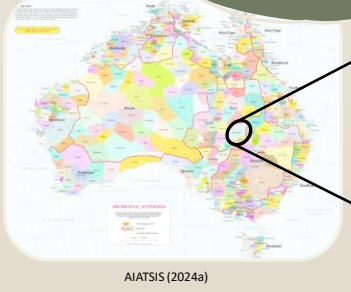
An Eco-cultural Study of Culturally Significant Species on Wangkumara Country

WESTERN SYDNEY UNIVERSITY
Hawkesbury Institute for the Environment

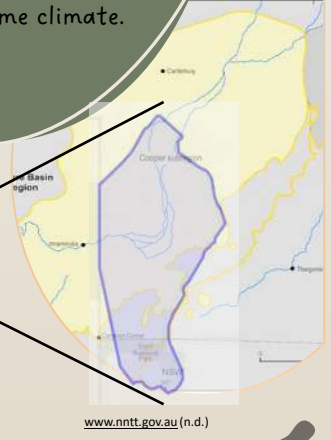
The author wishes to acknowledge the generous support of the **Australian Flora Foundation** and the **ANPC** that has enabled this research project to be presented here today.

Country

Located on the Cooper Basin
Arid region of boom-bust cycles
Monsoon rains travel through northern rivers to feed the Cooper Creek.
Shallow flood waters spread through anabranches creating 'Channel Country'
Characterised by dunes, floodplains, ephemeral salt lakes and stony gibber plains.
Known for its extreme climate.



AIATSIS (2024a)



www.nntt.gov.au (n.d.)

Objectives

This PhD project is to honour my Ancestors and preserve knowledge for future generations of Wangkumarra people.
It is underpinned by the domains of Country, Community, Culture, Law and Language and aims to:

- assess the ecological status of Country.
- understand the cultural and environmental importance of minnarityi.
- revitalise Wangkumarra language.

History

Since the Dreaming, Wangkumarra lived on their Country

1840s - European pastoralists established large cattle stations when permanent water was found

1840s-1930s – conflict over resources resulting in displacement, subjugation and massacres of Wangkumarra people

1938 – Forced removal of the last 120 Wangkumarra to Brewarrina Mission

1950s – mining leases for hydrocarbon extraction from the largest land-based deposits on the Australian continent

2024 – Native Title Determination

Minnarityi

Acacia cyperophylla (Red mulga).
Slow-growing leguminous hardwood.
Found along narrow creek lines.
Distinct curly red bark.
Flowers only after significant rain events.
Limited K&U of distribution and demography.
No previous studies on the impacts on populations from land disturbance.
Culturally significant species for Wangkumarra.
Used for tools, weapons, food, medicine, hunting and ceremony.

Ausemade (2021)

5 generations of Ebsworth family, Innamincka, C~1930

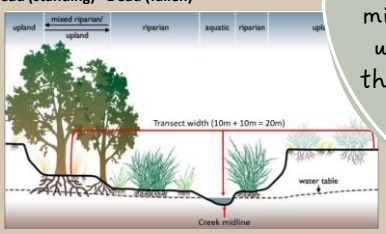
Research Q1

How do transformative land uses, such as mining and pastoral leases, impact the demographic structure of minnarityi populations on Wangkumarra Country?

Sampling Regime
5 Study Areas
5 sites per Study Area
4 transects at each site
Each site representing one land tenure:
-Unprotected (Natural)
-Protected (NP/NR)
-Mining
-Pastoral Lease

Seedling Sapling Juvenile Mature Senescing Dead (standing) Dead (fallen)

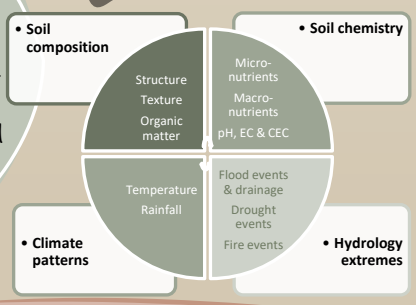
Every tree in each transect assigned to an Age Class Category.
Age Class profiles compared across different land tenures.



Cross-section view of 50m x 20m transects (Dickard et al., 2024)

Research Q2

What environmental and ecological correlates distinguish archetypal minnarityi populations in undisturbed areas from those in human-disturbed areas?



Research Q3

What key Traditional Knowledge of minnarityi and its ecology do Wangkumarra Elders value, and how do they prefer this knowledge to be passed on to future generations?

Consultation with Elders
-13 family groups
-cultural protocols, FPIC, ICIP
-Yarning circles, interviews
-Collect and record narratives and language
- Identify preferred ways to chronicle TEK
- Develop bilingual educational resources

Two-way Science: Bridging Traditional Knowledge and Contemporary Science

- Combine Indigenous Traditional Knowledge with contemporary science for a holistic approach.
- Support sustainable land management and ecological research.
- Applies to species conservation, water management, and climate resilience.
- Build strong partnerships between Indigenous communities, scientists and stakeholders.
- Preserve cultural heritage while promoting environmental sustainability.
- Address challenges in communication and collaboration between knowledge systems.

References
AIATSIS. (2024a). *AustLang*. Retrieved 31 August 2024 from https://collection.aiatsis.gov.au/austlang/search?search_api_views_fulltext=wangkumara&field_centroid_latlon_op=-&field_centroid_latlon=&field_state_territory=All&field_al_status=All
Ausemade.com.au. (2021). *Red Mulga / Minni Richi*. [online] Available at: https://ausemade.com.au/flora-fauna/flora/acacia/red-mulga-acacia-cyperophylla/ [Accessed 3 Oct. 2024].
Dickard, M., Gonzalez, M., Elmore, W., Leonard, S., Smith, D., Smith, S., Staats, J., Summers, P., Weixelman, D., & Swyman, S. (2015). *Riparian area management: Proper functioning condition assessment for lotic areas*. Denver, CO.: Wikipedia Retrieved from https://en.wikipedia.org/wiki/Riparian_zone
National Native Title Tribunal (2019). Home Page. [online] Available at: https://www.nntt.gov.au.

Mirritya Ebsworth, Hawkesbury Institute for the Environment, Western Sydney University
E: m.ebsworth@westernsydney.edu.au
Rachael Gallagher, Hawkesbury Institute for the Environment, Western Sydney University
Caroline Jones, MARCS, Western Sydney University
Belinda Medlyn, Hawkesbury Institute for the Environment, Western Sydney University
Uncle Hope Ebsworth, Wangkumarra Elder

Resilient Landscapes
National Environmental Science Program