



Department of Biodiversity,  
Conservation and Attractions



Biodiversity and  
Conservation Science

*We're working for  
Western Australia.*

# Safe guarding seed in Western Australia

## Preparing for a new threat

Andrew Crawford

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Western Australia has  
over 12,500 native  
plant species





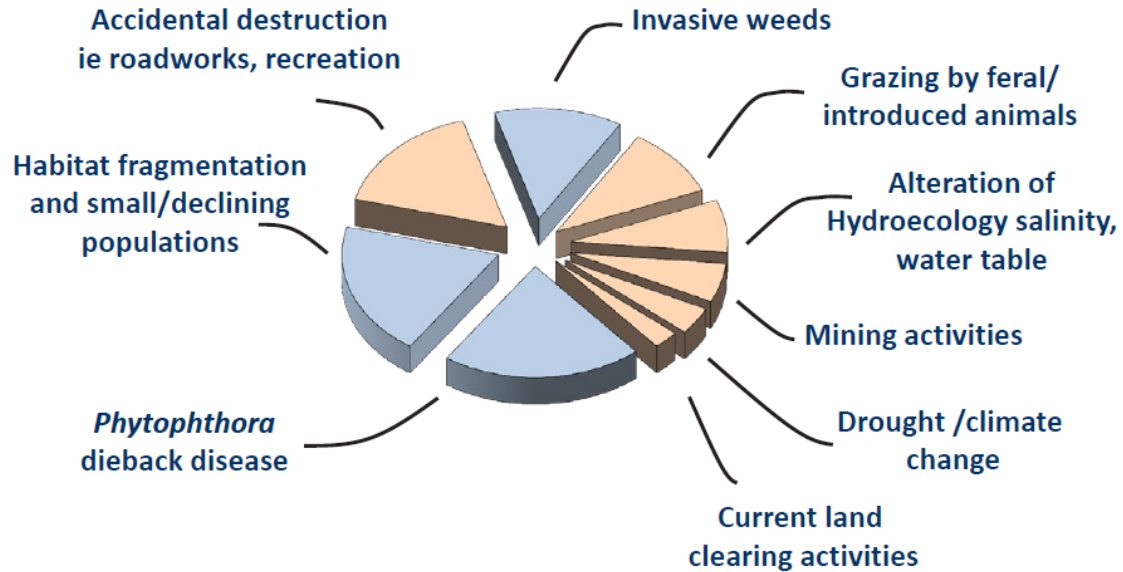
Over 3500 of these are  
of conservation  
significance





- 429 Threatened species
- 3254 Priority species





Coates, D., Byrne, M., Cochrane, J. A., Dunne, C., Gibson, N., Keighery, G., Lambers, H., Monks, L. T., Thiele, K., & Yates, C. (2014). Conservation Of The Kwongan Flora: Threats And Challenges. In H. Lambers (Ed.), *Plant Life on the Sandplains in Southwest Australia A Global Biodiversity Hotspot* (1 ed., pp. 263 - 284). UWA Publishing.

**Proportional threats to listed threatened flora in Western Australia**

# Threatened Flora Seed Centre

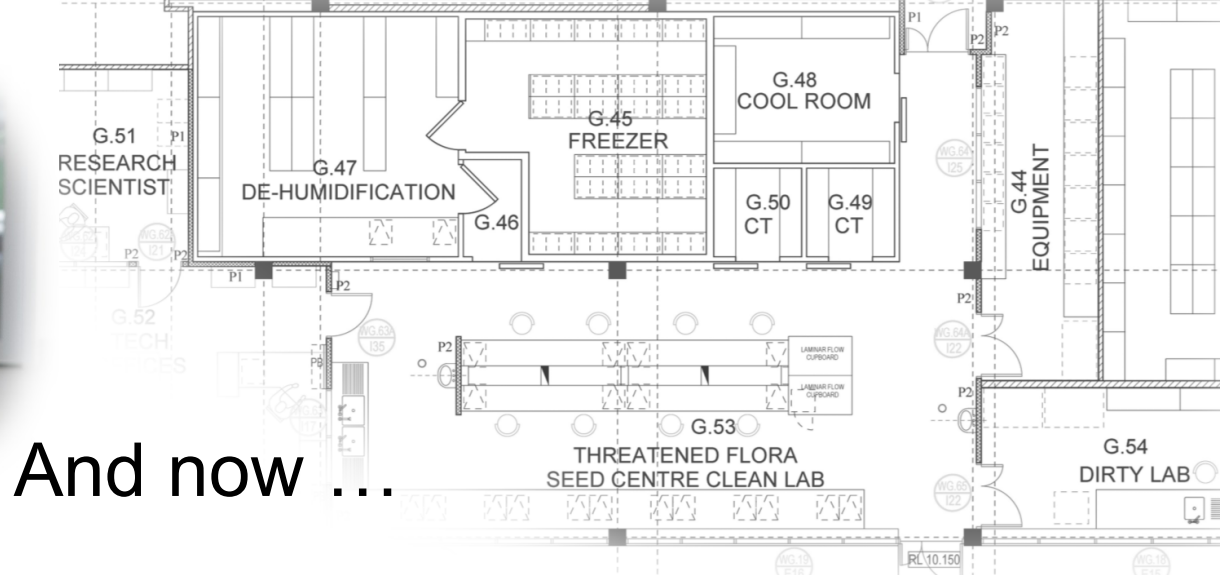
Established 1992

- Established as a conservation seed bank
- Set up to collect and conserve seed of species threatened by *Phytophthora cinnamomi*



Help  
Stop the Rot





## And now ...

- Forms part of the Western Australian Seed Centre
  - Two vaults – Kensington & Kings Park
- Located in a purpose-built facility in the Keiran McNamara Conservation Science Centre, co-located with the WA Herbarium
- Primary repository for seed of all of Western Australia's conservation significant plant species



# What is a conservation seed bank?

- Facility that stores genetically representative collections of seed
- Ensure sufficient seed is available for use in species recovery
- Stores seed under conditions that will maintain seed viability
  - Low temperature (-20°C)
  - Low moisture content (eRH 15%)



# Myrtle rust – a potential new threat



Photos - Geoff Pegg/  
DAWR Queensland

# Securing seed of WA native plants species susceptible to Myrtle Rust prior to disease occurrence



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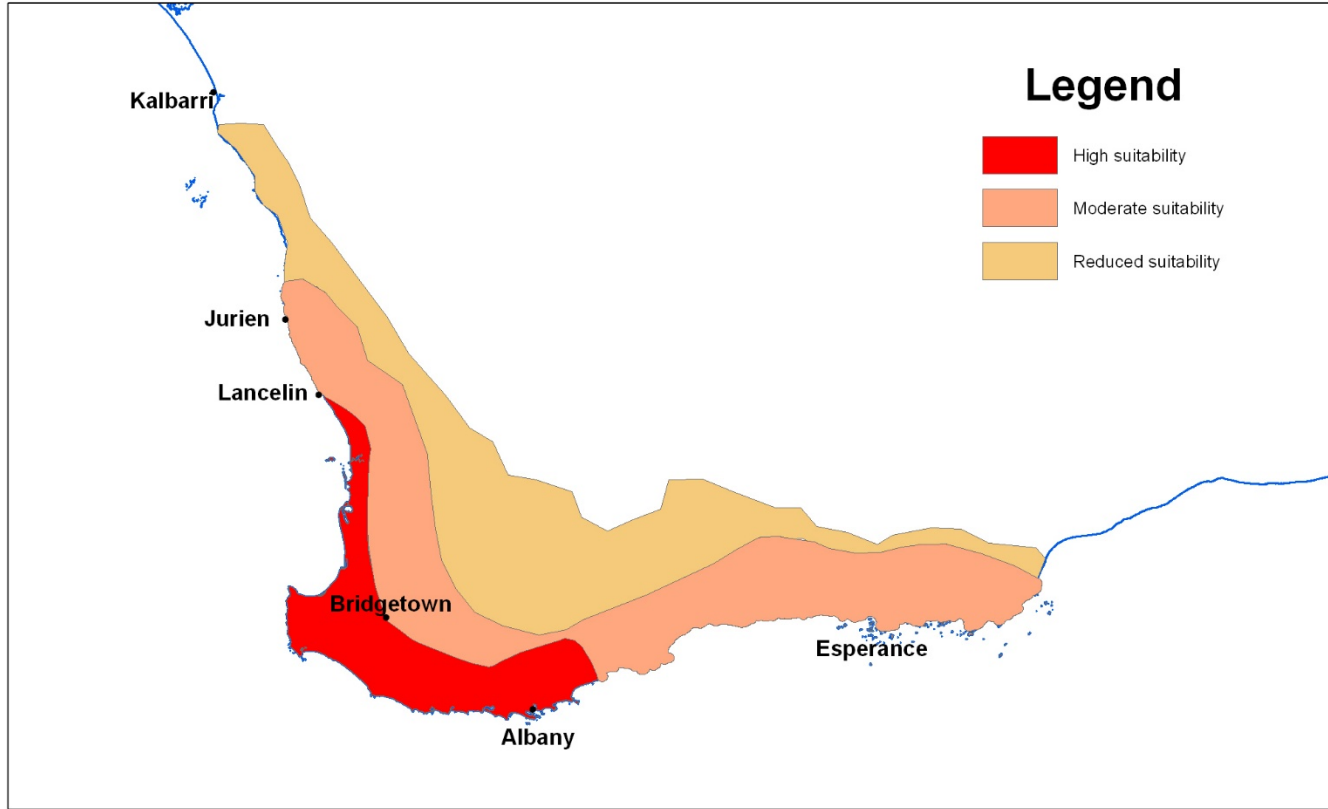
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**Primary Industries and  
Regional Development**

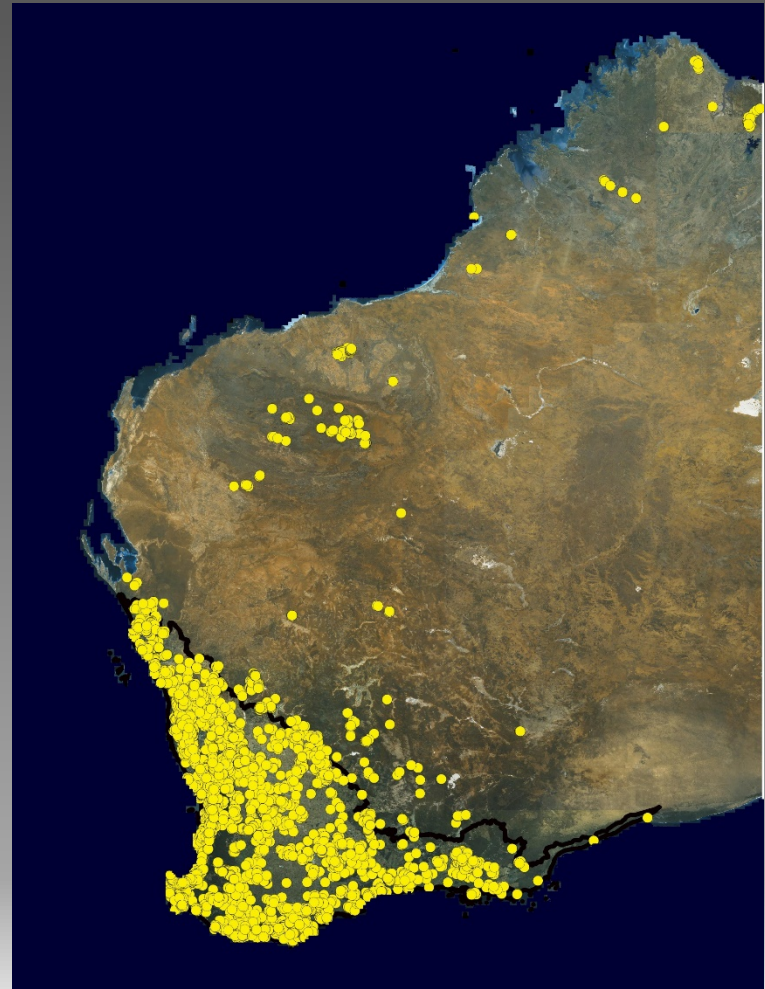


## Myrtle Rust Climatic Suitability



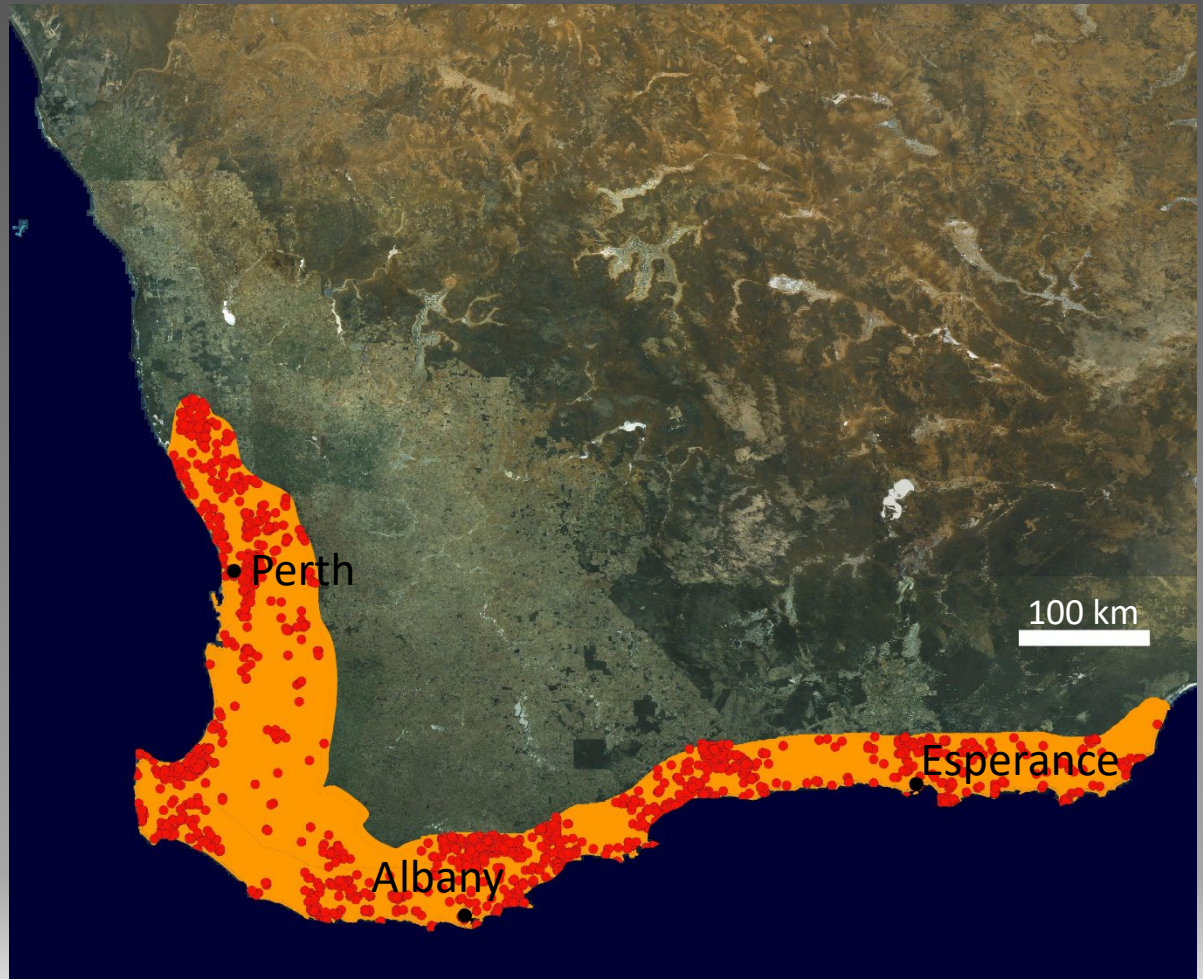
Climate suitability map for Myrtle rust in the south west of Western Australia.  
Produced using data provided by Darren Kriticos, CSIRO.

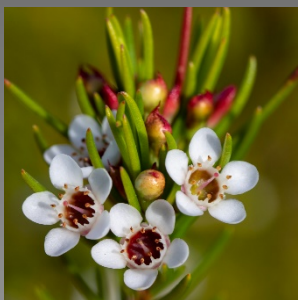
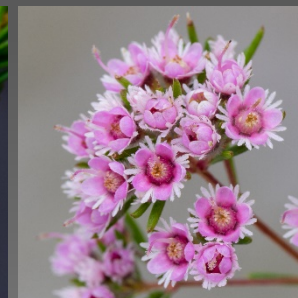
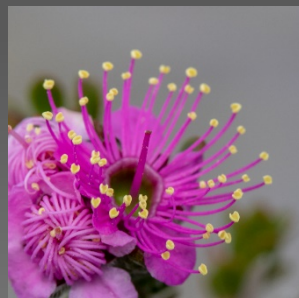
# Threatened Flora populations in Western Australia



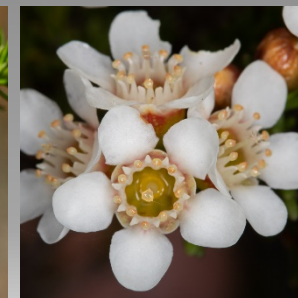
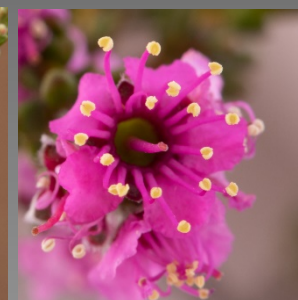
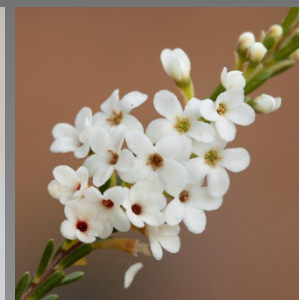
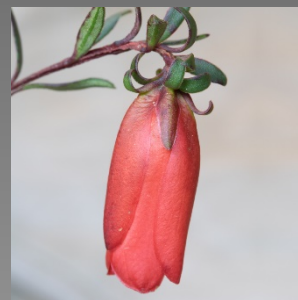
Targeted area most likely suitable for Myrtle Rust establishment

Over 200 Myrtaceae species of conservation significance

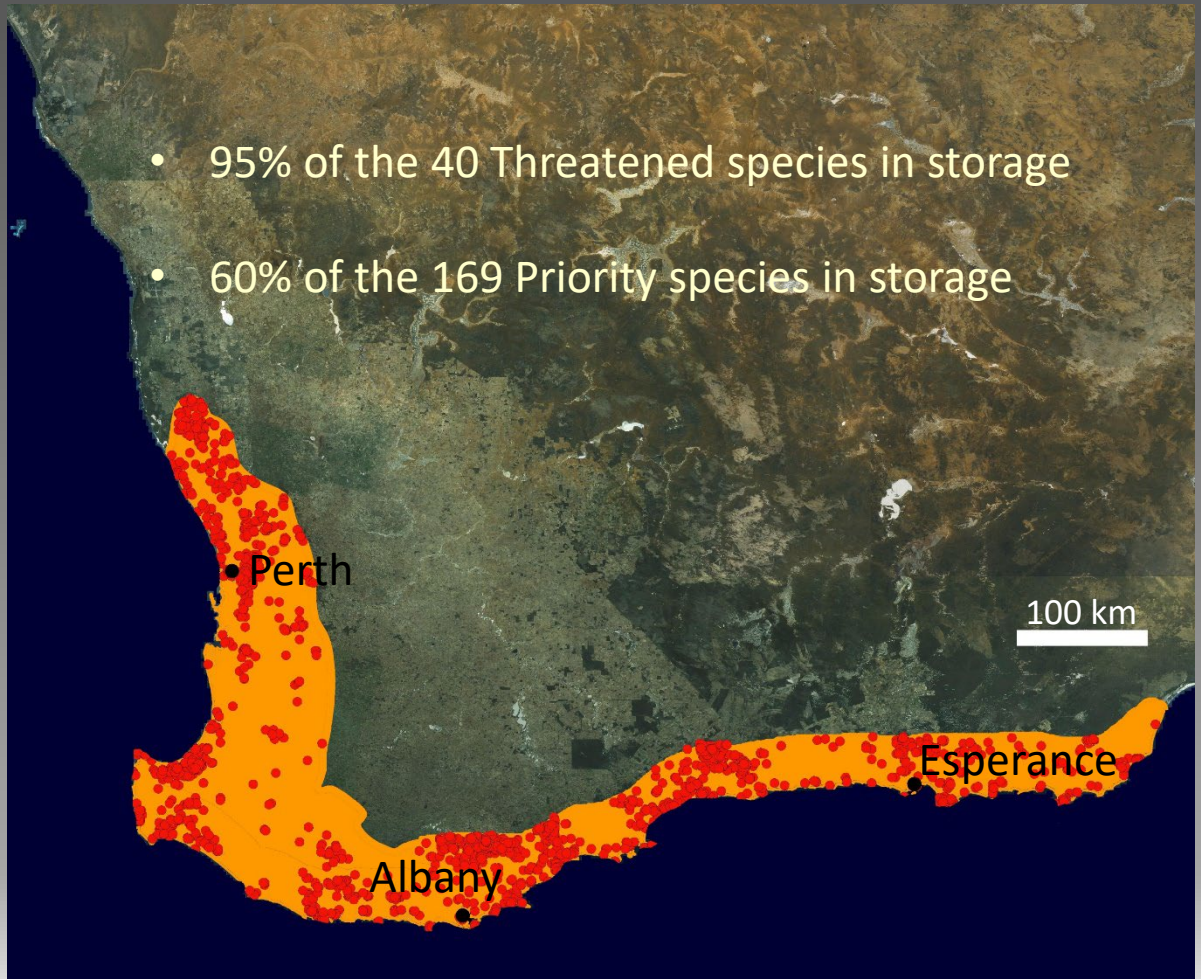




Seed from over 50  
conservation significant  
Myrtaceae species was  
collected for  
safe-keeping



Over 200  
Myrtaceae  
species of  
conservation  
significance





Plans to  
translocate  
some of these  
species to  
establish new  
populations



# Collections duplicated at the Millennium Seed Bank



The Western Australian Seed Centre, Kensington has:

- Over 6000 seed collections
- 80% of the 429 Threatened plant species
- 20% of the 3254 Priority plant species

Over 50 species have been translocated using seed from the seed centre.





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A scenic landscape photograph showing a foreground of green shrubs with bright red, bell-shaped flowers. In the background, there are rolling hills and mountains under a clear blue sky.

# Thank you