

PROJECT PHOENIX



# HOW DOES THE NATIVE SEED MARKET WORK?



PROJECT SUMMARY  
JUNE 2021

*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.*

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# EXECUTIVE SUMMARY

## About the project

Using conceptual arguments and data, *How does the native seed market work?* seeks to provide a strategic outline of what can be done to guide future investment and funding strategies to support expansion of a sustainable seed sector and make salient the opportunity costs of not supporting the sector.

## Scope

The scope of the project is to explore the limits of the existing market to understand what can be done to enable the market to function in line with fundamental theory in economics and achieve socially optimal outcomes.

Given the economic and ecological consequence of losing the opportunities to support restoration at a broad scale, the problem to solve here is one of enabling the sector to scale up to meet increased demand.

## Introduction

Using an economic lens, this project set out to:

- understand how the native seed sector in Australia operates, with particular attention to the mining sector
- identify market failures or other productivity-limiting features of the market
- propose options for overcoming identified market failures to enable greater productive sector capacity
- identify economic institutions that could improve the sector's commercial growth
- propose novel mechanisms to improve the sector's capability to respond to future demands (e.g. bushfires) and commercially driven broad scale restoration projects.

With secular growth in demand expected for seed, it was regarded as critical, not only understanding what problems existed in the native seed sector, but identifying, through research and economic theory, meaningful measures to alleviate these problems and enable the sector to function at capacity.

This research component also focused on identifying what, if any, factors were inhibiting greater commercialisation of the native seed sector.

## Issues

The native seed sector has to date been a cottage industry with limited capacity, made up of an informal network of collectors rather than professionals. There is no recognised occupational code for a seed collector under the classification of occupations used by the Australian Bureau of Statistics, nor is there an industry code for the sector itself. Consequently, little structured data is available on which analysis can be undertaken.

As a consequence of a largely unregulated bilateral exchange system (informal and fragment market) for the transacting of seed, there is no ready means through which to collect information/data with which some models could be developed.

Demand from the mining sector represents the largest structured demand within the sector, and the manner in which this demand is addressed is of interest because it has influence over seed collection and marketing practices. Discussions with representative bodies (e.g. Minerals Councils), consultants and purchasers have been undertaken to get a sense of how the mining sector presently interacts with the seed sector and how it, if coordinated, it could help configure the native seed market in a manner that improves its sustainability and productivity.

This research therefore relied heavily on unstructured data, collected from discussions with seed sector participants. Notwithstanding the extensive information gathered through discussions, seed collectors and merchants are understandably reluctant to share commercial information some of which may raise legal questions, widespread rent-seeking being a feature of the sector.



## Comments

Not applicable

## Key outputs

The key outputs of this review are listed below:

- proposed next step actions/investment required by government to support an improved market structure which could enable the industry to expand its capacity organically, using actual data to better forecast and meet demand
- improved understanding of the way in which the seed sector is structured and has functioned to date and, post pilot, how it could be better coordinated
- detailed information on the kinds of market failures affecting the operation of seed trade and expertise in storage, germination and production
- understanding of the economic linkages backward and forward of the sector highlighting its role in the broader economy with the potential to develop a seed sector model
- development of a set of strategic policies to guide the sector's ability to support restoration initiatives, planned or unplanned, by supporting the sector's ability to accommodate future requirements without overharvesting remnants.

Additional output from this work includes:

- ~100 sector participants or relevant qualified persons were contacted for this report and
- international collaboration opportunity initiated with US Native Seed Strategy leadership team.



## Outcomes

This report is directed towards achieving broad sector outcomes which are anticipated in the future. Interim outcomes include:

- an improved understanding of the economic factors affecting the availability of native seed
- an idea of what actions/steps can be taken to support investment and participation in the sector and also to energise, modernise and reshape the sector's capacity
- awareness of the extent to which the market is dysfunctional
- ideas on what can be done to increase research and industry engagement in the sector.

## Findings

The key findings from this research are:

- The material being traded is very complex and diverse and requires significant expertise to use appropriately.
- The mining sector's demand continues to represent the most significant proportion of commercial seed sales, yet also represents a sector where significant development of in-house production occurs.
- Native seed material is required for an ever-increasing number of projects (nature-based solutions being the fastest growing segment) and requiring ever greater species diversity.
- There's no central market through which to buy or sell native seed yet the nature of seed, being so diverse and specific, requires a centralised exchange where matching buyers and sellers can be done more efficiently.
- The Minerals Council and the NSW resources regulator indicated tentative interest in participating in a centralised procurement auction for native seed.

## Evidence

Refer to full report *How does the native seed market work?* for a full list of references.

A list of documents consulted are included in the full report, as well as a list of contacts made sortable by specialty/relevance.





# RECOMMENDATIONS

## RECOMMENDATIONS

1

### **Design and pilot a centralised exchange mechanism to help match buyers with sellers in the market for seed (Australia's National Vegetation Framework (NVF): NVF Goal 3; NVF Goal 4)<sup>1</sup>**

- By centralising the market, increased thickness will drive efficiency and be more suited to matching buyers with sellers
- Access to the market could be made conditional on proof of licence and Code of Practice credentials
- The market pilot could:
  - be a point of reference for the sector
  - flag future requirements
  - help take an evidence-based approach to decision making in the sector
  - redesign contracts to reduce purchasers' risks
  - reveal where shortfalls in seed may exist and allow price signals to highlight opportunities
  - require details of seed purity, provenance, weed content etc
  - introduce forward contracts for trading seed
- This pilot could be co-designed with the University of Melbourne's Centre for Market Design and run on the back of the new biodiversity offset exchange at the Department of Planning Industry and Environment (DPIE).

<sup>1</sup> The recommendations align with Strategic Goals 3, 4 and 5 of Australia's National Vegetation Framework (NVF).  
 NVF Goal 3: *Maximise the native vegetation benefits of ecosystem service markets*  
 NVF Goal 4: *Build capacity to understand, value and manage native vegetation*



## RECOMMENDATIONS

2

### Promote the treatment of seed as an ecosystem service to engage passive landholders and activate latent assets (Australia's National Vegetation Framework (NVF): NVF Goal 3; NVF Goal 5)<sup>2</sup>

- Educate and enable landholders and farmers to engage with the seed market via their collector or audit their natural botanic capital so they can more appropriately manage and maintain remnant vegetation to sustain ongoing or grow yields
- Support initiatives to increase the number of properties (and seed collection sites) networked into the regional level to understand both the carrying capacity of the ecoregion and enable environmental markets to function more efficiently than at present
- Engage Indigenous Australians in understanding seed as an ecosystem service and its value, especially given their ownership or management over 23 per cent of Australia's land area
- When convening the key industry participants, run an industry analysis survey averaging their wisdom to develop a provisional industry sector model for seed. Use that to develop an Input-Output table analysis of linkages with other industry sectors to: (a) reveal the degree to which these depend on the seed sector; and (b) by simulating its absence, demonstrate how vital the industry is (Australia's National Vegetation Framework (NVF): NVF Goal 4)<sup>3</sup>
- Promote skills and training packages available via RTOs and encourage industry linkages (e.g., Botanic Gardens) and increase training opportunities for people looking to start seed production (NVF Goal 4)
- Improve the network of existing resources with a view to understanding gaps (NVF Goal 4)
  - The Native Seed Network ('NSN') in the USA (<https://nativeseednetwork.org>) is a resource to provide information on native seed for use in landscape scale restoration. It provides a directory of native seed vendors and the products that they offer. It collects/provides info on where the seeds come from and how they've been handled, so that seed consumers can make informed decisions.

<sup>2</sup>Australia's National Vegetation Framework (NVF)

NVF Goal 5: *Advance the engagement and inclusion of Indigenous peoples in management of native vegetation*

<sup>3</sup> The recommendations align with Strategic Goals 3, 4 and 5 of Australia's National Vegetation Framework (NVF).  
NVF Goal 4: *Build capacity to understand, value and manage native vegetation*



## RECOMMENDATIONS

3

**Develop seed zones (Australia's National Vegetation Framework (NVFNVF Goal 4)<sup>4</sup>**

- Once the ecoregions have been identified, establishment of a body to provide oversight of the seed sector to ensure seed is available could be developed. This body could commission seed production and help ensure that as many growers as possible could be engaged as the plant material centres in the US do.

4

**Identify an organisational type to provide strategic oversight and research for the advancement of the native seed sector development of the Grains Research sector Development Corporation (GRDC). The Agricultural innovation Australia also merits investigation (NVF Goal 4)**

5

**Explore the idea of developing a seed leasing system, similar to the European Wildlife Bank model where a repurchase agreement essentially occurs, recycling natural capital in an almost like-for-like exchange (NVF Goal 3)<sup>5</sup>**

6

**Develop seed warehouses to ensure adequacy of seed for rehabilitation of degraded lands by stochastic events and/or ongoing government-funded restoration work by Natural Resource Management (NRMs) (NVF Goal 4)**

7

**Develop a strategic seed reserve policy and program for stochastic events (NVF Goal 4)**

8

**Provide fee-for-service contracts to Botanic Gardens to provide propagation protocols for commercial seed growers (NVF Goal 4)**

<sup>4</sup> The recommendations align with Strategic Goals 3, 4 and 5 of Australia's National Vegetation Framework (NVF).  
 NVF Goal 4: *Build capacity to understand, value and manage native vegetation*

<sup>5</sup> Australia's National Vegetation Framework (NVF).  
 NVF Goal 3: *Maximise the native vegetation benefits of ecosystem service markets*



## RECOMMENDATIONS

9

**Improve the network of existing resources, such as FloraBank and Florabase with a view to understanding gaps (NVF Goal 4)**

10

**Identify an organisational structure that will allow the sector to coordinate its resources for scientific research, sector financing or shared commercial investment opportunities e.g. Agricultural Innovation Australia (AIA), Clean Energy Finance Corporation (CEFC) (NVF Goal 4)**



# WANT TO KNOW MORE?

For further information read the full report *How does the native seed market work?*

## Related projects

- *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?*

This project contributes to the evidence base for a ten year strategy to guide the native seed and landscape sector. The document, which is untitled until endorsement in September 2021, is referred to as the Strategy in all Project Phoenix publications.



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