

Ngarrindjeri Climate Yarning 2023



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1. Acknowledgements

Ngarrindjeri Aboriginal Corporation acknowledge and respects the significant community input and expertise that has been contributed throughout the climate yarning project. This project received funding from the Australian Government's Future Drought Fund. Thank you to the Murraylands and Riverland Landscape Board for providing support for this project.

2. Introduction

From May to June 2023 the Ngarrindjeri Aboriginal Corporation (NAC), in partnership with the Murraylands and Riverland Landscape Board and the SA Drought Hub, coordinated a series of Yarning Circles on the theme of potential climate change impacts to Ngarrindjeri Yarluwar-Ruwe (lands and waters). Yarning Circles are a culturally appropriate forum for the sharing and transmission of knowledge for Ngarrindjeri. The Ngarrindjeri Climate Change Yarning Circles project engaged Ngarrindjeri community members, climate scientists and ecologists in knowledge sharing to enable a greater understanding of climate change among community members, use cultural knowledge to identify climate change risks for Ngarrindjeri culture and community, and discuss the role of the Ngarrindjeri community and NAC in addressing these risks.

3. Approach

Four workshops were held in locations across Ngarrindjeri Country to enable broad community engagement, ensure that local issues across all areas were discussed and captured, and encourage sharing of knowledge that will contribute to the resources developed for community members. Each workshop was three to four hours in duration. Yarning Circles were held at:

- Meningie on 4th May;
- Strathalbyn on 5th May; and
- Murray Bridge on 21st May and 23rd June.

A list of attendees is provided in Table 1. The Yarning Circles were facilitated by Candice Love and included presentations from Peter Hayman (climate science), Ben Taylor (aquatic ecology) and Tony Randall (Millenium Drought impacts). Technical support was provided by Jem Tesoriero and Victor Koolmatrie (videography). All Yarning Circles were recorded on video.

Table 1. Attendees at Climate Change Yarning Circles 2023.

Name	Role
Candice Love	Facilitator
Peter Hayman (PIRSA)	Presenter, climate science
Ben Taylor (NGT)	Presenter, ecology
Tony Randall (SA Drought Hub)	Presenter, Millenium Drought impacts
Jem Tesoriero (Murraylands and Riverland Landscape Board)	Technical support, recording discussion
Victor Koolmatrrie	Videography
Tim Hartman (NAC)	NAC representative
Matthew Hartman	Community representative
Tim Hartman Jnr	NAC Director
Ray Love	Community representative
Anton Kartinyeri	Community representative
Ian Sumner	Community representative
Trevor Sumner	Community representative
Christina Kartinyeri	NAC Director
Kenny Sumner Jnr	Community representative
Shelly Long	Community representative
Georgina Trevorrow	Community representative
Derek Gollan	Community representative
Jessie- Kartinyeri-Sumner	Community representative
Desmond Karpany	Community representative
Christopher Wilson	Community representative
Jemima Reid	Community representative
Katie Reid	Community representative
Ashley Trevorrow	Community representative
Craig Sumner	Community representative
Shirley Hartman	Community representative
Vicki K Hartman	Community representative
Rick Hartman	Community representative
David Yeats	JAWUN representative
Andrew Diment	JAWUN representative
Selena Hartman	Community representative
Daniel Lloyd	Department for Environment and Water
Nathan Hartman	Community representative
Conway Johnson	Murraylands and Riverland Landscape Board
Lachlan Keeley	Hills & Fleurieu Landscape Board
Jen St Jack	Hills & Fleurieu Landscape Board
Keera Lacoss-Barratt	NAC Director
Melissa Sumner	Community representative
Corina Sumner	Community representative
Brian Kropinyeri	Community representative
Kirsten Hartman	Community representative
Caylee Hartman	Community representative
Verna Kropinyeri	Community representative
Kevina Kropinyeri	Community representative

4. Outcomes

The Yarning Circle discussions are summarised in section 5 (below). This is a high level summary of issues raised by Ngarrindjeri across a range of themes at one or more of the Yarning Circles. Issues raised ranged from the global to the site specific and covered climate science, likely future scenarios, impacts already felt by people, impacts to Ngartjis and culturally important places and themes of mitigation and adaptation. The Millenium Drought was used an example from the recent past to stimulate discussion about the likely future. A number of possible actions for the Ngarrindjeri community / NAC to consider in responding to climate change were proposed and these are summarised in Table 4.

5. Summary of Ngarrindjeri Climate Change Yarning Circle discussions

The Yarning Circle discussions has been summarised into topics/ issues/ vulnerabilities which have potential impacts on people, Ngartjis, Ruwe, water and heritage, as well as suggested actions and potential research areas for the future.

5.1 General discussion

Table 2: Summary of general discussion points

Potential impacts- People	Suggested actions
<ul style="list-style-type: none"> ▪ Ngarrindjeri world view is that people are one with country. ▪ There is an ontological divergence between Ngarrindjeri and western world views. ▪ First Nations are the ones that can fix climate change due to their worldview of being at one with country vs western view of country is for extracting resources to be exploited. ▪ Ngarrindjeri are the ones that take care of their Ruwe – planting trees etc. ▪ Teaching culture to the young is vital. ▪ Health and wellbeing of future generations – all cultural impacts impact people into the future. ▪ Your land is your mother – Ruwe is the mother that teaches you what to eat etc. Respect country – don't harm it. ▪ When Ruwe starts to die people start to die. ▪ It breaks Elder's hearts to see the damage compared to their childhoods. ▪ Impact on Ngarrindjeri identity – who are we if Ruwe is gone? ▪ Limited ability for culture to adapt due to colonisation. 	<ul style="list-style-type: none"> ▪ Need to share the Ngarrindjeri story more widely. ▪ Discussions between First Nations across the world.

5.2 General impacts of climate change

5.2.1 Potential impacts- People

The general impacts of climate change on Ngarrindjeri people, has the potential for large impacts on the communities ability to practice culture and share knowledge with younger generations. This is already challenging due to the impacts of colonisation on Elders and Ngarrindjeri’s ability to access land. Following from the discussion during the yarning circles the following as discussed:

- Climate could have a negative impact on the landscape features, resulting in loss of connection to Creation stories, particularly if key features are damaged/ disappear.
- Loss of significant species and changes in seasonal patterns impacting on Ngarrindjeri ability to undertake cultural practices.
- The Ngarrindjeri community is likely to be faced with more difficult situations / decisions / proposals in the future, as happened during the millennium drought.
- Increases in regulation impacting traditional cultural practices e.g. more restricted fire bans impacting ability to have camp fires.
- If people cannot see or connect to Ngartjis, people will feel loss and sadness. Ngartjis communicate and give signs to people – telling them what to eat, where to find water, changes in weather coming. If Ruwe is changed significantly due to climate, Ngartji’s may not be visible on could move off country.
- Policy becomes tough in times of resource scarcity / extreme events.

5.2.1 Potential impacts- Ngartjis and Heritage

- Loss of Ngartji habitats and changes in seasonal patterns impacting on Ngartji breeding cycles.
- So much damage has already been done to Ngartjis prior to climate change – don’t want more.
- Extreme climatic conditions create spike in heritage protection issues e.g. droughts and floods.
- Reduction in rainfall and reduced river flows will cause significant exposure / damage to heritage sites and materials.

5.3 Loss / reduction of freshwater soaks in the coastal dunes due to reduced rainfall, increasing temperatures and potentially sea level rise increasing elevation of saline ground water.

Table 3: Potential impacts to freshwater soaks

Potential impacts- People	Potential impacts- Ngartji’s, Water, Ruwe & Heritage
<ul style="list-style-type: none"> ▪ Ngarrindjeri people dig for freshwater soaks for clean water to drink and traditionally to bathe in. In the Creation, Ngurunderi dug for fresh water to drink. It has been reported that soaks are already starting to dry up. ▪ Loss of hunting opportunities for species that rely on the soaks e.g. Kangaroos. 	<ul style="list-style-type: none"> ▪ Ngartjis that rely on fresh water soaks such as kangaroos, emus and various other birds can be negatively impacted. ▪ Loss of plant species that rely directly on the soaks. ▪ Loss of fauna species involved in dispersal and regeneration of plants e.g. emus that transport seed, with potentially profound impacts for the ecology of the Hummocks/Younghusband Peninsula.

	<ul style="list-style-type: none"> ▪ Loss of fresh ground water resources that are critical for plants and animals. ▪ Potential heritage issues may occur from loss of soaks and vegetation cover.
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5.4.1 Suggested actions

Initially a Yarning Circle focusing on freshwater soaks can collect baseline data for Ngarrindjeri community to begin making informed decisions about best practice to manage soaks based on traditional knowledge, as well as informing community to better understand the hydrology of soaks and modelling impacts from climate change. A Yarlular-Ruwe assessment would be beneficial to assess specific soaks conditions will provide baseline data to assess cultural health. There is potential for plant and animal control actions can be implemented to assist in protection of fresh water soaks to ensure they are clean and allow access for native animals to use. During the Yarning Circles, community identified the potential for a monitoring program to be developed.

5.4 Reduced rainfall – impact on dryland areas

5.4.1 Potential impacts – People

A reduction in rainfall will negatively impact significant dryland fauna species traditionally used for food. For example, it is even less likely that Ngarrindjeri will be able to start hunting Mallee fowl again.

Less rainfall will result in a reduction in basket weaving rushes, resulting in the inability to practice rush collection and weaving. The whole process of collecting, propagating and weaving is important (telling stories, teaching, spending time on country etc.). The concept of growing/harvesting rushes in a commercial fashion is not the same as collecting on Ruwe. A finished basket is laden with meaning and teaching. During the Millennium Drought people had to travel to get them, this could potentially happen again.

5.4.2 Potential impacts – Ngartjis, Ruwe, Water and Heritage

- Potential for negative impacts on dryland Ngartjis habitats and ecology.
- Increased erosion with potential for exposure/ damage to heritage sites located in sandy soils, e.g. burials
- Impact on success of revegetation projects, including revegetation projects aiming to protect heritage sites
- Reduction in freshwater availability away from the river and lakes

5.4.6 Suggested Action

Currently people grow weaving rushes in Adelaide suburbs, there is an option to continue growth of important species off Ruwe to ensure they are still available. Weeds use water, therefore a targeted weed control program to minimise weed water use could be implemented to help native plants. A Yarning Circle focusing on the Mallee region to identify further actions for dryland areas will be beneficial to inform further planning.

5.5 Reduction / loss of fresh water in lower Murray and Lower Lakes due to reduced river flow and sea level rise (salt inputs).

5.5.1 Potential impacts – People

- Loss of local swan nesting impacting ability to go swan egging. People remember the decision to stop practising the collection of swan eggs during the Millennium Drought, to ensure swans survival.
- Loss of freshwater traditional food species e.g. fish, yabbies, ducks, swan eggs etc.
- Loss of weaving rushes as above. Weaving rushes were all dry and brittle during Millennium Drought and no good for weaving. Some areas where weaving rushes previously were lost have still not recovered.
- Loss of ability to access fresh water from river and lakes.
- Loss / reduction in access to fresh water for economic purposes.
- Impacts on river red gums along river impacting ability to harvest bark for canoes, shields etc. and protect existing modified trees.
- Loss of important species / habitats that relate to Creation stories e.g. lignum / Watji bird story.
- During the Millennium Drought children missed out on being taught on Ruwe as places could not be accessed and species were missing. This negatively impacted ability to share culture.
- Millennium Drought was heartbreaking for the community being unable to swim in the lakes.
- People can remember going Pondi fishing as kids and the learning that was associated with the activity. That has been lost, and is an example of the impact of losing key cultural species.
- People remember being told that certain species of food were restricted to adults only as they were rare– but now that they are adults, the species are lost or even rarer and cannot be eaten e.g. Pondi, cape baron geese, Mallee fowl.
- Damage / loss of particular sites e.g. Loveday Bay is the place where the Nori story is told.
- People felt sad during Millennium Drought – Ngartjis all gone / traditional foods gone.
- Feeling that natural disasters are the old people punishing us for what has been done e.g. Hindmarsh Island Bridge.

Table 4: Potential impacts due to reduced river flow

Potential impacts- Ngartji's, Ruwe & Water	Potential impacts- Heritage
<ul style="list-style-type: none"> ▪ Loss of Ngartjis due to loss of their habitats e.g. Kungari (swans) (loss of nesting), Nori (pelicans) (loss of feeding grounds), Thukabi (turtles) etc. ▪ People remember swans and pelicans all leaving during drought. ▪ People remember ecosystems being under pressure during Millennium Drought. ▪ Injured and dying turtles during drought. Haven't seen as many since the drought ▪ Increase in lakeshore erosion ▪ Loss of fresh water ▪ Dead carp all washed up during drought ▪ Previous engineering solutions e.g. Wellington Weir (proposed but not constructed), Clayton and Narrung 	<ul style="list-style-type: none"> ▪ Loss of protective reed beds on banks, bank slumping and lakeshore erosion impacting heritage along river and lake banks. ▪ Loss of reed beds etc. combined with flood events would result in massive erosion – impact, damage, loss of heritage sites and materials. ▪ Fish traps exposed and eroding. ▪ No water – trees can't grow – can't make spears etc.

bund, can change the way Ruwe is supposed to work. Ngarrindjeri will need to have a position moving forward.	
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5.5.2 Suggested Actions

- Advocate for adequate flows through Basin Plan etc.
- Investigate potential to actively restore wild populations of weaving rushes to locations where they have been absent since the Millennium Drought.
- Work with community to have a position of engineering solutions such as the Wellington Weir.

5.6 Reduced productivity of coastal marine and estuarine ecosystems due to reduced river discharge to sea.

Table 5: Potential impacts and suggested actions due to reduced river discharge to sea

Potential impacts- People	Suggested Actions
<ul style="list-style-type: none"> ▪ Impact on cockles- traditional food and current economic industry ▪ Possible impacts to Coorong mullet and other estuarine fish species 	Advocate for adequate flows through Basin Plan etc.

5.7 Sea level rise

5.7.1 Potential impacts- People, Ngarrindjeri, Ruwe, Water and Heritage

- Ocean covering the Granites which are culturally significant.
- There is potential for improved fishing in southern end of the Coorong due to fresher conditions (increased connectivity to the ocean)
- Possible benefits for Nori (Australian pelican) on breeding islands in the southern Coorong due to increased local fish abundance (provided Murray Mouth remains open).
- Habitat loss for migratory shorebirds due to excessively deep inundation of Coorong mudflats.
- Inundation / loss of islands around the barrages.
- Murray Mouth more likely to close with sea level rising.
- Salt water coming into the lakes and lower River.
- Erosion of coastal dunes which contain heritage sites and materials.
- Increased water level in Coorong may impact on stone fish traps.
- Sea level rise is likely to further drive 4WDs off the beach and up into the dunes damaging sites – already happening.

5.7.2 Suggested actions

- Development of Ngarrindjeri position on barrage raising, Wellington weir and other large scale infrastructure projects likely to be proposed in response to Sea Level Rise.
- Research into GIS based risk assessments of known heritage sites
- Research to improve understanding of Ngarrindjeri community perspectives on large scale infrastructure projects likely to be proposed in response to sea level rising.

5.8 Shift in seasonal weather patterns

5.8.1 Potential impacts- People and Ngartjis

Due to shifts in seasonal weather patterns, Kungari (swan) nesting times can change and nest more than once a season, as well as native fruiting time changes.

5.9 Increased frequency and severity of heat waves

5.9.1 Potential impacts- People and Ngartjis

Health and wellbeing impacts on Ngarrindjeri community members, particularly Elders. The increased frequency and severity of heat waves will have a negative impact of Ngarrindjeri community. Extreme heat will limit community member's access to Ruwe, particularly Elders. This will impact the ability for cultural knowledge to be shared with younger generations and all people to access and connect with Ruwe.

People find heat waves suffocating and animals would also be affected by increased heat. Previously swans have been witnessed swimming in the ocean during heat waves. There is concern for how Ngartjis will handle an increase in frequency and severity of heat waves.

5.10 Riverbank slumping along lower Murray due to low river levels

5.10.1 Potential impacts- People, Ngartjis, Ruwe and Heritage

- There is limited access to the river due to the relatively few public access points along the river, in particular there is no access to some significant areas along the river. With river banks deteriorating, there will be even fewer access points for Ngarrindjeri to utilise.
- Loss of Ngartji habitats
- An increase of river bank slumping, there is potential for damage and exposure of heritage sites, such as midden material, burials, and culturally modified trees.

5.10 Frost- could increase over the next 20 years then decrease

5.10.1 Potential impacts- Ngartjis and Ruwe

An increase in frost will impacts Ngartji habitats and wellbeing, as well as impact the native vegetation Ngarrindjeri utilise on Ruwe.

5.11 Increase in wildfires/ fire risk

5.11.1 Potential impacts- People and Ruwe

An increase in fire risk can limit the ability to have safe camp and ceremonial fires, resulting in negative impact on sharing cultural practices and teaching the younger generation.

Table 6. Summary of possible actions proposed during the climate change yarning circles.

Type of action	Action	Notes
Mitigation	NAC / Ngarrindjeri reduce emissions (become a carbon neutral organisation) – model to others / walk the talk	
Mitigation	NAC position statement on climate change	
Mitigation	Actively and visibly promote / advocate Ngarrindjeri position and likely impacts – to different levels of government, broader community etc ‘Ngarrindjeri need to be a voice to make sure their culture is protected from climate change.’	
Mitigation	Investigate opportunities arising from climate change, such as groups in NT have with cultural burning and carbon credits.	
Adaptation	Incorporate climate change impacts and responses into Yarlular-Ruwe Assessments.	LPF funds
Adaptation	Investigate potential to actively restore wild populations of weaving rushes to locations where they have been absent since the Millennium Drought and locations likely to be suitable in the future under climate change.	LPF funds
Adaptation	Address compounding threats to cultural values, such as pest plant and animal impacts to Ngarrindjeri.	LPF funds
Adaptation	Research to better understand impacts and mitigation options for cultural values deemed to be at high risk eg freshwater soaks.	LPF YCs and YRAs
Adaptation	Monitor key cultural and ecological indicators / species eg soaks, bush tucker fruiting time, black swan nesting, pelican breeding.	LPF funds could start
Adaptation	Develop Ngarrindjeri position on barrage raising, Wellington weir and other large infrastructure projects likely to be proposed as sea levels rise and river inflows decline.	
Adaptation	Document Ngarrindjeri seasonal calendar to serve as a baseline description of the timing of climate-driven ecological events and enable climate change impacts to be measured.	LPF and TLM Funds could start

Conclusion

General feedback from participants was that the Climate Change Yarning Circles were informative, albeit sobering, and delivered complex information in a way that could be understood. The broad range of Ngarrindjeri community members involved, from Elders through to school-age children, and the collaborative format, encouraged questions and the expression of a broad range of perspectives and experiences from those involved. The Yarning Circles were effectively a community event that involved some cultural transmission and an affirmation of Ngarrindjeri culture, in addition to a deep consideration of climate change.

The Yarning Circles are a small part of a longer and broader conversation about climate change. It is important to acknowledge that there have been many conversations prior to these Yarning Circles and there will likely be many conversations in the future. It is also important to acknowledge that climate is only one influence, and hence one challenge, for Aboriginal culture.