerging Industries Program and use the information compiled in 2.2.								
4.b Develop new industries through better coordination and collaboration across sector participants (2.1 and 3.1).								
STRATEGIC OBJECTIVE 5: SMARTER REGULATION To better protect threatened species, biodiversity and land tenure while improving access (supply) through smarter regulation								
5. Conduct a cross-jurisdictional good practice review of licensing and permits relating to native seed collection across all states and territories.								
STRATEGIC OBJECTIVE 6: SECTOR LEADERSHIP To develop a single voice for coordinated action in the native seed sector to ensure strategic leadership and foster future growth and development of the sector								
6.a Establish a joint industry-government coalition to oversee the Strategy.								
6.a.ii Develop a partnership agreement to implement the Strategy.								
6.b Foster a national member-based 'peak body'.								

TABLE 3. TIME FRAME FOR ACHIEVING THE STRATEGIC OBJECTIVES AND KPIS

YEAR	1	2	3	4	5	6	7	8	9	10
STRATEGIC OBJECTIVE 1:QUALITY To agree on, promote and actively adopt one 'living' set of national best practice standards (or Code of Practice) for (voluntary) use across the sector										
1–2 years:										
A 'living' minimum standard, based on a best practice framework, is identified and adopted.										
An owner for the standards is found and national promotion begins with the sector and with government and large seed purchasers.										
3 years:										
75 per cent of large seed purchasers use the standards as part of their contracting arrangements.										
50 per cent of seed suppliers have adopted the standards.										
The standard is evaluated, reviewed and adapted in line with findings and new information (in year 3).										
5–10 years:										
75 per cent of seed suppliers have adopted the standards.										
The standard is evaluated, reviewed and adapted in line with findings and new information (in years 6 and 9).										
Quality of the seeds bought and sold improves due to improved buyer awareness driving quality standards.										
Quality of restoration outcomes increases due to better lesson sharing and improved seed quality.										
Quality of seed banking and viability in longer-term storage improves due to better knowledge development and information sharing.										
STRATEGIC OBJECTIVE 2: MARKET COORDINATION To enable the native seed sector to make coordinated market decisions by better sharing market-based information and connecting organisations and networks										
1 year:										
The inaugural annual forum is held.										
Work has begun on a 'policy and planning sector summary' for demand-side information.										
Work has begun on an exchange portal for information sharing.										
3 years:										
Infrastructure, services and resources are better shared/accessed.										
Quality of the seeds bought and sold improves due to better buyer awareness driving higher quality standards.										
Policy and program decisions are better informed.										
Sector participants understand how the sector is positioned within the broader policy system (i.e. climate, agriculture, emergency response).										
The sector is more aware of relevant issues and has a better coordinated voice and action.										

YEAR	1	2	3	4	5	6	7	8	9	10
5–10 years:										
Achieve more progress on the 3 year KPIs.										
STRATEGIC OBJECTIVE 3: INFORMATION AND KNOWLEDGE To support the native seed sector through access to new and existing knowledge, that is freely available, accessible and applied to support practices										
1 year:										
An online database is established.										
Annual sector summaries (policy, R&D, funding, training, etc.) are published.										
Sector participants leverage opportunities to secure R&D funding from existing models.										
The national coordinating group engages with the sector to develop R&D priorities.										
3 years:										
The online database is updated and used by sector participants.										
Sector participants can meet face-to-face at an annual national forum.										
Intended R&D outcomes, priorities and activities are identified by the sector.										
Cross-sectoral R&D partnerships are established based on intended R&D outcomes.										
5–10 years:										
The online database and face-to-face engagement drive collaboration and coordination across the sector, informed decision-making and more efficient use of resources:										
Better availability of information drives more informed R&D priorities. This includes monitoring progress towards and updating R&D outcomes over time.										
R&D is better coordinated and it becomes less common for areas of the sector to operate in silos.										
R&D is delivered according to the sector's intended outcomes.										
Knowledge is built on seed banking techniques, seed ecology, germination, taxonomic, genetics and the impacts of climate change.										
Skills, education and training are more accessible and transferred, which builds the capacity of the sector and retains and attracts new employees.										
The sector is more aware of relevant issues and has a more coordinated voice and action.										

YEAR	1	2	3	4	5	6	7	8	9	10
STRATEGIC OBJECTIVE 4: NEW INDUSTRIES To foster the growth of new and emerging industries to increase economic activity										
5 years:										
The online database stores information on the availability of resources (infrastructure, funding etc.), skills, knowledge etc.										
Sector participants developing new and emerging industries have access information and resources.										
Sector participants form partnerships to develop new and emerging industries.										
Sector participants increasingly use existing support programs.										
Existing support programs receive more applications and requests related to native seed/plants/products.										
6–10 years:										
Opportunities to develop new industries are better explored.										
More native seed/plants/products industries are supported by existing support programs.										
The scale and number of industries related to native seeds increases.										
STRATEGIC OBJECTIVE 5: SMARTER REGULATION To better protect threatened species, biodiversity and land tenure while improving access (supply) through smarter regulation										
1 year:										
A good practice review of the licensing/permits in the sector under the EPBC Act is conducted.										
Areas of reform are identified.										
2 years:										
Jurisdictional reviews occur on cost recovery, compliance and delivery of licences/permits.										
3 years:										
A set of national principles/guidelines to inform the jurisdictional regulation are developed.										
5–10 years:										
Reforms are implemented across jurisdictions (based on sector outcomes) guided by national principles.										
There is less burden on seed collectors and the government, in terms of cost and time taken to apply for, comply with, report against and monitor compliance with licences/permits.										
There is consistency across jurisdictions in terms of costs and processes.										
There is better awareness of licensing/permit requirements.										
Seed collectors find it easier to work across jurisdictions.										
There is better access to and protection of land and species and more secure supply.										

YEAR	1	2	3	4	5	6	7	8	9	10
STRATEGIC OBJECTIVE 6: SECTOR LEADERSHIP To develop a single voice for coordinated action in the native seed sector to ensure strategic leadership and foster future growth and development of the sector										
1 year:										
Strategy leadership group agreed and operating.										
2 years:										
Peak industry body active.										
3 years:										
Review the Strategy and leadership needs of the sector.										
5–10 years:										
The sector is more aware of relevant issues and has a more coordinated voice and agenda for action.										

APPENDIX A:PROJECT PHOENIX REPORTS AND ALIGNMENT OF THE STRATEGIC OBJECTIVES

Table A.1. Relationship between strategic objectives and the broader Project Phoenix reports

PROJECT PHOENIX REPORTS	QUALITY	MARKET COORDINATION	INFORMATION AND KNOWLEDGE	PRIMARY INDUSTRIES	SMARTER REGULATION	SECTOR LEADERSHIP
Bushfire impacts — ArcGIS resources		√	√		√	
Bushfire impacts — How much seed will I need?	√	√	√			
Bushfire impacts — How much seed will I need?	√	√	√		√	
Bushfire impacts — Where will the seed come from?	√	√	√		√	
Snap! A picture of the Australian Seed Sector in 2021	√	√	√	√	√	√
Join the National Seed Network!	√	√	√			
Revealed! The National Native Nursery Network	√	√	√	√		
Australian native seed production in 2021	√	√	√	√	√	
Psst... Everything you wanted to know about native seed licensing		√	√		√	
Everything you wanted to know about access to land for native seed collection		√	√		√	
Do we need a National Seed Code of Practice?	√					√
Making Tracks — Where does seed come from and where does it go?		√	√			
Applied research — Communities of practice, people and science			√			
Native Seed Transfer Zones in Australia — How far can seed go?	√	√	√		√	
How does the native seed market work?	√	√	√	√	√	
How much does native seed cost?	√	√	√			
International options to incentivise the Native Seed Sector			√		√	√
Successful international restoration systems	√	√	√		√	
The big reveal — Introducing the new FloraBank website	√	√	√		√	
In the field and lab with Threatened Species Managers	√	√	√			√
What are conservation seed banks and what do they do?	√	√	√			
Native Seed Training in 2021	√	√	√			√
New FloraBank training for the Native Seed Sector	√	√	√			
Indigenous communities — Opportunities for native seed training			√			√

APPENDIX B: STAKEHOLDER ORGANISATIONS CONSULTED

The organisations consulted as part of the Strategy are listed below in alphabetical order:

1. ACT Government, Environment, Planning and Sustainable Development Directorate
2. ACT Government, Parks and Conservation Service
3. Adelaide Botanic Gardens
4. Alcoa of Australia Limited
5. Apace Aid Inc
6. AquaFirma
7. Arid Landscapes
8. AustraHort
9. Australian Association of Bush Regenerators
10. Australian Institute for Botanical Sciences
11. Australian Network for Plant Conservation
12. Australian Seed Bank Partnership
13. Australian Seed Federation
14. Australian Wildlife Conservancy
15. Best Nursery
16. BioBank Seed
17. Botanic Gardens and Parks Authority
18. Brisbane City Council, QLD
19. Bush Heritage
20. Cape Life
21. Cardinia Environment Coalition
22. City of Cockburn, WA
23. City of Salisbury, SA
24. Commonwealth Department of Agriculture, Water and the Environment
25. South Australian Department of Environment and Natural Resources
26. Commonwealth Scientific and Industrial Research Organisation

27. Conservation Volunteers Australia
28. Corangamite Catchment Management Authority, VIC
29. Corporate Carbon Advisory
30. Currockbilly Mountain Nursery
31. Dana Kelly Consulting
32. Ecology and Heritage Partners
33. EConPlan
34. Ecotypic Pty Ltd
35. Australian Capital Territory Planning and Land Authority, Environment and Planning Directorate
36. Envirotech
37. Euroa Arboretum
38. Field's Environmental Solutions
39. Fitzroy Basin Association, VIC
40. Foundation for National Parks and Wildlife
41. Future Harvest Native Revegetation Services
42. GHEMS Revegetation environmental
43. Glenelg Hopkins Catchment Management Authority, VIC
44. Goulburn Broken Catchment Management Authority, VIC
45. Green Blue Health
46. Greening Australia Limited
47. Harvest Seeds & Native Plants
48. Kalbar Operations
49. Katanning Landcare
50. Ken Davies Seed
51. Landcare Australia
52. Landcare Illawarra
53. Main Roads WA
54. Mallee Conservation
55. Murray Local Land Services
56. Murrumbateman Landcare Group, NSW
57. Native Seeds Pty Ltd
58. Native Soda
59. NaturalCapital Pty Ltd

60. Nindethana Seed Service
61. Ningee Bush Foods
62. North Coast Local Land Services
63. NSW Biodiversity Conservation Trust
64. NSW Department of Planning, Industry and Environment
65. NSW Department of Primary Industries
66. NSW National Parks and Wildlife Service
67. Oil Advantage
68. Penrith City, NSW
69. Pilbara Native Seeds Co Pty Ltd
70. Plantrite
71. Queensland Department of Aboriginal and Torres Strait Islander Partnerships
72. Queensland Trust for Nature
73. Rainforest Bounty
74. Regional Development Australia ACT
75. Riverina Revegetation formerly Coleambally Saltbush
76. Royal Botanic Gardens and Domain Trust, NSW
77. Royal Botanic Gardens Victoria
78. Rural and Remote Development
79. Seed Shed
80. Seeding Victoria
81. Seedtree Maps
82. Seedworld Australia
83. South Coast Native Seeds
84. Stanwell, QLD
85. Stringybark Ecological
86. Sustainable Timber Tasmania
87. Swainsona Seed Services
88. Tasmanian Department of Primary Industries, Parks, Water and Environment
89. Terralogica Seeds
90. The Backyard Garden Enthusiast
91. The Revegetation Industry Association of WA
92. Threatened Species Conservancy
93. Top End Seeds

94. Transport for New South Wales
95. Trillion Trees
96. University of Queensland
97. University of Sydney
98. University of Tasmania
99. University of Western Australia
100. Upper Murrumbidgee Landcare, NSW
101. Verterra
102. Victoria Volcanic Plain Biosphere
103. Victorian Department of Environment, Land, Water and Planning
104. Vitroflora
105. WA Department of Primary Industries and Regional Development
106. Wagga Wagga City Council, NSW
107. Western Australian Biodiversity Science Institute
108. Wheatbelt Natural Resource Management Inc
109. Yass Area Network of Landcare Groups.

APPENDIX C: RANGING INTERVIEW KEY THEMES

Ranging interviews were conducted in April and May 2021 to identify the Strategy themes that need to be explored, establish the sign-off process and responsibility for the Strategy and identify additional stakeholders to be consulted.

The findings from the ranging interviews are presented below according to the key themes:

- Strategy framing
- native seed sector participants
- supply and demand issues
- quality
- legislation and regulation
- Strategy governance.

C.1 Strategy framing

- Stakeholders considered that the role of the Strategy should be to:
  - drive state and territory policies on seeding, targets, procurement, and selection of species
  - explore issues such as climate-adjusted adaptation, management of threatened species and maintaining biodiversity
  - link with existing policies and programs, such as the Healthy Seeds initiative by the NSW Government
  - provide information and education on relevant regulations
  - advise on R&D priorities for the native seed sector.
- The Strategy should use a mission based structure, that presents challenges and objectives for the native seeds sector.
  - The Strategy should set ambitious goals.
  - The Strategy should consider natural heritage, culture and tourism.
- Five pillars were identified ahead of consultation and included in the ranging interview discussion guide. These include information provision, smarter regulation, capacity building, quality and standards, and research and development. In general, stakeholders:
  - found the pillars to be broadly appropriate
  - indicated that the pillars are interconnected.

- The Strategy should be accompanied by:
  - awareness and promotional campaigns to support its implementation and
  - monitoring and evaluation processes to understand its impact.

C.2 Native seed sector participants

- There was a consensus among most stakeholders that seed banks need to be strengthened through:
  - increased government funding
  - improved consistency of funding — seed banks require long-term contracts and funding certainty
  - improved trade and coordination across seed banks
  - the development of commercial income streams (although this was highlighted as a challenging area to explore due to government restrictions on selling certain species or species collected from certain areas).
- Traditional Owners are an essential stakeholder group, and several native seed organisations operate in some jurisdictions
  - Stakeholders considered it important to protect Traditional Owner intellectual property and land access, and provide appropriate remuneration.
- Government responsibilities for native seeds and their use is distributed across local, state and territory and Commonwealth governments (Catchment Management Authorities/Local Land Services and Natural Resource Management regions), and across multiple agencies/departments.
  - Stakeholders suggested that better coordination is needed across state, territory and Commonwealth Governments and relevant Ministers.
  - The states and territories have different requirements for the volume and purpose of native seeds:
    - Victoria is reviewing the revegetation sector, and is considering climate-adjusted provenance.
    - NSW is delivering the Healthy Seeds project, which will deliver an evidence-based road map to secure native seed supply in NSW for restoration, and to update the *FloraBank Guidelines* for best practice native seed collection and use.
    - The ACT does not engage in much rehabilitation using native seed as it is expensive, and has variable success rates (due to poor knowledge/protocols on how to support germination).
    - In Queensland, a large amount of restoration occurs through NRM vehicles. It is challenging to achieve successful restoration due to the climatic conditions.
    - In Western Australia, limitations to sector growth include poor access to land/seed due to restrictive regulations.
    - In Tasmania, natural regeneration is effective and there is low demand for regeneration from mining.

C.3 Supply and demand issues

- Challenges affecting the native seeds sector include:
  - uncoordinated and poorly understood demand from government and to a lesser extent the private sector
  - supply constraints resulting from challenges sourcing seed, and poor and delayed information on buyer requirements
  - poor seed quality
  - the impact of the climate change on species adaptation and stockpiles of seed
  - securing appropriate remuneration for private/Traditional Owner lands
  - distributing funding towards smaller organisations/businesses
  - securing funding outside of government provisions (i.e. mining groups).
- Some stakeholders considered that if seed was available at a higher quality, then it would be required in smaller quantities.
- A marketplace was considered useful in creating transparency on supply and demand and connecting buyers and sellers of seed.
- Some stakeholders considered that quality standards were necessary and needed to be mandatory/enforced.

C.4 Quality

- Most stakeholders considered that the native seed sector would benefit from consistent and harmonised national standards on quality, ethics and sustainability. This was seen to be important for:
  - facilitating buying and selling of seed through a marketplace and
  - improving biodiversity, revegetation and conservation outcomes.
- However, quality control is expensive and there needs to be a willingness among buyers to pay for the increased cost of seed.
  - Buyers need to be made more aware of the importance of quality seed and the value this will contribute to planting outcomes.
- There are several existing quality standards (e.g. *FloraBank Guidelines*, Revegetation Industry Association of WA (RIAWA), Australian Seed Federation), yet none are universally adopted across the native seed sector.

C.5 Legislation and regulation

- Legislation has not been harmonised across jurisdictions. Each state and territory and the Commonwealth Government has a range of legislation and regulations that control land access.
- Changing legislation is expensive and time-consuming and needs to be conducted separately in each jurisdiction.

- Most stakeholders suggested that regulations governing land access were unclear and overly complex and restrictive to seed collection practices.
  - Industry stakeholders reported significant difficulty in accessing information about land ownership and permissions.
  - Regulations differ by state, making it challenging and burdensome to collect across state and territory borders.
  - As a consequence, there was widespread reporting of poor practice with regard to land access.
  - Regulation and legislation need to balance appropriate control of land access and protection of threatened species, without being overly burdensome and providing a disincentive to collection.

C.6 Strategy governance

- Stakeholders had divergent views on who should 'own' the Strategy. Some stakeholders thought it should be owned by the Commonwealth Government, while others considered that consortium, industry or an industry peak body should own the Strategy.
- The industry group RIAWA is an example of self-regulation in the sector, and has led to better networks and coordination. However, its voluntary nature limits membership.

APPENDIX D: WORKSHOP SUMMARY REPORT

The purpose of this document is to provide a high-level summary of the key themes emerging from the 11 strategy design workshops held in April. The workshops were:

- Capacity
- Supply
- Demand
- Conservation
- R&D
- National (four workshops)
- WA
- NSW
- VIC
- QLD
- SA/TAS/NT/ACT.

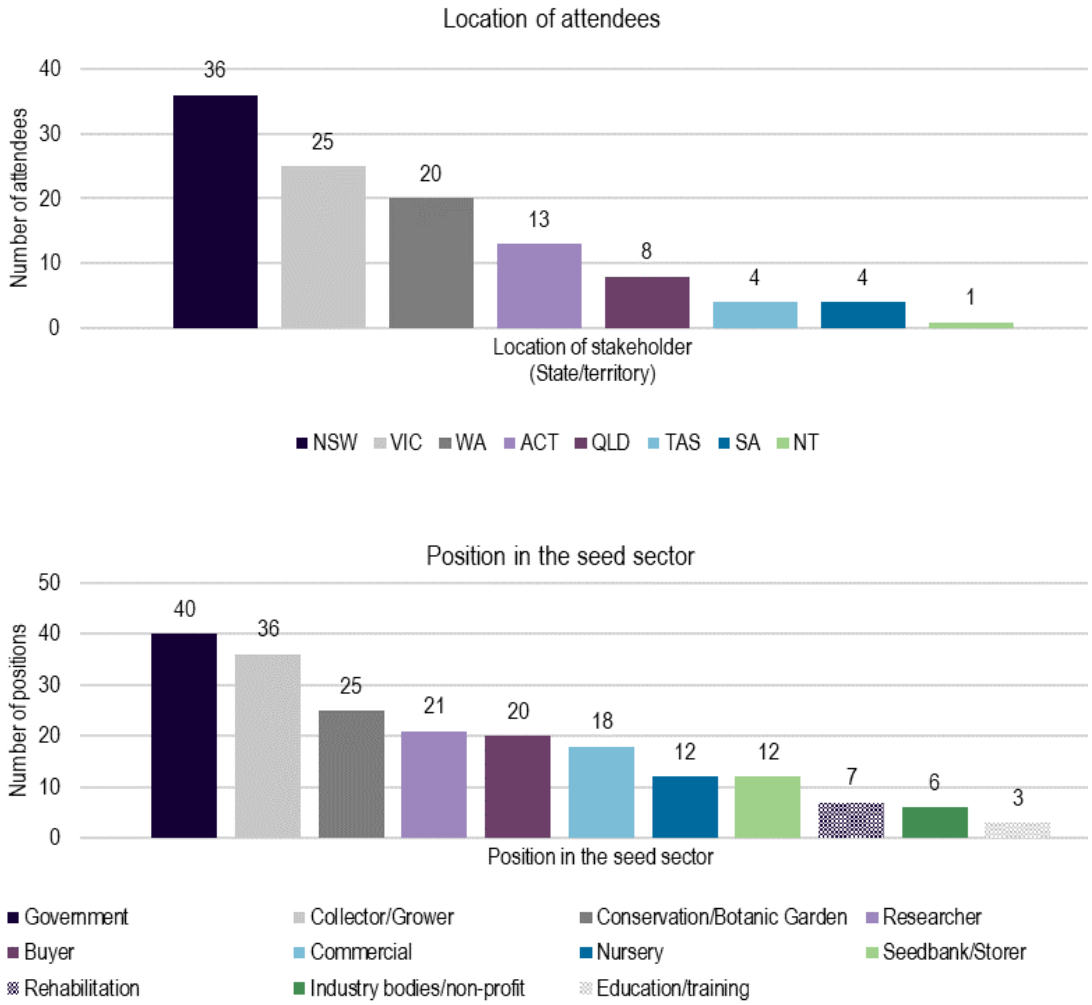
This document presents a synthesis of the main issues across all workshops, followed by individual summaries for each workshop that identify unique issues, as relevant.

D.1 Attendees

The workshop attendees are overviewed in **Figure D.1** according to location (top graph), workshop (middle graph) and position in the seed sector (bottom graph). Across the workshops:

- A total of 111 unique stakeholders attended the workshops, with 231 total attendees.
- Most attendees were from NSW, then VIC and WA.
- The R&D, then Conservation and Supply workshops had the largest number of attendees.
- Most attendees were from government or collector/grower positions, followed by conservation/botanic gardens, research and buyers.

FIGURE D.1. WORKSHOP ATTENDEES BY LOCATION, WORKSHOP AND POSITION IN THE SEED SECTOR



Note: some stakeholders attended more than one workshop, so the number of total attendees is greater than the number of unique attendees.
Position in the seed sector assigned based on registrant data. Some registrants identified more than one position in the seed sector. As such, the number of positions is more than the number of attendees.
Source: ACIL Allen, contentgroup

D.2 Summary of common themes

A summary is provided below according to the key workshop topics.

D.2.1 The challenges

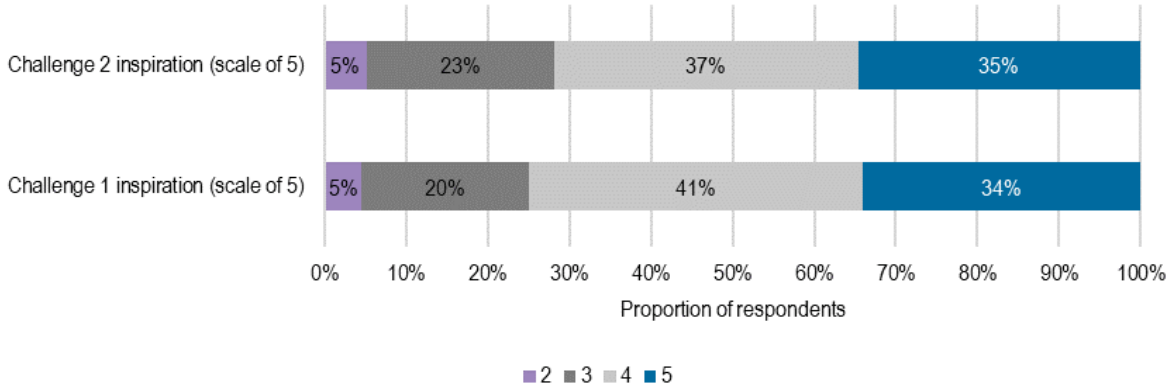
Challenge 1: Seed banks continue to make the full diversity of Australian native plant species and their genetics available for posterity and active use.

Challenge 2: The Australian native seed sector attracts the resources to sustain its skills and capacity to respond when required.

- The challenges are broadly accepted.
- Cross-cutting goals were seen as important for building the whole sector. This will build coordination, consistency, reliability and value.
- Some considered that ten years was the minimum length the Strategy should aim for — in practice the sector is very long-term.
- The sector should aim high. There is great potential to add value to the economy (e.g. the US native seed sector is valued at $2 billion).
- Some issues with the challenges:
  - achieving the challenges will take baseline funding
  - the notion of sustainability is challenging given that the sector faces many fluctuations
  - conservation of threatened species needs to balance revegetation to achieve better conservation outcomes
  - 'seed banks continue to make' was seen as an issue by some, as they did not perceive that seed banks were currently making 'the full diversity' available
  - 'seed banks' needs to be defined as inclusive of in situ and ex situ seed
  - 'genetics' need to capture genetic viability, fitness, diversity/provenance and
  - the challenges do not include plant types that do not set seed (these are fundamental to landscapes).

Figure D.2 provides a summary of the poll results on the Challenges across all workshops. This shows that most respondents identified that both Challenge 1 and 2 were inspirational (72 and 75 per cent respectively identified 4 and 5 out of 5).

FIGURE D.2. SUMMARY POLL RESULTS: CHALLENGES



Number of respondents: 88 and 78 for Challenges 1 and 2 respectively.
Out of 5, how much does challenge 1 and 2 inspire you to develop the native seed sector? (1 being 'not at all' and 5 being 'a lot')
Source: ACIL Allen, contentgroup

D.2.2 Five Pillars

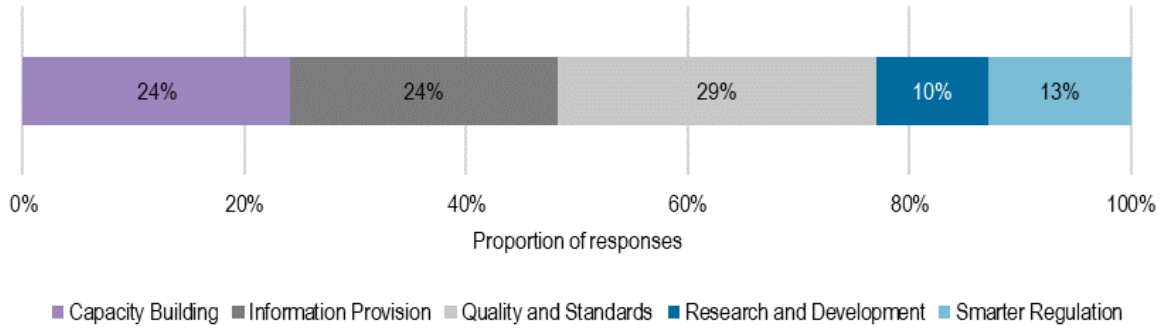
Pillars: Information Provision, Capacity Building, Quality and Standards, Research and Development, Smarter Regulation.

The pillars work together and all are important in driving the growth of the sector. Themes cut across the pillars.

Figure D.3 provides a summary of the poll results on the pillars across all workshops. In general, most considered that the pillars with the greatest potential to contribute to the growth of the sector are:

- quality and standards and
- information provision and capacity building.

FIGURE D.3. SUMMARY POLL RESULTS: PILLARS

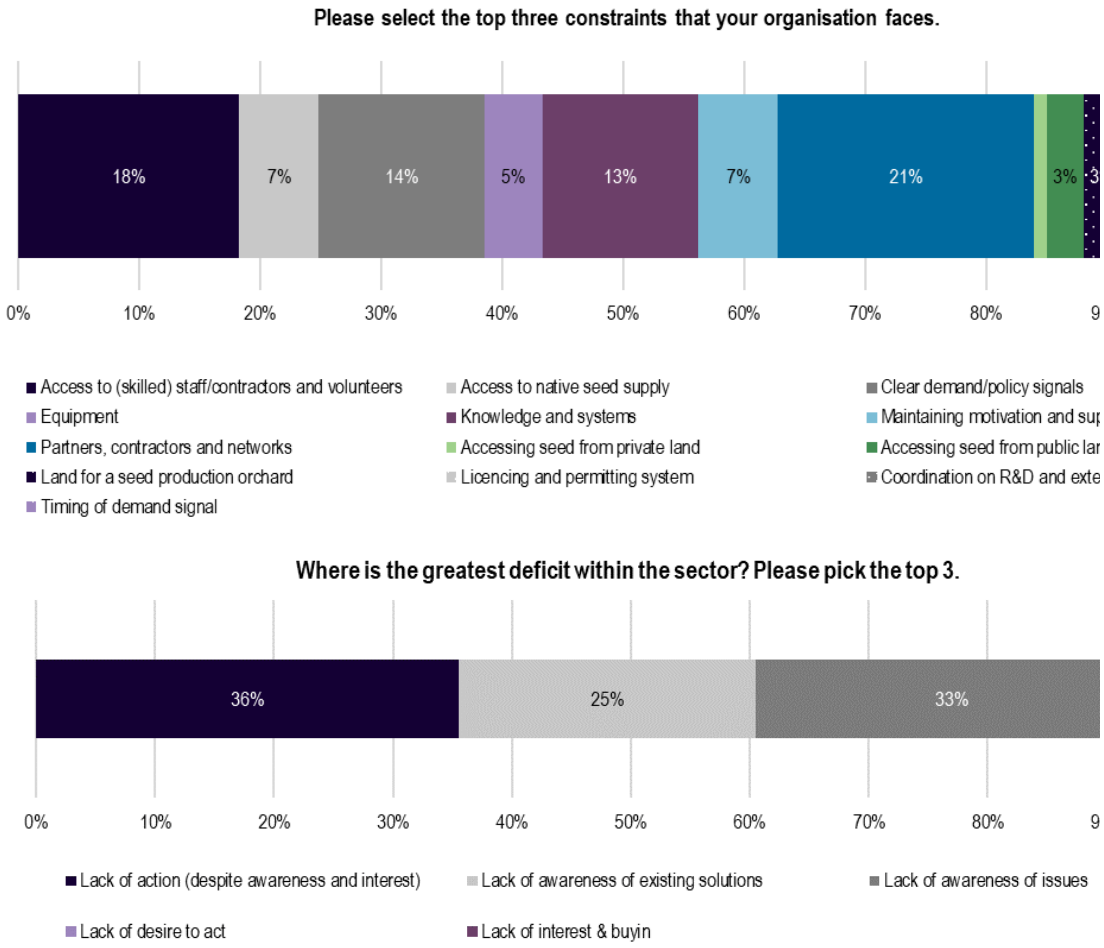


Number of responses: 170 (respondents could select up to three pillars).
Please pick the three pillars that have the highest potential to develop the native seed sector.
Source: ACIL Allen, contentgroup

Figure D.4 shows the top three constraints (top graph)/deficits (bottom graph) in the sector. These are:

- **Constraints:** partners and networks, access to (skilled) staff and volunteers and knowledge and systems.
- **Deficits:** lack of awareness of issues, lack of action (despite there being awareness and interest), and lack of awareness of existing solutions.

FIGURE D.4. TOP THREE CONSTRAINTS AND DEFICITS IN THE SECTOR



Number of responses: 487 (respondents could select up to three constraints). Please select the top three constraints that your organisation faces.
Number of responses: 76 (respondents could select up to three deficits). Where is the greatest deficit within the sector? Please pick the top 3.
Source: ACIL Allen, contentgroup

D.2.3 Quality/Code of Practice

- Some see a Code of Practice (CoP) as a natural next step while others are hesitant. Possibly this is due to confusion about what this involves.
- There are challenges with standardising such a diverse and complex market.
- Quality is driven by both supply and demand side (suppliers and buyers).
  - assurance of quality is happening in some transactions now
  - there is a need to overcome poor practices and support better behaviour. CoP will not be a barrier to those with good practices.
- There may be a need for different levels of standards:
  - mandatory minimum standards for labelling (e.g. species, location) — standards should give people information to make an informed decision

- voluntary additional information above the minimum standards, which may be used as a competitive edge (e.g. GPS location, viability, storage, provenance, ethical collection)
    - this requires a tracking system.

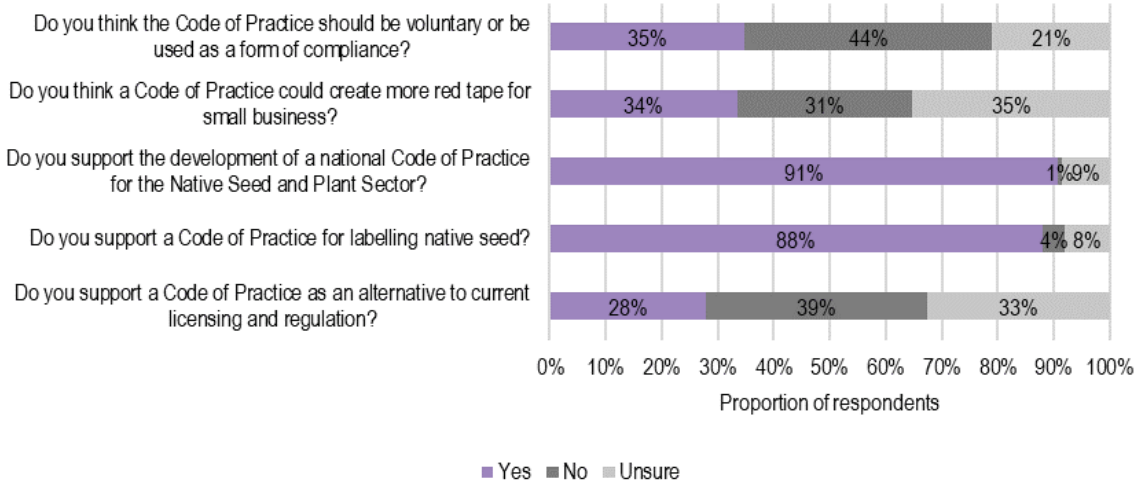
- Mandatory standards would need to involve a transition period.
    - needs to consider the burden/risk for small-scale suppliers and non-profits, relative to large-scale and commercial suppliers — this should not exclude sector participants
    - this could just be used for those involved in commercial buying and selling
    - can be used as a compliance system.
- Buyers need to be aware (education and training, buyer's guide) of the importance of quality and start to set a clear expectations/specifications for sellers to meet.
    - if buyers demand quality, suppliers will meet it
    - there needs to be a willingness to pay for the additional costs that will be incurred.
- Coordination:
    - needs to have a designated coordinator
    - differing views on the level of coordination: national, state and regional
    - should include NRM regional vegetation guides (e.g. physical landscape, topography, key species).
- Good work has already done in this space. This should be consolidated and leveraged:
    - FloraBank/ANPC is currently developing guidelines and seeking feedback — these can be adopted more widely. A separate 'buyer's guide' was seen to be useful.
    - BHP manual on quality standards
    - Queensland Roads and the Queensland Biodiscovery Act, which limits how entities collect and access biological materials, including seed. It has a code of ethics and requires consideration of, and agreement by Traditional Owners.
    - Australian Seed Federation: as a member you must comply with the Codes of Practice. This has a section on native seeds. FloraBank is not included, but could be (there is an upcoming practice review in August). It does not apply to seed banks in the conservation space, only commercial.
    - *Nursery Industry Accreditation Scheme Australia (NIASA) Guidelines*
    - Revegetation Industry Association of Western Australia (RIAWA) has Seed Standards and an Accreditation for accrediting native plant seed that is bought and sold in WA.[32]

[32] http://riawa.com.au/wordpress/?page_id=1059

Figure D.5 provides a summary of the poll results on the CoP across all workshops. This shows:

- the CoP should be national and focus on labelling
- respondents are evenly split on whether the CoP should be voluntary/a form of compliance, would create more red tape for small business, should be an alternative to current licensing/regulation.

FIGURE D.5. SUMMARY POLL RESULTS: CODES OF PRACTICE



Number of responses (top to bottom, respectively): 138,138, 129, 84, 104.
Source: ACIL Allen, contentgroup

D.2.4 Governance

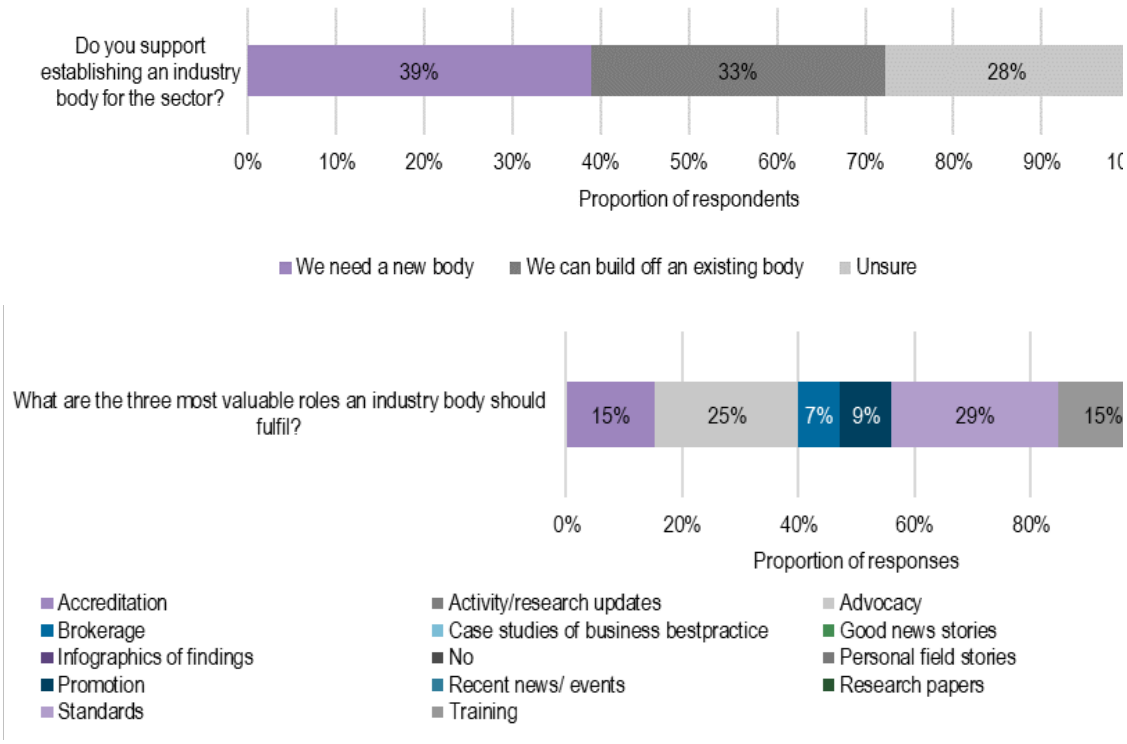
- There was consensus that the sector needed a coordinating industry body that should:
  - advocate to government to guide decision makers and policy
  - attract government grants targeted to the sector
  - coordinate information on supply and demand (and work for both buyers and sellers)
  - oversee R&D
  - stimulate engagement/collaboration
  - enable businesses
  - be financed, initially, by government until the sector is mature enough to be self-sustaining
  - support newcomers to the sector
  - consider common issues, such as threatened species movement and climate-adjusted translocation.
- The Strategy must involve Traditional Owners.

- There were different perspectives on who should govern the Strategy and whether an existing entity could perform the governance role. The general consensus was that this should be led by a cross-sectoral consortia, involving industry, government, non-profits etc.
- Participants suggested the following existing entities that could perform this role:
  - Commonwealth Department of Agriculture, Water and Environment (DAWE)
  - AgriFutures emerging markets
  - Australian Seed Bank Partnership
  - Australian Seed Federation (funded by DAWE)
  - Australian Network for Plant Conservation
  - CSIRO (may be too research-focused)
  - NRMs (scope may not be broad enough as they are mainly agricultural)
  - Landcare (but have unstable funding)
  - Society for Ecological Restoration Australasia (SERA)
  - RIAWA
  - Australian Association of Bush Regenerators (AABR).
- Knowledge sharing consortia
  - there is a need for a centralised database of buyers/sellers, capacity, time frames, transactions, viability, purpose of seed purchase, location of seed
  - there are intellectual property concerns (sharing information on the location of seed collection)
  - there is a need for a dedicated 'knowledge aggregator' — otherwise this will not happen in a timely manner. This should be a paid position.

Figure D.6 provides a summary of the poll results on governance across all workshops. This shows that:

- respondents were evenly split on the need for a new industry body, the ability to build from an existing body and being unsure
- the most valuable roles for the industry body includes standards, advocacy and accreditation.

FIGURE D.6. SUMMARY POLL RESULTS: GOVERNANCE



Number of respondents and responses (top to bottom, respectively): 67, 125.

Source: ACIL Allen, contentgroup

D.3 Capacity and networks

- There is limited capacity in the sector:
  - there is a need for a diverse range of training for different regional areas, participants (collectors, sellers and purchasers), policy and program makers, communities, Traditional Owners
  - some consider demand to be strong (from mining and construction) with supply capacity the constraint
  - others consider that unpredictable demand is limiting capacity building
  - there is a need for funding for capacity building: infrastructure, skills/training, testing, seed production areas (SPAs).
- Networks:
  - these are often regional and within agencies. There is not much cross-over between networks:
    - some considered there to be strong communication between botanic gardens
  - there is a need for more connected networks:
    - to connect seed suppliers with seed procurers
    - to share and communicate learnings, data, insights and to connect with others
    - that align with existing government or university run programs and networks

- some considered that there was significant competition across the commercial part of the sector, with information sharing inhibited by the need to protect IP
- there needs to be greater transparency so networks can more easily form
- existing networks that could be leveraged:
  - RIAWA
  - National Environmental Science Program Hub
  - FloraBank/ANPC
  - Seed banks (which are essential coordinators of supply, demand and funding).
- networks across the supply chain and personal commitment create sustainability (projects, funding availability, training programs).

- Training programs
  - poor/lack of training is leading to poor outcomes
  - training should be attached to CoPs
  - there are issues with the availability and affordability of specialised training courses and linkage of training for accreditation
  - training can occur through TAFE, landcare groups, town hall meetings, universities, community groups, apprenticeships and mentorships
    - some larger-scale organisations operate in-house capacity building. Others outsource capacity when needed (but this results in quality issues).
- Traditional Owners — there is some ongoing capacity building, but need to engage more.

D.4 Supply

- There are supply constraints due to:
  - lack of collectors
  - inadequate storage
  - variable demand
  - complex system of permits/permissions/royalties
  - short lead times
  - over-collection
  - poor coordination/networks
  - provenance limitations
  - lack of mechanisation
  - unreliable/disaggregated spatial information
  - poor awareness of the industry — not incorporated in training and education
  - land clearing

- negotiating with landowners
- poor funding for and coordination of SPAs
- variability of species, harvest times/quantity.

- Regulation has a significant impact on supply:
  - accreditation needs to balance the risk of over-regulation/burden. Currently, some collectors/suppliers are not complying with regulation because it is too difficult. It discourages collecting in certain areas.
  - consistency of regulation across public lands is an issue (QLD comment)
  - there is a need to train regulators.
- We can improve seed supply by:
  - improving information provision through a native seed marketplace — so suppliers understand what demand is and can respond accordingly
  - educating buyers on the lead time required to secure supply
  - better understanding how to source seed from bushfire-affected areas
  - encouraging government to fund annual collection to ensure security of supply.
- We can improve seed storage by:
  - collecting and storing larger amounts of seed and better coordinating resources and information across banks so that collectors do not need to collect every year
  - understanding and improving storage conditions to improve viability
  - building individual and connected or large scale infrastructure.
- Other considerations
  - genetic diversity: need to be careful of in-breeding and more collectors collecting within a provenance
  - use of technology to aid information provision, e.g. Epicollect. Clients are increasingly wanting GPS information.

D.5 Demand

- There is a need for a clear demand signal to secure supply (reduce the risk of establishing SPAs, provide certainty of funding/income):
  - some commercial participants indicated that there is strong demand, yet supply constraints.
- An online marketplace/hub and in-person events could support an understanding of total demand, provenance, quantity, species lists, skills, expertise, infrastructure. This should be filterable by species/location and leverage existing platforms:
  - RIAWA helps buyers and sellers by providing business locations and specialities
  - GA's seed supply system records plant information for direct seeding

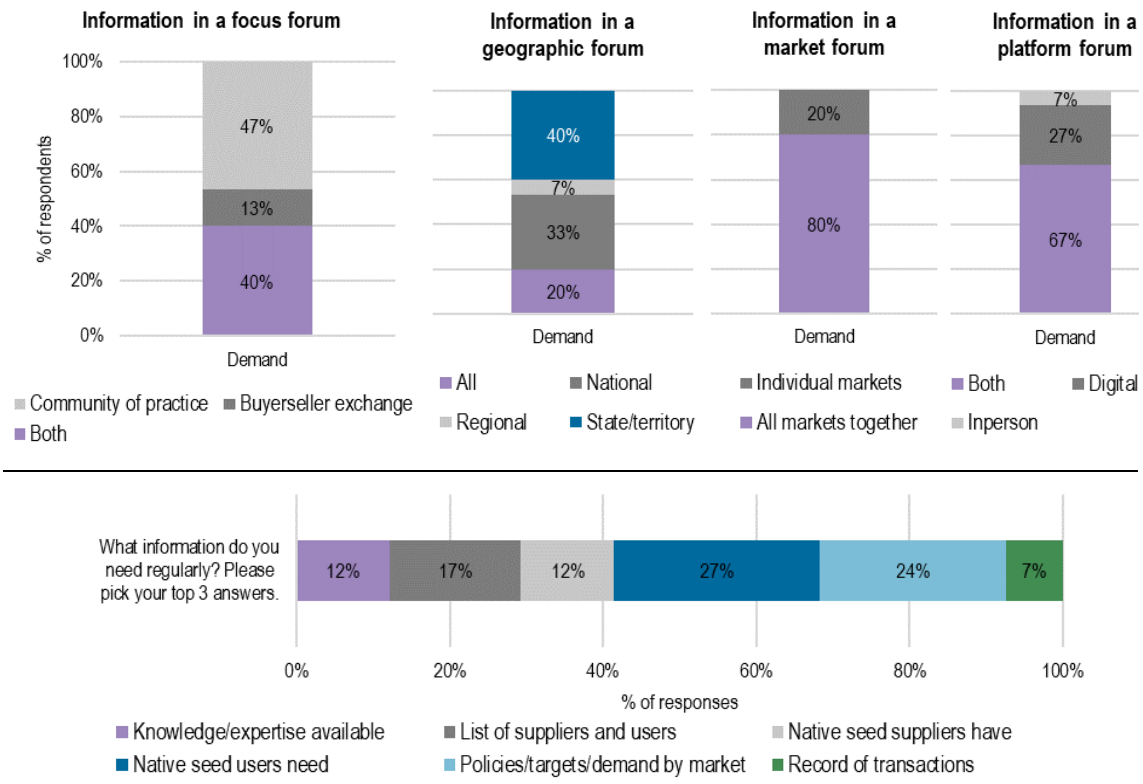
  - https://evergreenconnect.com.au/ provides details on supply/availability and price
  - FloraBank
  - Australian Plant Society
  - *Atlas of Living Australia*
  - *Germplasm Guidelines*
  - Australian Seeds book
  - Botanic seed bank
  - conferences: Seed Science, Mine Closure, RIAWA.
- There is some willingness to share information to grow the sector (mostly conservation participants). The commercial sector is more cautious due to IP issues.
- Demand for threatened and climate-adjusted species will increase.
- There is a need to educate buyers and support users to correctly use seed. There is a large shortfall in knowledge and practice in the mining and rehabilitation sector:
  - seed demand needs to be built into contracting and forward planning
  - seed is being wasted due to poor implementation.
- Regulation has a significant impact on demand:
  - need for stronger enforcement of regulation for mining companies, planning and other revegetation buyers. The requirement for high-quality revegetation needs to be embedded in government contracts.
- There is a willingness of government (Transport for NSW) to pay some levy (by volume) to contribute to the growth of the industry. A standard project size is $100M, so there is a large potential to contribute to the industry:
  - an industry body would need to oversee the levies.

Figure D.7 provides a summary of the poll results for the Demand workshop. This shows that most respondents want information to be provided:

- through a buyer-seller exchange and a community of practice
- according to regions and national
- on all markets together
- both in person/online and in person only.

The greatest information needs were for native seed users' needs and policies/targets/demand by market.

FIGURE D.7. SUMMARY POLL RESULTS FOR THE DEMAND WORKSHOP



Number of respondents: 15. What type of information sharing forum would generate the most amount of value for you if it were a focus forum?
Number of respondents: 15. What type of information sharing forum would generate the most amount of value for you if it were a geographic forum?
Number of respondents: 15. What type of information sharing forum would generate the most amount of value for you if it were a market forum?
Number of respondents: 6. What type of information sharing forum would generate the most amount of value for you if it were a platform forum?
Number of responses: 41. What information do you need regularly (top three).

Source: ACIL Allen, contentgroup

D.6 Conservation

- There is a market failure for species that are difficult to collect etc.
- The challenges/limitations to conservation are:
  - threats that are not well managed:
    - land clearing (driven by government, local councils)
    - overpopulation
    - an absence of targets for sustainable land use
    - poor long-term planning (i.e. climate-adjusted translocation)

- seed accessibility
- poor coordination — participants do not know where to go to get support, and government departments have conflicting policies

- there is limited government follow-up on conservation activities
- direct seeding is difficult and can have poor outcomes if not well managed which wastes seed
- it is hard to do long-term research on SPAs to understand the impacts on genetic diversity.

- There is an opportunity to:
  - share conservation information with the restoration sector to improve direct seeding outcomes
  - better coordinate and leverage lessons from across the sector, including cross-border projects
  - generate an additional income stream from philanthropy
  - consider functional improvements and climate-adaptation
  - better train workers in the sector, which is dominated by volunteers
  - build storage capacity.

D.7 R&D

- Challenges:
  - the small scale of funding creates silos and competition, and forces a focus on only a small area of the required research with only a few researchers
  - there is no consistent support to breakdown silos between researchers and between research and application. Grants should focus on cross agency/collaborative issues
  - funding is tied to political cycles and looks at short-term outlook/outcomes — support is needed for longer-term projects/outcomes
    - support should be top down and coordinated at federal and state government level
    - need alternate funding through commercial streams
  - limited research on individual species and agreed framework for restoration
  - poor acknowledgement of climate change
  - poor leveraging of private businesses to conduct/support R&D.
- Opportunities:
  - better match resource and skill availability
  - incorporate Traditional Owner priorities and knowledge

- use conferences to convey information
- R&D should:
  - focus on seed banking techniques, seed ecology, germination, taxonomic and genetic issues
  - focus on species protection
  - better incorporate understanding of genetics and climate change into restoration.

D.8 National

- Pillars are accepted, no clear gaps.
  - the greatest potential is for quality, information (visible and transparent demand signal across different markets, policies), and capacity.
- There is a need for:
  - coordination/networking
  - a more visible/shared inventory
  - support to grow (funding and incentives for landholders).
- Key players: federal and state governments that drive demand.
- Constraints: market signal (one year minimum at contract stage), knowledge/systems, consistency, buyer education.
- CoP: transparent, supplementary to standards, basis for labelling, willingness to pay.
- Governance: advocacy/standards, requires funding/recognition/acceptance, national coordination/regional implementation, leverage existing bodies, promote the industry, be a voice to government, be representative.
- Strategy needs to link to national and international strategies/polices.

D.9 Western Australia

- Demand is less of an issue in WA due to consistent demand from mining clients. The bigger issues are supply, quality and provenance.
  - capacity building is the most important pillar for growing the industry: attracting new workers, building skills, and improving knowledge of the industry and standards which support buyers and sellers
  - there are some current efforts to drive interest in Traditional Owners to grow supply, including building skills and business capacity
  - a lot of collectors are retirement age, meaning knowledge is being lost as they leave.
- RIAWA has developed Seed Standards and Accreditation for native seed in WA.

- WA has a more developed approach to training than other states due to needs from the mining industry.
- WA has better diversification of funding streams for R&D due to partnerships with mining companies.
- Because WA is large and the supply of appropriate provenance seed is an issue. If supply is short, species are substituted.

D.10 New South Wales

- Pillars with the most potential are Quality and Standards, Smarter Regulation and Information Provision.
- NSW government is looking at a whole-of-government approach and applying a climate lens to revegetation
  - this aims to produce a 'future ready' genetically diverse collection.
- There are similar species and ecosystems in NSW/ACT in particular, but also on the borders with QLD and VIC. There is a need for a national approach.
- Healthy Seeds is delivered by Australian Network for Plant Conservation, funded by the NSW Government through the Environmental Trust. It aims to provide an evidence-based road map to secure a reliable, genetically-appropriate, native seed supply in NSW for restoration, and to update the *FloraBank Guidelines* for best practice native seed collection and use.[33]
- There is a lack of leadership and coordination across government, buyers and suppliers:
  - Local Land Services and Department of Agriculture/Primary Industries are often the point of call for Information Provision (where to buy seed, availability). But there is poor coordination within and across government agencies and poor understanding of what native seed is used for and how it contributes value. This hinders small business growth.
- Constraints: NSW lacks clear policy and strategy, resourcing for regulation, poor licensing time frames and restrictions, lack of knowledge sharing spaces/networks, market instability and high staff turnover.

D.11 Victoria

- The Pillar with the most potential to develop the sector is Capacity.
  - there is a need to more broadly consider Traditional Owners:
    - Victoria is in the process of engaging with the Dja Dja Wurrung peoples to look at the potential to conduct revegetation services. A report is due in June.
  - need to bring together Traditional Owner knowledge and western science.
  - very poor coordination across the state.

[33] https://www.anpc.asn.au/healthy-seeds/

- low funding availability for conservation sector and seed banking facilities.
- ageing workforce/lack of interest in the younger generation.

- There is a large demand for revegetation, which may outstrip the supply of land and seed:
  - target 200K hectares of revegetation in priority locations in Victoria by 2037. Since 2015, there has only been 9K, but not all in priority locations
  - attributed to good roll-out of revegetation initiatives in Victoria, and a federal trial in the north central Catchment Management Authority (CMA) area for diverse carbon farming
  - CMAs have been working on growing the sector for years (hampered by funding priority change from revegetation to restoration).
- The constraints are different for different organisation types and sizes. These are mostly focused on clear demand and policy signals, partners and networks.
- There is a need for a CoP (maybe FloraBank) to raise the bar, guide labelling, streamline permits. This should be compulsory (with a transition period).
- There is a need for an industry body to provide nationally consistent standards, accountability and direction. This should consider where value can be added (i.e. state/regional level).

D.12 Queensland

- Pillars: 'quality standards' and 'capacity building' are the priorities for the sector. 'Partners and networks' is the missing link.
- Need to invest in training — University of Queensland is well-placed to train collectors (how to collect and properly store seed):
  - QLD has a rich diversity of species and training will require local content.
- Supply of suitable provenance seed is a constraint, especially south-east QLD (rainforest):
  - drought has really exposed shortfalls in the supply chain and inability of trees to seed.
- Brokerage and awareness are essential for working with Traditional Owners.
- Poor regulation and communication across government areas hinders supply:
  - QLD's biodiscovery policy guides protecting and developing commerce from biodiversity.
- Mining industry dominates demand — there is a different goal from rehabilitation (ground cover, securing the soil, and building an ecosystem to meet a minimum hurdle, e.g. regulation, community expectation).

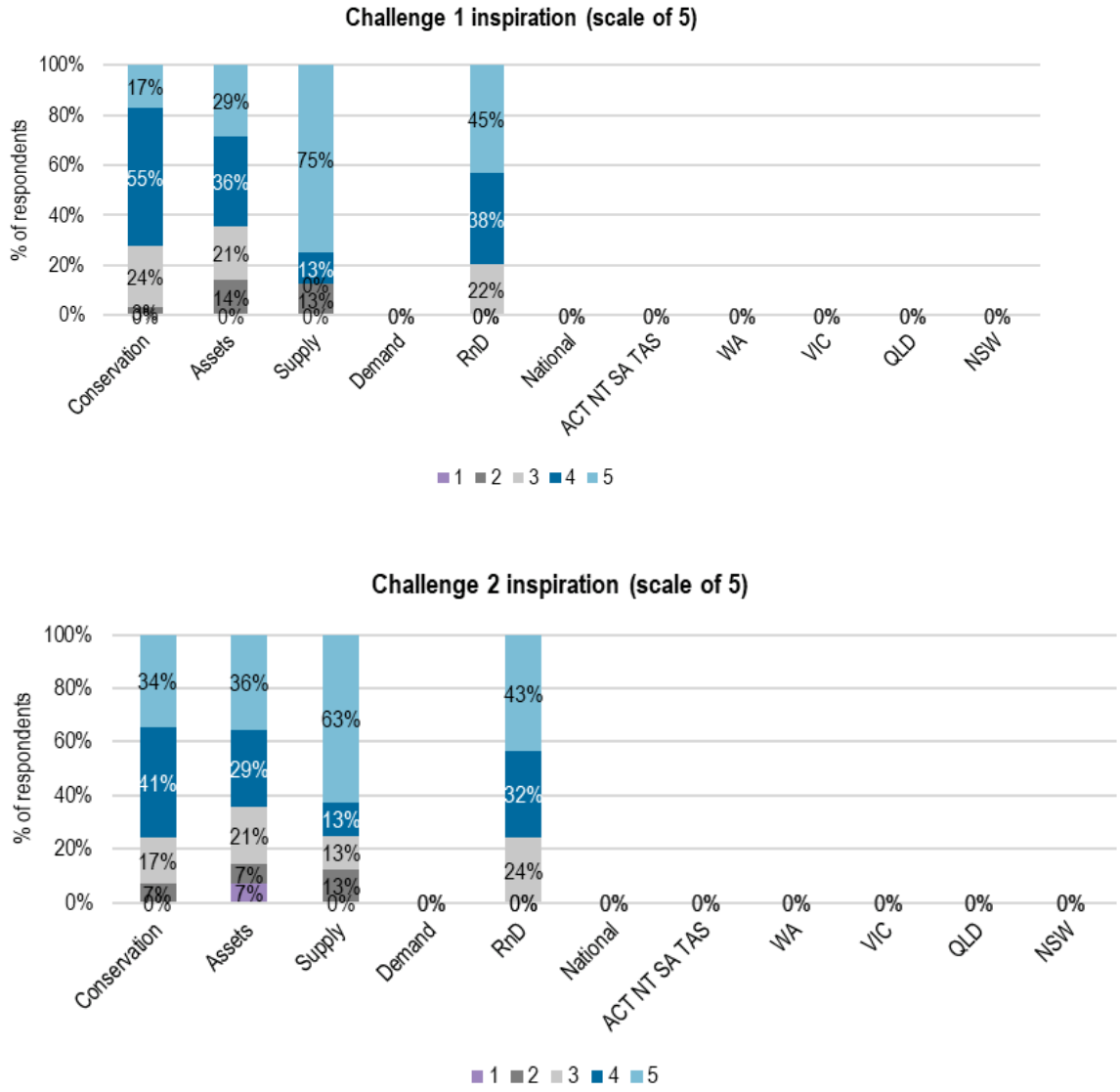
D.13 South Australia/Tasmania/Northern Territory/Australian Capital Territory

- All 5 pillars are important and interconnected. Information provision and quality were polled as the 'most' important.
- The key constraints depend on the stakeholder. They include:
  - partnerships
  - access (to public and private land, skilled staff)
  - timing
  - viability
  - policy issues
  - lack of central portal for sector contacts.
- Quality is essential for the industry. A CoP is important and should leverage from existing approaches. They provide insurance when things go wrong.
- CoP should be voluntary, with market incentives leading suppliers to be preferred to guarantee quality:
  - the poll showed an equal preference for use as form of compliance or not.
- Poll suggests a new industry body is needed. It could also be the Australian Seed Federation (or someone else). It should perform the Strategy secretariate function.
- The sector in NT is quite small with a low level of demand and limited opportunities for growth (regional focus on agricultural/pastoral development rather than restoration of cleared areas).
  - NT faces different fire conditions to southeast Australia. There are near-annual grass fires that affect fairly resilient species. There is a need for weed clearing and potential for revegetation using bushfoods.
  - FloraNT is a resource for plant identification and cultivation provided by the Desert Park. This could be expanded with additional resources.

Attachment D.A

Figure D.A.1 provides a summary of the poll results for the topic of Challenges, by workshop and question. This shows that most consider Challenges 1 and 2 to be inspirational.

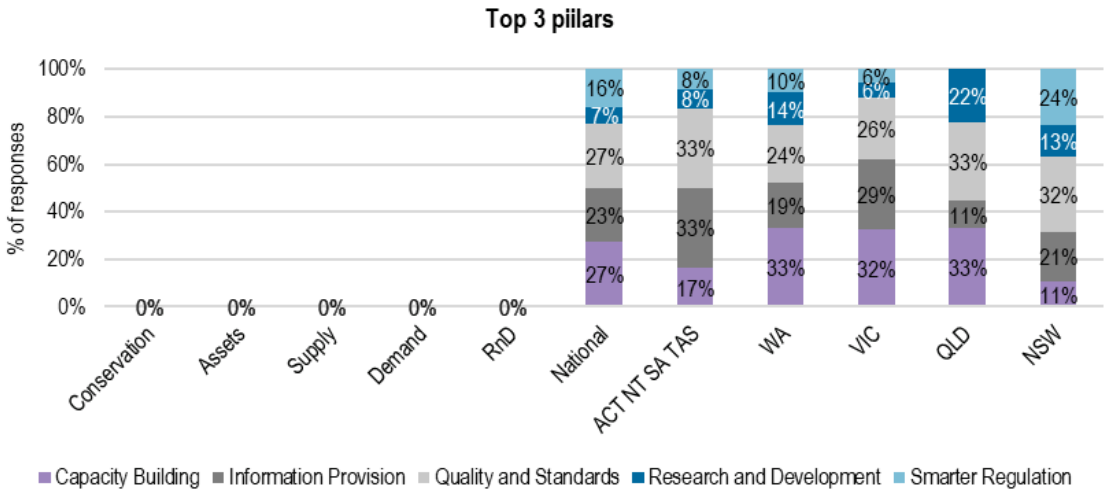
FIGURE D.A.1. CHALLENGES SUMMARY BY WORKSHOP AND QUESTION



Number of respondents: 88. Out of 5, how much does challenge 1 and 2 inspire you to develop the native seed sector? (1 being 'not at all' and 5 being 'a lot')
Source: ACIL Allen, contentgroup

Figure D.A.2 provides a summary of the poll results for the topic of Pillars, by workshop. This shows that most agree that the most important Pillars are Quality and Standards, Capacity Building and Information Provision.

FIGURE D.A.2. PILLARS SUMMARY BY WORKSHOP



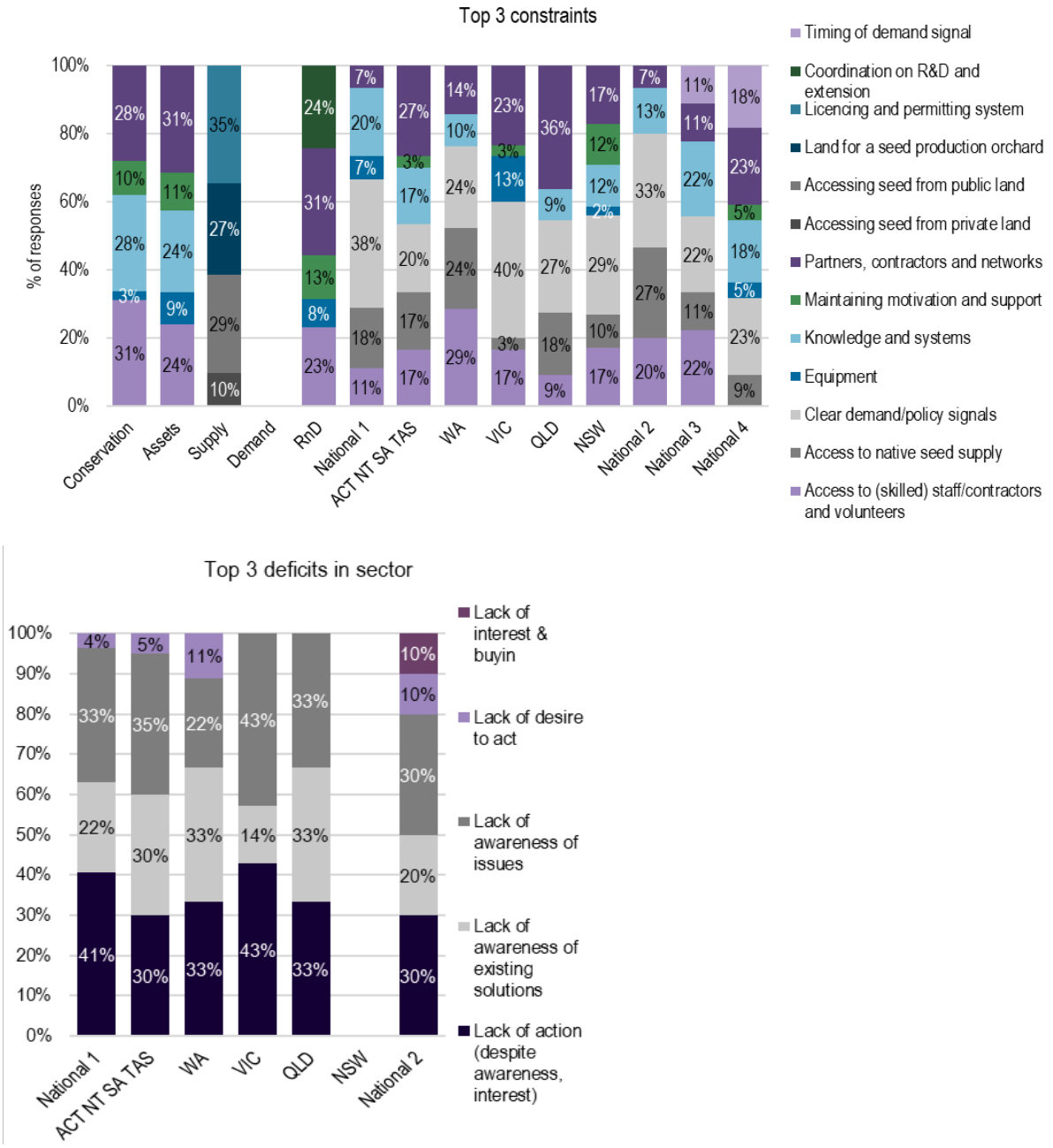
Number of responses: 170. Please pick the three pillars that have the highest potential to develop the native seed sector.

Source: ACIL Allen, contentgroup

Figure D.A.3 provides a summary of the poll results for the topic of constraints (left graph) and deficits (right graph), by workshop and question. This shows that:

- The constraints varied across workshops, with the most common constraints being access to skilled staff and volunteers and partners and networks. Other workshop-specific constraints include:
  - knowledge/systems in the conservation and capacity/assets workshops
  - licensing/permit system, land for SPAs and knowledge/systems in the supply workshops
  - coordination on R&D and extension in the R&D workshop
  - clear demand and clear policy signals in the national, second national, ACT/NT/SA/TAS, WA, VIC and QLD workshops
  - clear demand and policy signals in the NSW workshop.
- The most common deficits are lack of awareness of issues, lack of awareness of existing solutions and lack of action (despite awareness, interest).

FIGURE D.A.3. CONSTRAINTS AND DEFICITS SUMMARY BY WORKSHOP AND QUESTION



Number of respondents: 487. Please select the top three constraints that your organisation faces.
Number of respondents: 76. Where is the greatest deficit within the sector? Please pick the top 3.
Source: ACIL Allen, contentgroup

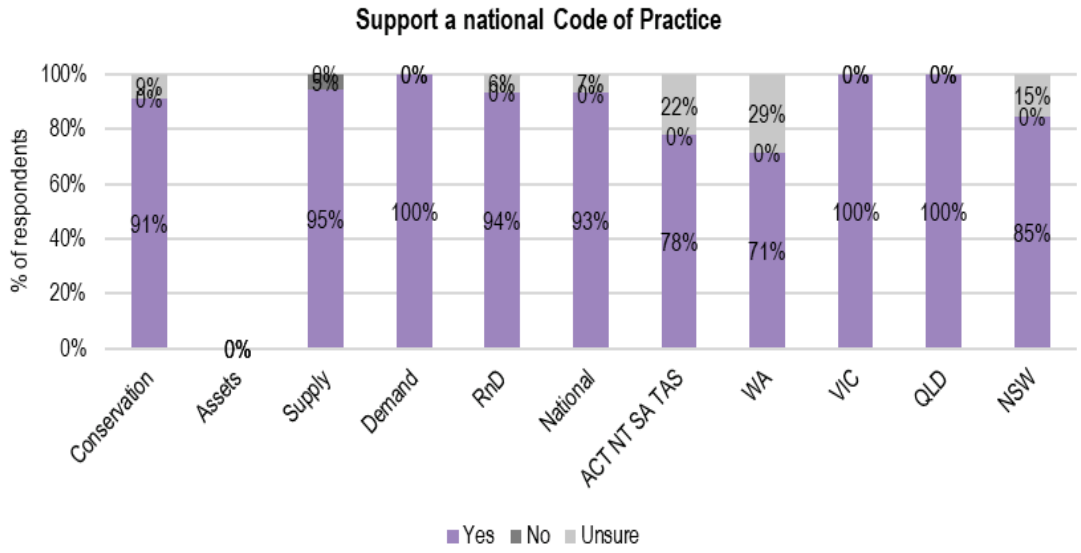
Figure D.A.4 provides a summary of the poll results for the topic of Codes of Practice, by workshop and question. This shows that:

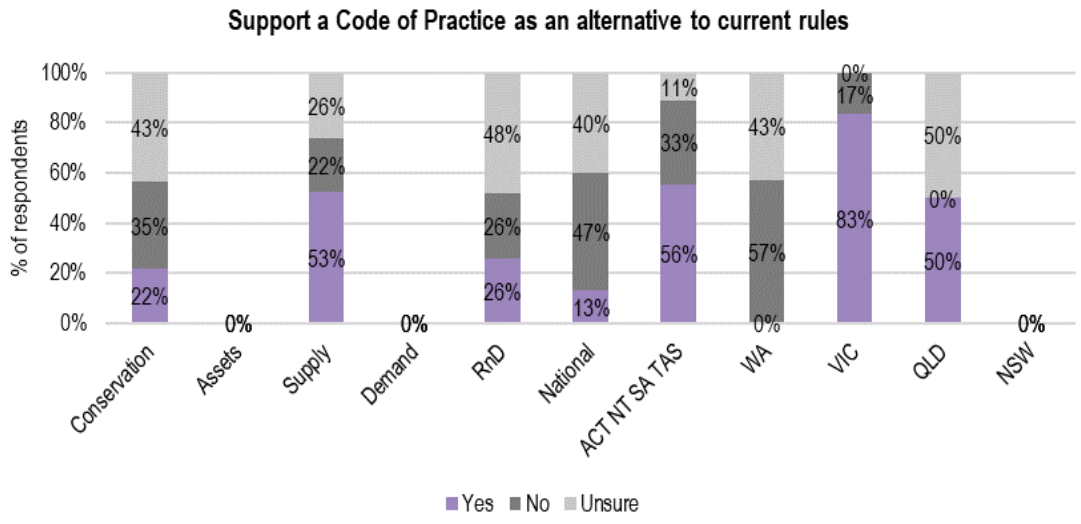
- Most respondents across all workshops supported a national Code of Practice.
- There was a large amount of uncertainty across the respondents on whether the CoP should be an alternative to current rules:

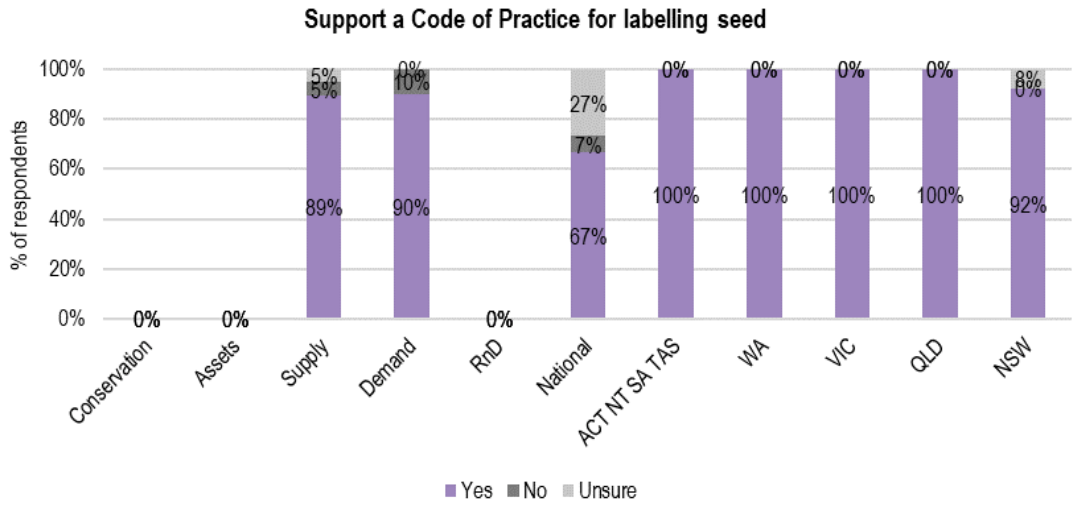
- most considered that it should be an alternative to current rules in the Supply, ACT/NT/SA/TAS, VIC and QLD workshops
- most considered that it should not be an alternative to current rules in the Conservation, National, and WA workshops
- responses were even in the R&D workshop.

- Most support a CoP for labelling seed.
- There was a large amount of uncertainty across the respondents on whether the CoP would create more red tape for businesses:
  - most considered that it would create more red tape in the Supply, National, WA, and VIC workshops
  - most considered that it would not create more red tape in the Conservation, R&D, and NSW workshops
  - responses were even in the Demand, ACT/NT/SA/TAS and QLD workshops.
- The best practice guidelines that were seen to be most valuable were:
  - testing seed
  - storing seed
  - purchasing seed
  - managing seed production areas.

FIGURE D.A.4. CODES OF PRACTICE SUMMARY BY WORKSHOP AND QUESTION




Support a Code of Practice as an alternative to current rules
% of respondents
100%
80%
60%
40%
20%
0%
43%
35%
22%
0%
26%
22%
53%
0%
48%
26%
26%
40%
47%
13%
11%
33%
56%
43%
57%
0%
0%
17%
83%
50%
0%
50%
0%
Conservation
Assets
Supply
Demand
RnD
National
ACT NT SA TAS
WA
VIC
QLD
NSW
Yes
No
Unsure


Support a Code of Practice for labelling seed
% of respondents
100%
80%
60%
40%
20%
0%
0%
0%
5%
89%
0%
10%
90%
0%
27%
7%
67%
0%
100%
0%
100%
0%
100%
0%
100%
8%
92%
Conservation
Assets
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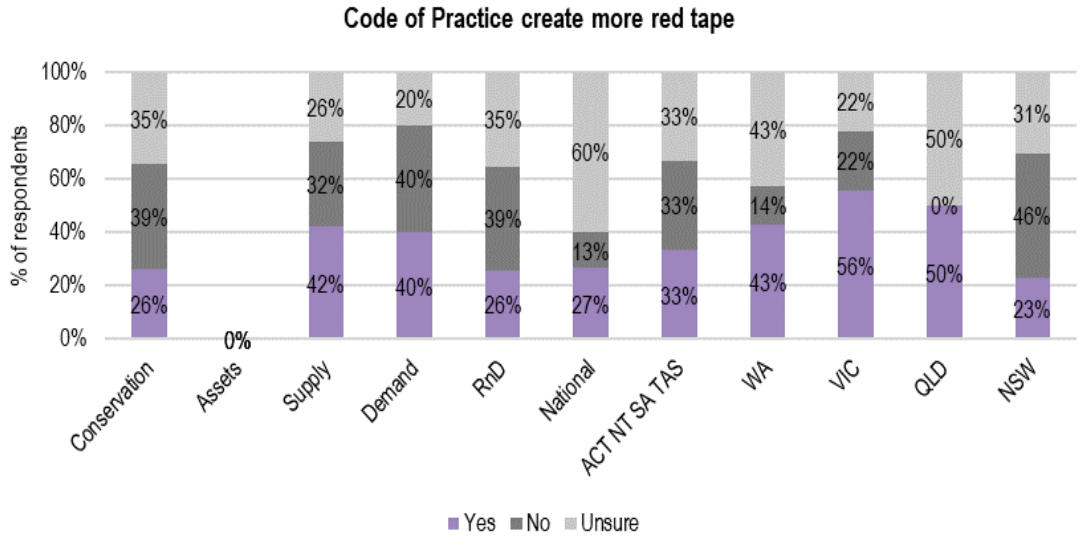
Demand
RnD
National
ACT NT SA TAS
WA
VIC
QLD
NSW
Yes
No
Unsure


Code of Practice create more red tape
% of respondents
100%
80%
60%
40%
20%
0%
35%
39%
26%
0%
26%
32%
42%
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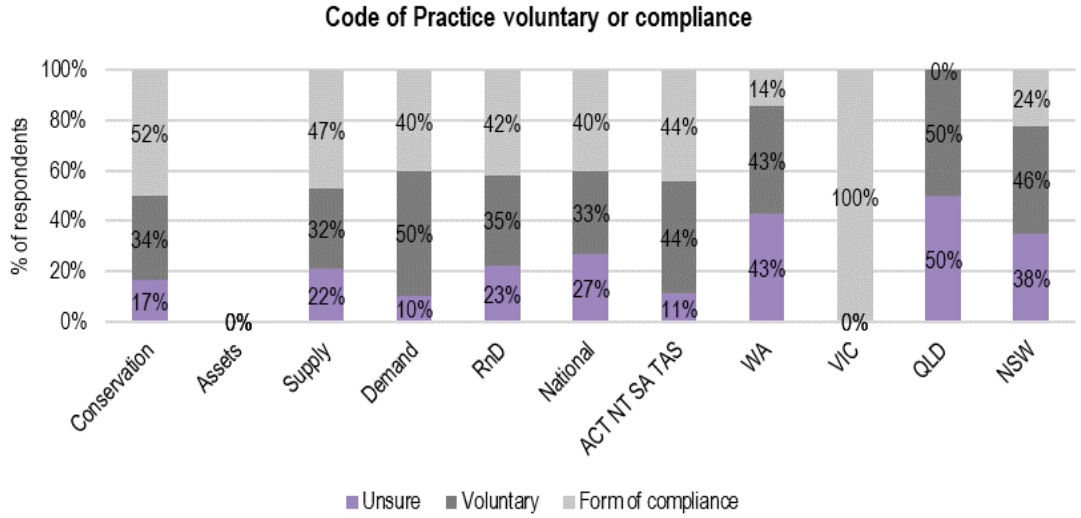
33%
43%
14%
43%
22%
22%
56%
50%
0%
50%
31%
46%
23%
Conservation
Assets
Supply
Demand
RnD
National
ACT NT SA TAS
WA
VIC
QLD
NSW
Yes
No
Unsure

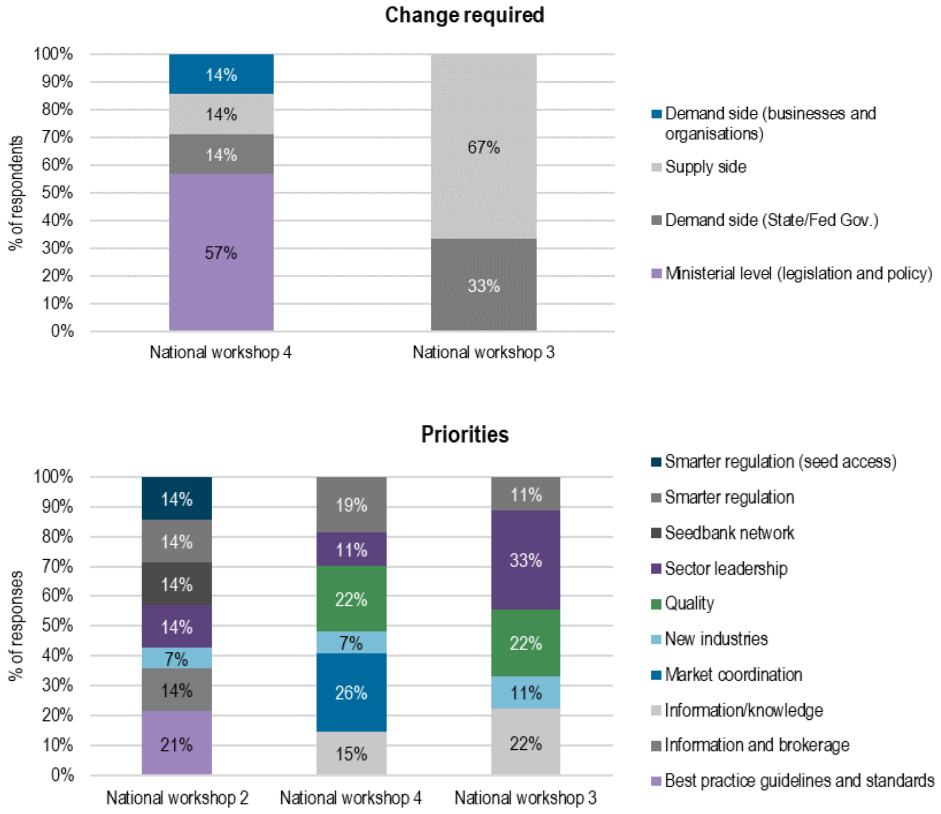


Number of respondents: 129. Do you support the development of a national Code of Practice for the Native Seed and Plant Sector?
Number of respondents: 104. Do you support a Code of Practice as an alternative to current licensing and regulation?
Number of respondents: 84. Do you support a Code of Practice for labelling native seed?
Number of respondents: 138. Do you think a Code of Practice could create more red tape for small business?
Number of respondents: 138. Do you think the Code of Practice should be voluntary or be used as a form of compliance?
Number of respondents: 44. What best practice guidelines are most important to you? Please select your top 3.
Source: ACIL Allen, contentgroup

Figure D.A.5 shows the changes required by the sector and the top priorities. This shows:

- the greatest changes required were at the supply side (national workshop 3) and at the ministerial level (legislation and policy) (national workshop 4)
- the highest priorities were best practice guidelines and standards (national workshop 2), sector leadership (national workshop 3) and market coordination (national workshop 4).

FIGURE D.A.5. CHANGES REQUIRED AND PRIORITIES SUMMARY BY WORKSHOP AND QUESTION

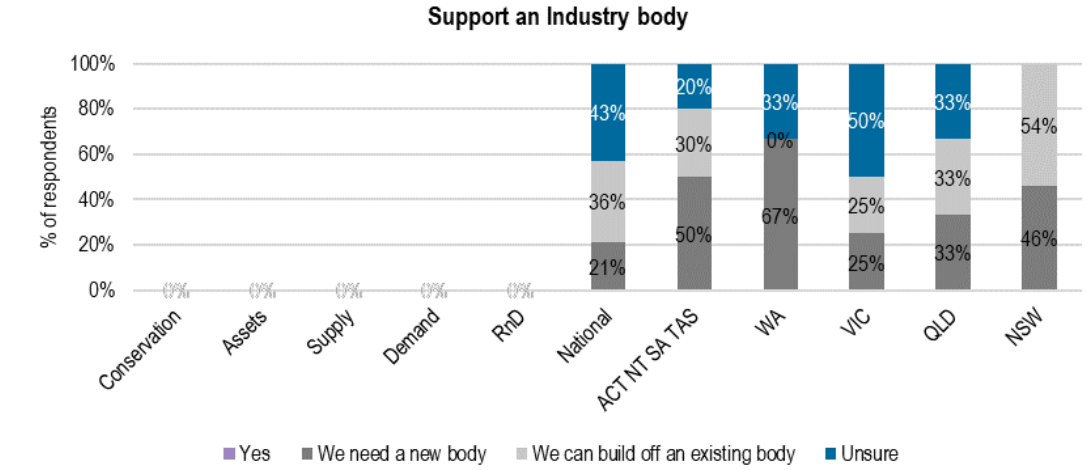


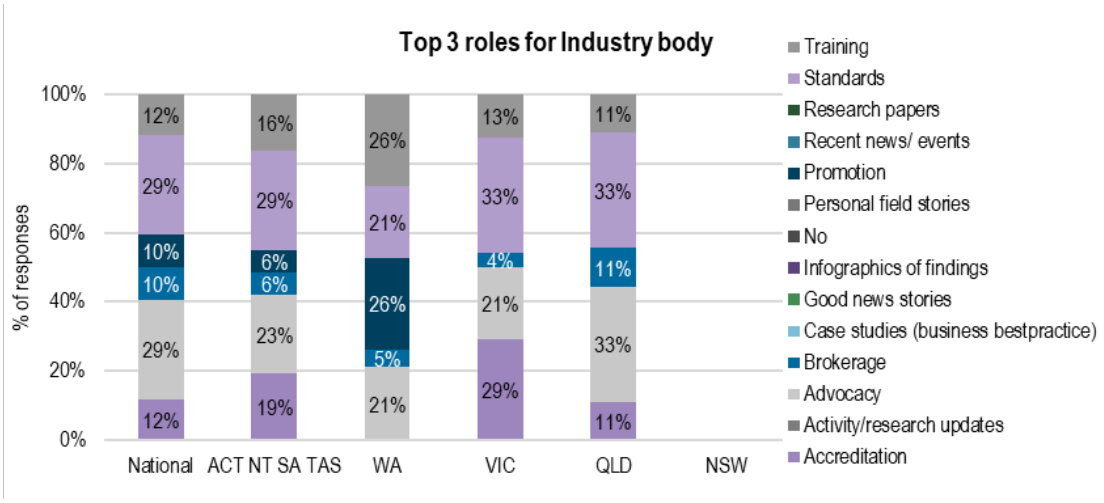
Source: ACIL Allen, contentgroup

Figure D.A.6 provides a summary of the poll results for the topic of Governance, by workshop and question. This shows that:

- There was a large amount of uncertainty across the respondents on whether there was a need for a new body, or we can build off an existing body.
  - a new body was preferred by most participants in the ACT/NT/SA/TAS and WA workshops
  - building off an existing body was preferred by most participants in the national and NSW workshops
  - respondents were evenly divided for the VIC and QLD workshops.
- The top roles for an industry body were mostly consistent, with four roles most commonly identified across all states:
  - standards, training, advocacy and accreditation.
  - promotion was more commonly identified in the WA workshop than in other workshops.

FIGURE D.A.6. GOVERNANCE SUMMARY BY WORKSHOP AND QUESTION





Number of respondents to the question on 'support for an industry body': 67.
Number of responses to the question on 'top three roles for an industry body': 125. Do you support establishing an industry body for the sector? What are the three most valuable roles an industry body should fulfil?

Source: ACIL Allen, contentgroup