

Understanding barriers to women caring for Country

Literature review and policy analysis

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1. New South Wales Department of Climate Change, Energy, the Environment and Water





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We acknowledge the traditional custodians across all the lands on which we live and work, and we pay our respects to Elders both past, present and emerging. We recognise that these lands and waters have always been places of teaching, research and learning.

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Country

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Warning* This resource may contain images or names of deceased persons in photographs or historical content.

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Executive summary

This report examines the systemic, cultural, and gendered barriers that prevent Aboriginal women in New South Wales from fully exercising their cultural authority to care for Country in New South Wales. It recognises Aboriginal women as custodians of Law/Lore, knowledge and ceremony who play central and enduring roles in maintaining the health of Land, Sea and Sky Country. Despite their deep cultural authority, women continue to be marginalised within environmental governance, natural disaster and climate change resilience and preparedness.

Through an extensive literature review and barrier analysis, the report explores how intersectional discrimination including systemic racism and sexism exclusion from decision-making processes have disrupted women's critical roles in maintaining the Dreaming through caring for Country. These barriers are further compounded by gendered expectations, lack of access to resources, and the undervaluation of Aboriginal women's knowledge reducing communities' resilience to the impacts of environmental decline, climate change and the increasing frequency and severity of natural hazards.

The report is structured around six interconnected themes for women caring for Country: Law/Lore, kinship, ceremony, land, sea and sky, each demonstrating the holistic and relational worldview that underpins Aboriginal women's caring for Country. Narrated through the Seven Sisters Dreaming stories and on-ground case studies demonstrating each theme. The barriers analysis uses a two-eyed seeing approach integrating western systems thinking, and the Aboriginal relational Bidjaay yugal gaay methodology to identify the barriers and understand the impacts of the interconnected, reinforcing systemic and relational feedback loops with the seven barrier areas:

1. gendered biocultural loss
2. intersectional discrimination and silencing of women's voices
3. erosion and devaluation of women's cultural knowledge
4. patriarchy and gender bias in systems
5. colonisation and historical dispossession
6. institutional and policy exclusion
7. socioeconomic inequality and care burdens.

At the core of the analysis is the recognition that gendered biocultural loss, the erosion of interconnected cultural and ecological systems, undermines both biocultural resilience and women's ability to fully exercise their cultural authority to care for Country.

Bidjaay yugal gaay is used as a biocultural resilience framework embedding an Aboriginal relational ontology within systems thinking to map the interdependent relationships between culturally significant species, Law/Lore, kinship, ceremony, ecological indicators and reciprocal obligations. Using both cultural and scientific indicators this framework positions biocultural resilience as both the measure and the method for addressing gendered biocultural loss. The observations centre strengthening Aboriginal women's biocultural resilience, governance and cultural authority across multiple scales and timeframes.

National priorities include a national policy framework for gendered biocultural resilience and long-term funding for gender parity Aboriginal-led cultural restoration. New South Wales priorities include co-developing a New South Wales biocultural resilience framework and monitoring evaluation reporting improvement (MERI) framework and investing in place-based cultural restoration and intergenerational leadership programs. Aboriginal women are caring for Country and resilience leaders for communities in the face of increasing impacts of environmental decline, climate change and frequency and severity of natural hazards. Without this gendered biocultural resilience, caring for Country cannot be fully realised.



Introduction

This research report was conducted as part of the Operationalising Aboriginal land and sea management at a landscape scale project funded by Natural Hazards Research Australia and supported by the New South Wales Department of Climate Change, Energy, the Environment and Water. It is the companion report to the Understanding barriers to caring for Country report (Brown & Hooper, 2026) which explores a complex range of barriers driven by cultural bias and identifies an additional systemic barrier of gender bias impacting Aboriginal women exercising their cultural rights and obligations to care for Country. Therefore, 'genderscapes' (Krishna, 2014) need to operationalise as well as landscapes by centring Aboriginal women's epistemologies (Moreton-Robinson, 2015) and their diverse, gender-specific caring for Country knowledges and practices.

Climate change, environmental degradation and natural hazards are becoming more frequent, severe and interconnected and concurrent. In complex adaptive systems, these challenges create feedback loops that amplify risk and impact, making them harder to predict and address. Responding effectively requires action at multiple scales, including systemic reforms that shift governance structures alongside place-based, local solutions that draw on the deep knowledge and leadership of those most connected to Country. Building resilience is central to this response, defined as the capacity of individuals and communities to prepare for, respond to and recover from change and disruption, resilience is shaped by intersecting social, cultural, economic and environmental factors requiring a multidisciplinary systems approach to decision-making which incorporate learning, monitoring, and adaptive strategies (Brown & Williams, 2015). Investing in resilience helps organisations shift from short-term, asset-focused strategies to systemic approaches that avoid future losses, unlock co-benefits, and create long-term value across social, environmental, and economic systems (Morris, 2024).

For Aboriginal peoples, resilience is not just about recovery, it is about continuity. It is embedded in biocultural resilience, the living capacity maintained across generations to care for Country through Law/Lore, ceremony and place-based decision-making. Aboriginal women are central to this as they carry gendered based rights and obligations often associated with reciprocal relationships of care with plants, water, kin babies and community wellbeing. Aboriginal women's biocultural resilience makes caring for Country possible through the continuation of cultural governance and ecological stewardship. Globally, and increasingly in Australia, the correlation between cultural diversity and biodiversity decline is being recognised, yet Aboriginal women's authority and knowledge remain underrepresented in environmental governance, climate adaptation, and natural hazard planning (Country Needs People, 2018). This exclusion disrupts the performance and transition of specific gendered cultural ecological practices and knowledge, in turn decreasing the New South Wales community's biocultural resilience to the impacts of climate change, environmental decline and natural hazards signalling the need for structural reform (Williamson, 2022). When women are recognised as governors and knowledge holders, and when their knowledge is funded, protected and integrated, resilience is regenerated culturally, socially and ecologically.

This report centres Aboriginal women's ways of knowing, governance, and caring for Country practices to understand the barriers and identify opportunities to support diverse and resilient biocultural governance systems. Centred in Aboriginal women's epistemologies of Tiddaism (Huggins, 2022) and Indigenous standpoint theory the research using an action-oriented, relational two-way research framework to learn from both systems thinking science and Indigenous science methods, analysing how colonial, gendered, racial and ecological pressures intersect and reinforce one another and identify leverage points for systemic change supporting solutions that are place-based, relational and women-led.

By understanding and addressing these barriers, conditions where Aboriginal women's authority is restored, biocultural resilience is strengthened and Country and community heal together created.



Research aim

This research aims to:

- Describe how Aboriginal women care for Country through cultural and ecological governance across land, sea and sky
- Identify gender-specific and systemic barriers that limit their ability to fulfil these responsibilities
- Use culturally grounded, evidence-based methods to understand these barriers
- Develop solutions that restore women's authority and embed their leadership in environmental and disaster planning.

Core research questions

1. What is Aboriginal women's caring for Country?
 - how does it impact community
 - cultural governance
 - and environmental resilience?
2. What gender-specific (and interconnected) barriers limit Aboriginal women's ability to fulfil their caring for Country obligations?
3. What culturally grounded and evidence-based solutions can overcome these barriers, and support Aboriginal women's leadership in caring for Country?



Methodology

To address the research aims, this study centres Aboriginal women's epistemologies, leadership and sisterhood through Tiddaism and Indigenous standpoint theory, recognising women's embodied relationships with Country. Tiddaism coined by Jackie Huggins (2022) and derived from tidda (sister), is a decolonial and intersectional approach that validates storytelling, ceremony, relationality and resistance as research methods. Indigenous standpoint theory, following Aboriginal scholars such as Aileen Moreton-Robinson (2023), it affirms that Aboriginal women are Country, holding ancestral, ceremonial and political responsibilities. As such the author identifies her my own relational standpoint.

Positioning the author and artist

This report is researched and written from the standpoint of a Gamilaroi woman researcher and caring for Country practitioner, with convict Welsh and English ancestry, who did not grow up in culture due to some of the barriers discussed in this research. The author embraces her cultural obligations to kin and Country and enjoy listening and learning from and on Country. The author celebrates her Gamilaroi ancestors and culture by learning Gamilaroi songs, dances and language while walking on her grandmother's Country with Elders, yarning with plants and animals, sharing laughs and knowledge and practising ceremony. The author's embodied connection to Country and commitment to justice also drives her work in the environmental sector through lived experience and professional practice, she's come to understand that science alone cannot address the systemic, intersectional issues impacting Country and community. Change requires amplifying Aboriginal women's cultural rights and obligations and embedding relational, place-based biocultural knowledge systems in environmental governance. It is important to acknowledge the author's standpoint as no research is neutral; all knowledge is shaped by the researcher's worldview, values, experiences and assumptions. By making her position visible, the author aims to be transparent about how her cultural journey, obligations, identity and purpose influence the questions asked, the worldviews she centres and how she interprets what she learns.

Bidjaay yugal gaay: a relational two-way research methodology

While conducting this research to understand women's roles in caring for Country, the author was told by an Elder: 'If you understand your relationship with the Bambul tree then you will understand Gamilaroi women's role in caring for Country but also that is a lifelong journey with no end point.' The Bidjaay methodology was developed with Bambul (*Capparis Mitchellii*) but its flexible relational approach means it can be applied to all relationships, species, places and stories. Women's epistemologies were centred through an interdisciplinary, action-oriented, self-reflective Indigenous two-ways learning framework (Michie, Hogue & Rioux, 2023) allowing relational learning and adaptive research management of both Aboriginal and Western ways of knowing. Centred in Aboriginal relational science it views people, plants, animals, waters, landforms and skies as interconnected in one living system, aligning cultural and ecological health. The methodology brings together *Bidjaay yugal gaay* (Gamilaroi paint song story) (Brown, 2025) as a culturally grounded epistemology and methodology with Western systems thinking. This two-way approach respects Aboriginal relational science and narrative storytelling while also applying analytical tools recognised in policy and academic settings. Aiming to understand biocultural resilience by recognising women's roles in Law/Lore, ceremony and intergenerational cultural and ecological knowledge and practices transfer. The methodology is scalable and action-oriented able to be embedded in legislative, policy and program frameworks at local, state and national levels, with clear pathways for implementation through a biocultural resilience framework.

Method

A two-way right-way science and analysis approach (Ens, Finlayson, Preuss, Jackson & Holcombe, 2012) was used in this research to select appropriate methods to centre Aboriginal knowledge and practices and explore how these can coexist alongside Western knowledge as equal, complementary and reciprocal systems of knowledge to build a richer analysis.



Bidjaay yugal gaay literature and policy review

1. Seven Sisters Tiddaism: an Indigenous storytelling methodology was applied, using the Seven Sisters narrative (illustrated in green) as a unifying thread to reflect interconnected biocultural roles across Law, kinship, ceremony, land, sea and sky. This ensured cultural knowledge was not separated from science or conservation literature and framing. While an intended yarning methodology with Aboriginal women caring for Country practitioners was not possible due to unforeseen circumstances, the narrative approach maintained cultural safety and sovereignty.
2. An iterative and reflective western science and policy literature review. Data sources included peer-reviewed and high-quality grey literature, prioritising New South Wales Aboriginal women authors and extending to national and international women and men Indigenous authors and Indigenous-led policy documents, case studies, previous project outputs and policy frameworks. All observations aim to centre Aboriginal women-led priorities based on the principles of Law/Lore respect first, Self-determination, free prior and informed consent (FPIC), Indigenous cultural and intellectual property (ICIP) rights, respect Law/Lore and centre.

Bidjaay yugal gaay barrier analysis and observations

1. Indigenous standpoint: an intersectional analysis examining how gender, race, class and ecological loss intersect to marginalise Aboriginal women's leadership.
2. Systems thinking approach of mapping feedback loops and identifying structural leverage points.

Scope

The report examines systemic and intersectional barriers to Aboriginal women's caring for Country at a landscape scale in New South Wales. Due to the limited representation in New South Wales literature and policy of Aboriginal women authors (Fredericks, 2010) (Moreton-Robinson, 2009) (Tynan & Cavanagh, 2021) there was a need to include examples from across Australia and internationally. The term 'Aboriginal' is used in the report to acknowledge New South Wales Aboriginal peoples inherent rights and cultural authority of this Country, while 'Indigenous' refers to broader or international perspectives.

The scope of this research includes:

- Structured literature review to understand the scope of, identifying board barriers to and opportunities for operationalising Aboriginal women's caring for Country in New South Wales
- Structured barrier and observations analysis to identify the drivers, impacts and strategic and intersectional levers multiple scales, focuses and time frames.

While some generalisations are necessary to identify broader trends, true understanding requires listening to Aboriginal women in a relational, a place-based deep listening process, on their own terms. The findings aim to inform policy and program design to hold and create spaces for Aboriginal women-led caring for Country spaces and opportunities, while being accessible to women practitioners, and young girls through the companion 'You are a sister of the stars' (Appendix A) reflecting the author's ongoing commitment to support Aboriginal women caring for Country.



Women caring for Country

Aboriginal women’s care of Country embodies deep cultural, spiritual and ecological knowledge, embedded in ceremony, kinship and Law guided by ancestral stories such as the Seven Sisters. Aboriginal women’s care for Country reflects a relational worldview that extends beyond conventional Natural Resource Management; therefore, this approach is often misunderstood through reductionist Western frameworks that overlook key elements such as ceremony, kinship and Law (Morgan, Strelein & Weir 2004). Cultural practices are diverse, place-based and embedded in language and culture across Australia, this report explores shared worldviews and methodologies that centre Aboriginal women’s perspectives guided by the Seven Sisters story.

Caring for Country is recognised as an Aboriginal term for natural and cultural resource management that encompasses not only maintenance and conservation of natural resources such as flora, fauna, ecosystems, soil and water but also the tangible and intangible cultural and spiritual aspects of Country such as kinship relationships, ancestral songlines, traditional knowledge, as well as artefacts and rock art (Daniels, Ngukurr Yangbala Rangers, Russell & Ens 2022).

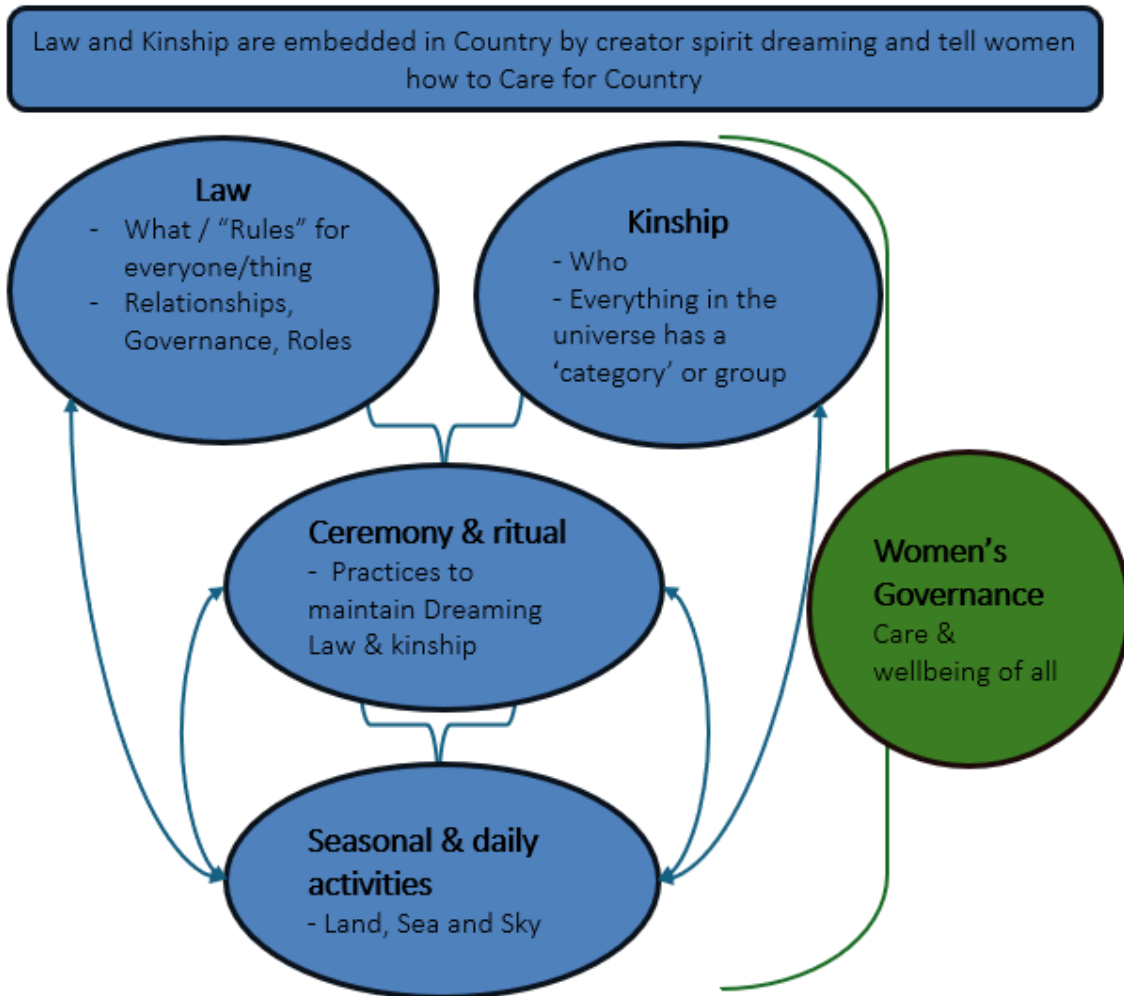


FIGURE 1 WOMEN’S CARING FOR COUNTRY CONCEPTUAL FRAMEWORK



Since the beginning of time Aboriginal women have shared complementary and different roles with men to care for Country and maintain the balance of the Dreaming. Aboriginal women's have gender-specific biocultural obligations, rights and knowledge, often around plants, water, and healing practices (Aime et al., 2023) (demonstrated in Figure 1). Caring for Country practices strengthen relationships across physical, cultural, social, economic and spiritual dimensions (Kinnane, 2002) however, women's roles have been disregarded, marginalised and silenced due to the intersecting and ongoing impacts of colonisation (Aime et al., 2023). The dominant disclosure of colonial history persistently portrays Aboriginal women as being passive, with no agency or their narratives are completely erased (Moreton-Robinson, 2011). However, Aboriginal women are warriors who staunchly resisted colonial force in the face of overwhelming adversity. In the 1800s Tarenorerer a Tommeginne/Plair-Leke-Liller-Plue woman in Tasmania exemplified this resistance, when she escaped her kidnappers and used her knowledge of their technology to lead resistance fighters to attack the colony's food and economic resources (Wyld & Biunaiwai 2021).

Aboriginal and Indigenous women continue this resistance today through Senator Lydia Thorpe's powerful 'Not my King' speech (SBS News, 2024) and Māori Party MP Hana-Rāwhiti Maipi-Clarke verbal revocation of the government authority, ripping up a proposed bill which would revoke her peoples' rights to land management followed by a haka in parliament, gaining worldwide attention to the injustice facing her people (Clark, 2024). By finding freedom at the margins for the Blak witness through grassroots media (McQuire, 2024) and cultural revitalisation activities across the Country, these forms of 'everyday resistance' (Scott, 1989) help maintain cultural identity and community ties. Beyond these benefits caring for Country practices have demonstrated health, wellbeing, economic and environmental benefits (Weir, Stacey & Youngetob, 2011).

Despite this strong commitment, Aboriginal women still face a range of gender-specific barriers as well as systemic barriers to caring for Country. This report seeks to elevate these narratives because Aboriginal women are already leading but their authority and knowledge are too often ignored, underfunded or erased by colonial systems and worldviews. To overcome these entomological and ontological barriers Aboriginal women's biocultural governance embed in environmental and natural disaster planning and ways of knowing and practices through Law/Lore, kinship and ceremony recognised.

The Seven Sisters

The Seven Sisters (the Pleiades star constellation) Dreaming is a highly significant for many Aboriginal women connecting Land, Sea and Sky Country through Law/Lore, kinship and ceremonial practices, as both a teaching story and a governance framework for caring for Country. The songline is a living ceremonial caring for Country song-cycle that connects Aboriginal women and sacred celestial sites across time and most of the continent. The Sisters' story extends globally, believed to be over 100 000 years old and possibly humans' oldest story (Noon et al., 2022) (Andrews, 2004). Across Australia, the Sisters' stories vary diversely in place and content but share common threads, pursued by an Ancestral Being in the shape of a man who shapeshifts into waterholes, shade and food. The Sisters evade their pursuer, creating Country, evident today in landscape forms and waterways. For millennia women have walked with the Sisters on their journey though deep time climate change adaptation like the last Ice Age 20 000 years ago and sea level rise 10 000 years ago (Langton et al., 2023) through the transference of women's biocultural rights and obligations to caring for Country embedded in Law/Lore, kinship, ceremony, land, sea or sky. Some of these key themes are demonstrated in the artwork below.



FIGURE 2 SISTERS CARING FOR COUNTRY IN NEW SOUTH WALES



Women's Law/Lore

Aboriginal women's Law/Lore has sustained Country and community across generations, a diverse, relational web of interconnected traits shaped by diverse, regional environments, social organisation systems, ceremony, language, song, dance and design. In the Aboriginal worldview everything starts and ends with Country, yet there are no beginnings and endings. In the Dreaming, as with Country, there is no separation between animate and inanimate: everything has life and sentience (its own Dreaming): people, animals, plants, rocks, soil, water and wind connected relationally through space and time by songlines (Neale et al., 2020), song spirals (Gay'wu Group of Women, 2019) or mnemonic memory systems (Noon et al., 2022). Women's songlines are Law/Lore embedded in Country by Ancestral Beings and maintained by ancestors, ensuring that every aspect of life across time, space and place is deeply interconnected (Langton et al., 2023). Through carrying, living and sharing Law/Lore, women build resilience and adapt to major climatic changes. Long-term biocultural monitoring enables them to observe trends and quickly adopt strategies in response to environmental shocks.

'It is through Law/Lore that people express their humanity, honour their ancestors, care for their homelands and environments, understand the past and the present, build families and communities, grow in wisdom and plan for the future.' (Langton et al., 2023, p. 35). Law/Lore can be defined as an inseparable social, cultural and spiritual governance system that varies across Australia's language groups and biocultural regions, generally concerned with the care of all life through kinship and ceremonial practices.

Women's governance is centred around the maintenance of Law/Lore, sometimes called 'grandmother's Law/Lore' as it is the role of grandmothers and older sisters to teach Law/Lore intergenerationally, not aunts and sisters as they are the wrong kinship group (Ward, 2018). Disruptions to practicing Law/Lore can result in cultural fragmentation, ecological deterioration and weakened social structures, while its protection enhances community resilience and biodiversity (Bell, 2001; Kijas, 2003).

The Seven Sisters songlines carry women's Law/Lore across vast Country, setting rules for behaviour, responsibilities and relationships with the land, sky, waters and each other. The Gamilaroi story tells how the Miyay Miyay (Seven Sisters) who are pursued by Wurrannah, who hides their digging sticks (a powerful matriarchal symbol) when they are distracted feasting on honey ants. He kidnaps two of the Sisters, while their Sisters unsuccessfully search for them, they are forced to go home before dark. Wurrannah orders the Sisters to chop a pine tree for firewood but the Sisters refuse as they are not allowed, he becomes angry and fearful the Sisters begin to chop the tree with their axe. All a sudden the pine tree grows quickly towards Sky Country where they are united with their lost Sisters, they all jump into the heavens, becoming the stars in the Pleiades cluster, shining brightly as a reminder to all women (Parker, 1978). The pursuit of the Sisters by Wurrannah teaches important 'outside' (nonrestricted) Law/Lore lessons about consent, bodily autonomy and the need for vigilance in protecting women's spaces and rights. Passed down intergenerationally, the Sisters also teach how women uphold and transmit Law/Lore including boundaries of respect, avoidance relationships, and protection from harm as well as 'inside' (restricted) women's business (Andrews, 2004). Inside knowledge is not shared in this report but highlighted in the below Kumarangk case study demonstrating that Law is not abstract rather embedded in place, and protecting sacred places protects Law itself.

Women's Law and Kumarangk (Hindmarsh Island, South Australia)

On Ngarrindjeri Country in the 1990s, the Ngarrindjeri women sought to protect the Kumarangk sites celestial connection to the Seven Sisters from a bridge construction (Daylight & Johnstone, 1986). The Ngarrindjeri women faced a public conflict where their voices were marginalised by the government, media and some men in their community. In 1995, a Royal Commission ruled that the women's sacred knowledge was fabricated after compelling them to reveal secret knowledge against their wishes. The women were then portrayed as untrustworthy, reflecting broader societal doubts about Aboriginal women holding Law/Lore (Bell, 2001) and sexist prejudice against women's testimony (Langton et al., 2023). The legal system, based on Western



evidence norms, didn't recognise the validity of or respect the women's oral secret evidence and cultural obligations, discouraging them from speaking about their caring for Country aspirations and practices.

Protecting Butterfly Caves (New South Wales)

The Butterfly Caves, located on Awabakal Country near Lake Macquarie, exemplify a woman's sacred Law site as a safe place for women and girls to undertake and learn ceremonial roles, particularly regarding birthing, increase and initiation ceremonies (Kijas, 2003) (see Ceremony section for details). Aboriginal women and Elders such as Aunty Margaret Harvey actively maintain the site but had to request permission from private owners for access and campaigned for 13 years to protect the Butterfly Caves. In 2013 the Butterfly Caves were marked for development, however the New South Wales Government acquired the site and declared it an 'Aboriginal Place of significance' under the National Parks and Wildlife Act. This acquisition ensures the site's protection and allows free access for cultural ceremonies and education and sets a precedent for protecting other sacred women's sites across New South Wales (New South Wales Environment and Heritage 2024). Recognising and respecting Aboriginal women's Law/Lore opens pathways to restore biocultural governance and resilience, beginning with the kinship systems that guide care for Country and community.

Kinship

Aboriginal women's biocultural custodianship is deeply rooted in kinship systems that honour interconnected relationships with all living and nonliving beings, guiding community care and ecological stewardship through Law/Lore. Aboriginal women's governance is primarily concerned with building and shaping communities, envisioning a collective, sustainable future through the maintenance of kinship systems gifted through Law/Lore by Creator spirits (Neale et al., 2020). A woman's kinship group is inherited by descent and/or through cultural adoption and includes all plants, animals, weather, rocks, fire and celestial beings as crucial members. Kinship is sometimes described as a complex environmental categorisation system comparable to scientific knowledge (Laudine, 2009), the maintenance of which is often the role of women governance is essential for social cohesion, community resilience and disaster response.

Kinship is more than just an environmental categorisation system as it consists of mutually life-giving relationships among people, nonhuman species of plants and animals, landforms and other tangible and intangible phenomena. Governance of the kinship system is concerned with activating and maintaining the specific relationships between these culturally significant entities through ceremony and ritual practice in accordance with women's Law/Lore (Rose, 2003).

In the Gamilaroi story, now in Sky Country the Miyay Miyay (Seven Sisters) are desired by the Birray Birray (the Brothers (Orions belt constellation)) who bring them gifts of honey to seduce them. The Sisters refuse the Brothers' advances as they are the wrong kinship group, remaining together, they sing to the Brothers music every night to give thanks for the gifts of honey (Parker, 1978). The Sisters represent kinship among women such as sisters, aunts and mothers, whose relationships reflect shared obligations to one another and to Country. They teach the strength of collective responsibility, of sisterhood by defending each other (reflected in contemporary Tiddaism), appropriate platonic relations with the brothers. They teach that kinship includes all beings, shown when the Sisters refuse to chop the pine tree, their kin under the Beewee totem, she protects them in return. Demonstrating how kinship relationships and reciprocal responsibilities guide decisions in caring for Country.

Kinship systems are biocultural, forming the foundation of the subsistence economy with women's food, medicine and care roles at the centre of traditional egalitarian society (Berndt, 1981). Disrupting kinship impacts identity and ecosystem health, while protecting these systems. Often called 'kitchen table kinship' in New South Wales (Neale et al., 2020, p. 51), the maintenance of these systems enhance social cohesion, cultural resilience and biodiversity conservation (Rose, 2003) through the intergenerational transfer of knowledge women's spiritual and caregiving roles are embedded in caring for Country practices.



Kinship and Ecological Stewardship (New South Wales)

Deborah Bird Rose's (2003) research on kinship within the New South Wales National Parks and Wildlife Service highlights the transformative potential of incorporating Aboriginal kinship into environmental management. This approach strengthens relationships between Aboriginal communities, Parks staff and natural ecosystems by emphasising mutual responsibilities and ecological interconnectedness. Aboriginal Elder, and women in particular lead with authoritative knowledge, directing kin-based management. Improved ecological and cultural outcomes, such as increased species diversity and stronger community relations, demonstrate this approach's effectiveness. The wider adoption of kinship-based frameworks across New South Wales environmental agencies will enhance relational accountability and environmental health (Rose, 2003).

The Lama Lama Women Rangers, Cape York (Queensland)

This Indigenous ranger group presents a compelling model of women-led conservation by integrating kinship, cultural obligations and on Country education into land management practices. Working closely with Elders and community members, the rangers protect sacred sites, manage fire regimes and monitor biodiversity, all while upholding and revitalising traditional knowledge systems. A key strength of the initiative lies in its support for women balancing their roles as mothers and cultural custodians with their ranger duties. These women lead cultural camps and youth engagement activities that pass down language, bush knowledge and ancestral stories to younger generations, reinforcing kinship ties and ensuring cultural continuity (Country Needs People, 2018). By blending traditional ecological knowledge with contemporary conservation methods, the rangers not only safeguard the environment but also nurture and strengthen kinship networks through their caring for Country practices. As kinship responsibilities are activated and maintained through ritual and practice, the next section explores how ceremony serves as a vital expression of women's Law/Lore and cultural governance.

Ceremony and ritual

Aboriginal women's biocultural custodianship is profoundly enacted through ceremony and ritual, where sacred responsibilities for life, healing and ecological balance are guided by Law/Lore and kinship systems of caring for Country. Ceremony is performed to maintain the cosmic and earthly balance of healthy Country they are crucial to maintain cultural, community and ecological health (Langton et al., 2023). In some matrilineal groups, women were the first holders of Law/Lore, which was later taken or given to men, who now need to undergo complex initiation ceremonies before they are allowed to marry or care for women's Law/Lore (Berndt, 1981). Ceremony is a deeply important practice for Aboriginal women, reinforcing kinship, life cycles and cosmic balance, where women hold sacred responsibilities for life, death and healing through ceremonies such as birthing, increase, mourning and healing practices.

'There are three devils, Fire, Water, Wind. If we don't do our jobs [ceremony], they will come to destroy us. If we are doing the right thing, they'll work for us, do the right thing by us.' - Ghungulu Elder Lindsey Black (Atkinson, 2002)

For Gamilaroi and others the Miyay Miyay are referred to as ice maidens as their parents in New South Wales are the cold snowy mountain (father) and river (mother). When the two Sisters are kidnapped by Wurrannah, their Sisters send bitter winter winds and ice as punishment. Wurrannah tries to warm them with fire, but the melting ice extinguishes the flames and only dulls the Sisters' sparkle. With help from the pine tree, the Sisters escape into Sky Country, though their time on Earth leaves them dimmer and they never shine as brightly as their Sisters again. Now ever year the Miyay Miyay throw ice and cold winds in winter to remind men not to break Law/Lore and kinship systems. To show their respect the men use the frost in ceremonial piercings so they might sing as sweetly as the Sisters (Parker, 1978). The Sisters songlines are kept alive through ceremony, songs and stories connecting people to place and Law/Lore and reciprocally contribute the celestial power of renewal to ceremonies (Andrews, 2004). Their celestial movements are seasonal indicators for ceremonial such as fertility, birthing, increase rituals and sacred women to support ecological abundance and the story also



highlights the essential role fire and water play in ceremony. These ceremonies also serve as a governance tool by reaffirming rights to speak for Country and spiritually nourishing the land.

Ceremony and ritual reinforce Law/Lore and kinship, upholding roles, rights and obligations within families and communities. These practices strengthen social bonds and ensure the intergenerational transmission of knowledge, especially through grandmothers and mothers. Mourning ceremonies honour and grieve the deceased, maintaining spiritual harmony and connection to Country. Women in mourning are sometimes supported by 'sister-in-law' spirit women who bring them food while in mourning, wailing and hair cutting and avoidance, not using the deceased person name or photograph until approved by the family are common practices during sorry business (Bell, 2002). Healing ceremonies restore health and balance to all forms of life and are used particularly after illness or trauma. Women lead healing rituals that are deeply connected to land, where they act as healers, and sometimes men are seen as powerless in these ceremonies (Bell, 2002). Women's roles are fundamental in the relational system of caring for Country through activation, healing and revitalisation ceremonies and rituals.

Singing up Country

Aboriginal women have gendered responsibility to sing Country sometimes called increase ceremonies and ritual that enact epistemologies of reciprocity, relationality and activation to sustain biodiversity and spiritual wellbeing of Country. Increase activities are place-based and vary across the country, 'singing Country' is a common increase practice where women's songs connect them to totems, species and ancestral beings. Songs were gifted by totemic ancestor beings who shaped the land and brought all life into being through song. When sung today, these songs echo ancestral voices and essence, strengthening the land, biodiversity, and community (Curran, Barwick, Turpin, Walsh & Laughren, 2019). Ceremonial songs play a direct role in maintaining biodiversity by ritually caring for plants, animals, water sources and seasonal cycles, through biocultural pathways not captured by Western scientific frameworks or environmental funding arrangements (Aime & Robinson, 2023). When songlines are broken, they need to be pulled up from Country through song they are reactivated and embedded back into Country, keeping it alive (Neale et al., 2020). Women increase ceremonies and songs are biocultural maintenance systems, many relational to the Seven Sisters, their performance empowers renewal and care, link birthing (the creation of life) with the regeneration of Country.

The Ngukurr Yangbala (Youth) Rangers

The Ngukurr Yangbala (Youth) Rangers program was established in 2010 led by local women Elders, empowering over 60 young Aboriginal women sidelined in ranger employment (Daniels, et al., 2022). The young women sought to engage in the caring for Country practices of bush harvesting, language-based knowledge, and caring for sacred waterholes, traditional women's business. The rangers used cross cultural biodiversity surveys where scientific methods (counting fish, water quality checking) were undertaken in conjunction with increase ceremonial practices such as singing the water spirits and making traditional dye from plants. These practices and the documenting songlines and kinship stories such as of the jangkurr freshwater woman spirit connected to waterhole health, the rangers developed a biocultural learning on Country program. This led to an increase in women's engagement in caring for Country, from almost none to a team of women and girls regularly working on Country to achieve multiple tangible outcomes. For example, they documented 20 women's sites and an improvement in environmental health indicators including better water quality and an increase in fish abundance (Daniels et al., 2022).

Birthing on Country

Central to caring for Country, birthing on Country is an Aboriginal person's first act of caring for Country ensuring they, their mothers and Country are culturally healthy. Additionally, birthing on Country harmonises human and ecological (biocultural) systems, promoting community health through culturally appropriate and holistic maternity care (Kildea, Hickey, Barclay, Kruske, Nelson, Allen, Gao, Blackman & Roe, 2019; Felton-Busch & Larkins, 2019; Barclay, Andre & Glover, 1989). Birthing on Country improves maternal and infant outcomes while strengthening intergenerational connection to land, kinship and ceremony (Australian Institute of Health and Welfare, 2025: Roe, Allen, Haora, Hickey, Briggs, Wilkes, Nelson, Watego, Coddington, Ireland, Kruske, Gao



& Kildea 2024). When birthing on Country practices are disrupted, communities experience cultural erosion, increased maternal stress and poorer health outcomes; conversely, protecting these practices fosters cultural resilience, community strength, and ecological balance (Kildea et al., 2019; Felton- Busch et al., 2019).

Gudjaga Gunyahlamai Birthing on Country (New South Wales)

Led by Waminda South Coast Women’s Health and Welfare Aboriginal Corporation in Nowra and supported by the New South Wales Government this birth centre demonstrates an Aboriginal-led maternity model grounded in cultural authority and continuity of care (New South Wales Health, 2024). Centring culturally grounded maternity care this model also is a biocultural care model that seeks to restore reciprocal relationships between mothers, babies, women’s practices and places. Environmental governance frameworks and initiatives rarely recognise birthing sites or practices as part of caring for Country which limits cross portfolio collaboration, funding and access opportunities for women. This barrier can be overcome by cross agency collaboration and meaningful partnerships Aboriginal birthing on Country initiatives to expand caring for Country projects to create access to culturally significant birthing places, restore cultural practices and embed women’s governance within land management and heritage frameworks.

With examples of Aboriginal women’s spiritual and governance systems Law/Lore, kinship and ceremony reviewed, the report now examines practices for caring for Land, Sea and Sky Country.



Caring for Mother Country

In many indigenous cultures, the Earth (Land, Sea and Sky Country) is known as ‘Mother,’ reflecting the reciprocal care between people and the Earth as like the reciprocal nurturant parent–child relationship. Women nurture Mother through biocultural practices like sustainable harvesting and propagation, habitat creation and singing Land, Sea and Sky Country. Colonisation disrupted their cultural roles as mothers, introducing patriarchal systems that undermined women’s cultural and social authority and intergenerational knowledge transfer, devaluing the role of women.

The Sisters’ songline maps important land and Sea Country features and sites which are replicated and mapped in Sky Country (Noon et al., 2022). Through this interconnection the Sisters inhabit culturally significant land and seascapes including the Narran Lakes (Parker, 1905), the Seven Sisters Ridge near Yarrabandai (Visit central New South Wales, 2025) and the Three Sisters in the Blue Mountains. Each of these culturally significant entities holds part of their story, often relationally with other placed-based kin which teach caring for Country locally. In addition the Sisters mother is in terrestrial landforms such as Mt Gulaga (Storylines Moruya, 2016) and waterscapes such as Kumarangk. Here the Sisters’ Mother fills the ocean with life making these sites and the Sisters’ story are integral to preparing a young girl for motherhood and caring for Country responsibilities (Bell, 2001). Women’s custodianship and sharing of Sisters sites and stories maintains biocultural and women’s resilience through caring for Country governance.



FIGURE 3 MOTHERS LAW BRUSH TURKEY

The important role of Mother and the matrilineal passing of women’s Law/Lore and governance is demonstrated in the Gamilaroi brush turkey story, where turtle and kookaburra were married and turtle was getting ready to lay her eggs in the warm sand as her mother had. Kookaburra insisted she lay eggs in a tree like his mother did but this broke women and kinship Law/Lore resulting in a strange offspring, the brush turkey who lays eggs in the ground not a tree and sit on them as other birds do (Parker, 1978).



Land

Aboriginal women's biocultural custodianship of Land Country is grounded in sacred responsibilities, ecological knowledge and spiritual relationships that sustain community wellbeing and cultural continuity. The land is central to Aboriginal women's cultural governance and spiritual obligations as it embodies the Law/Lore, kinship systems and gendered responsibilities passed down through generations creating resilience in the world's oldest surviving culture. The legacy of colonial dispossession has had profound gendered impacts on Aboriginal land relationships, particularly disempowering women in their cultural governance roles in caring for Country. Culturally women have distinct responsibilities for land-based roles, knowledge and practices, yet colonisation introduced male-centred structures that excluded women from cultural and social governance and practice.

The Seven Sisters guide Aboriginal women in caring for Country through sacred teachings and seasonal signs, marking times for cultural practices like cultural burning, plant cultivation and harvest and increase rituals of singing Country. Yolŋu women in Northeast Arnhem Land, embody the Law/Lore of the Djulpan (Seven Sisters) by following the example of the Sisters who travelled together in search of bush food, the Yolŋu women embodied and are the Djulpan (Kluge-Ruhe Aboriginal Art Collection, 2024). In the Gamilaroi version, the Sisters teach sharing honey ants, food avoidance (not taking the honey offered by the Berai) and demonstrate the importance of care for women's primary caring for Country tool. The digging stick is a diverse tool extensively used in the plant harvesting and process, Earth tilling, hunting, weaving and self-protection, in some stories the Sisters use it to carry fire (Andrews, 2004). The annual appearance of the Pleiades serves as a celestial calendar guiding women's caring for Country practices such as burning, harvesting and travelling, in harmony with ecological cycles to keep the land and community healthy.

Gulaga—Mother Mountain, Yuin Country, New South Wales

On Yuin Country along the south coast of New South Wales the sacred Mt Gulaga (Figure 4) has long been central to women's cultural responsibilities and cared for as a sacred celestial site as she is the Seven Sisters' mother. Colonisation, forestry and missionary policies disrupted women's practices of caring for Mother Mountain through displacement and limiting access, preventing women from holding birthing and other ceremonies (New South Wales National Parks and Wildlife Service, 2022). Despite more than 150 years of exclusion, women's knowledge endured through oral history and cultural resistance leading to a powerful revival led by Elders such as Auntie Eileen Morgan and Auntie Beryl Carpenter (Milton, 2022). Their leadership alongside Guboo Ted Thomas and Percy Mumbulla contributed to the return of Gulaga and Biamanga National Parks to the Yuin people and the establishment of joint management with the New South Wales Government (New South Wales Office of Environment and Heritage 2014). Yuin women now play key roles in park governance, with leaders like Iris White chairing the Gulaga Board of Management (Allen, 2016) supporting the return of women's camps, ceremonies, weaving and fire practices. These efforts have led to the return of medicinal plants, increased youth engagement and improved community wellbeing (New South Wales National Parks and Wildlife

Service, 2022) with the joint management model itself seen as a step towards systemic healing that recognises women's voices and cultural authority.



FIGURE 4 GULAGA - MOTHER MOUNTAIN



Women caring for plants

Plants are Country and are a connected part of the Dreaming, emerged by the singing of ancestors they have their own song cycles often only maintained women as a specific gendered relationship passed down intergenerationally. Before colonisation, Aboriginal women played a central role in the food economy, using deep ecological knowledge to harvest plant-based foods and provide daily meals, often while caring for children, sustaining communities and passing on vital knowledge (Berndt, 1981). Women maintain reciprocal relationships with plants through practices like cultural burning, seed distribution, water trapping and ritual singing to support plant health. In return, plants provide food, medicine, shelter, fibre and kinship connections (Cumpston, Fletcher & Head 2022). The imposition of patriarchal systems has devalued and separated women's roles in plant and childcare, placing a heavy labour burden on women as well as disrupting intergenerational knowledge transfer to young girls (Cumpston et al., 2022). Danielle Carney - Flakelar advocates for creating more spaces where women and children can share plant knowledge and practices together on Country as it builds relationships and the collective strength of women to push to be part of decision making for Country (cited in Hong 2013). Aboriginal women continue to embody a deeply personal and spiritual relationship with plants and trees, they are kin, part of a living, interconnected community where each element, human and nonhuman, holds cultural and ecological significance (Cavanagh, 2020). Recognising and supporting these relationships is essential to restoring biocultural knowledge systems and ensuring the wellbeing of both Country and community.

Women's Cultural Burning (South Coast of New South Wales)

Aboriginal women's participation in cultural burning is vital for maintaining Law/Lore, governance and deep connections to Country, though practices vary across New South Wales. Women-led burning enhances ecological health, supports biodiversity and ensures the transfer of cultural knowledge across generations. Increasing recognition of these practices has led to community-driven initiatives that strengthen women's leadership and deliver positive environmental outcomes (Steffensen, 2020) (McKemey & McCormack 2024). On the south coast of New South Wales within Yuin Nation, Aboriginal women have successfully re-established cultural burning practices through community-led initiatives. Guided by Elders and supported by community organisations, these practices deliver comprehensive ecological care aligned with cultural responsibilities (Tynan, 2020). Positive ecological results, such as decreased invasive species and rejuvenation of culturally significant native plants, validate the effectiveness of these practices (Williamson, Weir & Cavanagh, 2020). Women in this region aspire to sustain these traditions to ensure ecological balance, strengthen cultural identity and guarantee a healthy Country for future generations.

Despite colonial disruptions that displaced women and devalued their land-based roles, the revival of cultural practices and leadership offers a powerful opportunity to restore balance and deepen care for Mother Country across land, sea and sky.

Sea

Aboriginal women's biocultural custodianship of Sea Country reflects deep spiritual, ecological and cultural responsibilities, where water is Law/Lore and kin, and caring for it sustains life, identity and community. In many New South Wales communities, water Law/Lore is women's business where salt and fresh water is connected through the movement and stories of the Seven Sisters, the dingo (also carries water Law/Lore) and the Rainbow Serpent. Known by different names across regions, the Dreaming serpent is a powerful Creator and guardian of waterways and their Law/Lore. For Yuin and Gundungurra peoples, Gurangatch, the serpent (or eel) carved rivers and landforms during an epic journey inland, battling Mirranghan the dingo (or quoll) (Mulcahy, 2010). This story shows how the Rainbow Serpent inhabits both fresh and saltwater, reflecting their interconnectedness in Law/Lore. This relationship is echoed in how Aboriginal people identify as either freshwater or saltwater Country people. Sea Country and water are living, spiritual entities central to women's Law/Lore, cultural responsibilities, and community resilience, encompassing all freshwater and saltwater environments, including rivers, lakes, wetlands, coastal zones and oceans.

The Seven Sisters are portrayed variously as ocean nymphs, and water or ice girls they are associated with water in all forms in all forms from rain, frost, snow, rivers, lakes and oceans. On New South Wales saltwater



Country, the Sisters' migration over the horizon signals the winter migration of the humpback whales and the flowering of the Gynea lily, signalling women to gather on rock platforms to sing up the whales (WWF-Australia 2024). For Torres Strait People, the Pleiades rising in the night sky signals it's the turtle mating season, a cue for people to adjust their hunting or travel and prepare for upcoming rains. Such cultural astronomy, often taught by senior women, aligns fishing and gathering practices with nature's cycles (Andrews, 2004). By reading the stars and respecting Law/Lore and kinship, Aboriginal women help ensure marine life and water resources are managed with care.

Aboriginal women approach water management through deep cultural relationships with Country, where water is seen as a living force that sustains ecological, spiritual and intergenerational responsibilities. Their obligations include caring for sacred sites, seasonal harvesting and maintaining traditional knowledge systems that are intimately tied to the rhythms and flows of rivers, wetlands and oceans (Marshall, 2023). Cultural flows in freshwater Country are understood as women's business, encompassing not just water quantity but the renewal of life, ceremony, and kinship (Weir, 2009). The removal and damming of traditional water structures, like fish traps, weirs and overbanking shelters led to native fish population collapse (Gilmore, 1934) and disrupted Aboriginal women's ability to sustain water ecosystems and pass on vital knowledge.

Biripi and Worimi Saltwater Cultural Restoration Women Rangers (New South Wales)

Aboriginal women play a central role in caring for Sea Country in the saltwater cultural restoration program on Biripi and Worimi Country, located on the of mid-North Coast of New South Wales. A culturally significant saltwater site for the Biripi people known as the guyiawan or 'shark people' is linked to ancient camping grounds, ceremonial places and sacred ecological features. Women rangers contribute to the restoration and protection of this landscape by engaging in marine debris removal, shorebird protection, cultural burning and mapping of sacred sites. They lead community education, school excursions, and on Country experiences, integrating traditional knowledge with scientific monitoring. Jointly managed by the Saltwater Tribal Council and New South Wales National Parks and Wildlife Service (Taree Indigenous Development and Enterprise, 2004) the models support women cultural obligations of intergenerational knowledge transfer, strengthens cultural identity and enhances ecological resilience.

Gamilaroi Freshwater Governance: Boobera Lagoon (New South Wales)

Boobera Lagoon, located in northern New South Wales, is a sacred site for the Gamilaroi people as the resting place of Garriya, the Rainbow Serpent, holding deep cultural, spiritual, and ecological significance documented in 1899 (Mathews). Since colonisation, the site has faced threats from grazing, vegetation loss, silt build-up, irrigation, recreation and development pressures. Gamilaroi women have led sustained efforts to protect the lagoon, yet despite its recognised cultural importance, its declaration as an Aboriginal Place under the '*New South Wales National Parks and Wildlife Act 1974*' (New South Wales Government, 1974) was delayed two years to allow water-skiers time to relocate, prioritising nonIndigenous recreational interests over Aboriginal cultural values (Australian Human Rights Commission, 2005). In 2017, Rosie Armstrong led the first women's gathering at Boobera Lagoon since colonisation, where 50 Gamilaroi women revitalised cultural practices and strengthened intergenerational knowledge and spiritual connections (Noon et al., 2022). The protection of Boobera Lagoon exemplifies the resilience and leadership of Gamilaroi women in safeguarding their cultural heritage for future generations.

When Sea Country is respected, species thrive, waters rejuvenate and communities flourish. However, colonial disruptions including planning, pollution, resource extraction, and restricted access have severely impacted both ecological and cultural systems (Weir, 2009). Despite colonial disruptions women continue to lead in restoring Sea Country governance creating vital pathways to care for Mother Country across land, sea and sky.

Sky

Aboriginal women's custodianship of Sky Country is a profound expression of cultural governance, where celestial knowledge, seasonal cycles and ancestral stories guide ceremony, kinship and care for Country. Land, Sea and Sky Country are intrinsically connected across songlines, through ceremony and daily rituals, the



ancestors and Country are kept healthy. The stars and dark spaces represent Dreaming Law/Lore, living spirits and places and replicate waterholes and landscape features, captured in the often-repeated phrase ‘as above, so below’ (Noon & De Napoli, 2022). The stars and dark spaces are both maps used as a memory aid for navigation and seasonal calendars. For Gamilaroi people, this is demonstrated by the Warrambool (flood plain) which flows into the Barwon River (Barka—Barkindji) which is represented in the sky by the Milky Way. The dark area, called ‘Dark constellation,’ is the scar where the land was ripped from the sky in the Dreaming (Noon & De Napoli, 2022). The sky reflects the land at night, and during the day, the gali (water) of Warrambool reflects the sky with each acting like a portal to the other, constantly connecting and reconnecting through Law/Lore.

The Seven Sisters are visible in the night sky as the Pleiades star cluster, a celestial Law/Lore book and seasonal calendar for cultural practice. Their rising and setting mark seasonal shifts when certain plants flower, animals breed or fish migrate or the arrival of spring (Noon & De Napoli, 2022). The sky story reminds women of their relational place in the wider cosmos and the continuing relationship between Land, Sea and Sky Country. The Sisters’ sky journey embeds deep biocultural knowledge and practices aligned with natural ceremony and song cycles. Aboriginal women honour the Sisters by following their caring for Country guidance they strengthen biocultural resilience; through the seasonal care of relationships with culturally significant entities, such as celestial sites on Land and Sea Country, plant harvesting and propagation, turtle breeding or whale migrations in New South Wales.

Caring for Sky Country is integral to Aboriginal women’s Law/Lore, encompassing stars, planets, moon cycles, clouds, winds and celestial stories that guide Aboriginal women’s calendars, ceremonies and kinship systems. Women hold and transmit knowledge of constellations and sky-based healing practices through storytelling, dance and careful observation (Rose, 1992). This celestial knowledge informs seasonal movements, food harvesting and ceremonial timings, making it inseparable from obligations to land, sea and kin. When access to dark skies is disrupted by factors such as light pollution or exclusion from scientific institutions, women’s Law/Lore is diminished, disrupting intergenerational knowledge transmission.

Warrumbungle Dark Sky Park (New South Wales)

The Warrumbungle region holds profound significance as sacred dark Sky Country for Gamilaroi and neighbouring nations. Aboriginal women possess deep knowledge of celestial cycles embedded in the movements of the Miyay Miyay (Pleiades) and Gawarrgaay (sky emu) Dreaming connecting terrestrial sites and caring for Country practices. Women-led cultural revival initiatives and Elders are actively reconnecting young women and girls with these sky-based storylines through activities such as campfire storytelling, language revitalisation, and sky mapping (Noon & De Napoli, 2022). Indicators of cultural health include secure access to night Country, the use of star names in local languages, and the revival of celestial women’s ceremonies. In 2016, Warrumbungle National Park was designated as Australia’s first International Dark Sky Park, recognising its exceptional night sky quality and commitment to minimising light pollution. However, even though the Warrumbungles contain a designated Aboriginal Place and Seven Sisters Dreaming sites, Aboriginal women’s voices are absent from New South Wales ‘Dark Sky Planning Guideline: Protecting the Observing Conditions at Siding Spring’ (New South Wales Department of Planning and Environment 2023) and international management guidelines (International Dark Sky Association, 2016) for the area.

Bogong Moth Songline (New South Wales)

The Bogong moth is deeply significant biocultural entities across southeastern Australia. Its annual migration has been significant for the timing of intertribal gatherings for seasonal feasting as a vital food source ceremony and trade with reinforce social and kinship relations between groups. However, modern environmental challenges such as land clearing, rising soil temperatures and impacts of light pollution on moth migrations (Caley, 2023) have led to a dramatic decline in Bogong moth populations. These environmental challenges severely impact women’s governance which occurred during the weaving of Bogong nets from Kurragong trees (Warrant, Frost, Green, Mouritsen, Dreyer, Adden, Brauburger and Heinze, 2016). Aboriginal peoples have historically followed the moth’s migratory paths, which are intricately woven into songlines.



These songlines guide communities to traditional meeting places around the Snowy Mountains and Brindabellas in New South Wales. Women played crucial governance roles in these events, as well as preparing food and participating in cultural exchanges. In recent decades there has been a 99.5% population decline (Warrant, et al., 2016) but is not yet classified as a threatened species. This creates a barrier for women seeking to protect the Bogong moth as a Culturally Significant Entity reducing impacting ecological and cultural resilience.

Despite disruptions from light pollution, environmental degradation and exclusion from scientific and policy frameworks, Aboriginal women continue to revive and protect Sky Country knowledge offering vital pathways to reconnect and care for Mother Country across land, sea and sky.



Barrier analysis

This section explores the barriers preventing Aboriginal women in New South Wales from fully exercising their cultural authority and responsibilities to care for Country. It applies a two-eyed seeing approach that integrates systems thinking and intersectional analysis to identify key barriers and develop targeted observations.

Barrier identification

The review of literature and prior project outputs was used to distil the key barriers to Aboriginal women's caring for Country. The barriers identified are systemic, intersectional and occur at multiple scales and disciplines. To avoid duplication these are detailed in (Appendix B) and the key themes dot pointed below allowing for a through discussion of the main barrier identified, gendered biocultural loss.

Key barrier themes:

- gendered biocultural loss
- intersectional discrimination and silencing of women's voices
- academic, institutional and policy siloing and exclusion
- socioeconomic inequality and care burdens
- disruption and devaluation of women's cultural knowledge
- patriarchal exclusion of women's authority and practice
- colonisation, historical dispossession and environmental decline.

These barriers reflect broad and intersecting policy, governance, cultural and social spheres and are both drivers and impacts of the main barrier to caring for Country gendered biocultural loss, itself both an impact and driver creating a reinforcing feedback spiral of cultural and ecological decline.

Gendered Biocultural Loss

Gendered biocultural loss is the erosion of interconnected cultural and ecological systems, threatening Aboriginal women's knowledge, biodiversity and sustainable living, where biological and cultural diversity are interlinked, mutually shaping one another across time (Woodley, 2014). Colonisation disrupted women-centred economies and displaced communities, eroding gender-specific knowledge of plants, water, and healing (Aime et al., 2023). Environmental degradation and species loss, such as the decline of Bogong moths and native fish have disrupted ceremonies and gatherings central to women's governance (Curran et al., 2019) (Gilmore, 1934) (Caley, 2022). Women's ceremonial practices, vital for sustaining ecological knowledge, are often overlooked and underfunded (Curran et al., 2019). Male-dominated governance structures have excluded women from land and water management, despite their traditional roles (Berndt, 1981) (Cumpston et al., 2022). Pollution, extraction, and restricted access further undermine women's responsibilities and are rarely addressed in formal governance frameworks (Watson, 2009) (Weir, 2009) (Williamson et al., 2020) (Kimmerer, 2013) highlighting the need to support biocultural resilience.

Biocultural Resilience

Aboriginal women's biocultural resilience makes caring for Country possible by sustaining a living system of Law/Lore, kinship, ceremony and place-based cultural and ecological knowledge that co-evolves with Country. Biocultural refers to the interlinked diversity of life that are biological, cultural and linguistic shaped together through time (Maffi & Dilts, 2010). Resilience is the capacity of complex adaptive systems to cope with disturbances and reorganise while maintaining essential function, identity and structure (Intergovernmental Panel on Climate Change, 2022). Biocultural resilience approaches deliver stronger conservation outcomes because they keep those linkages intact (Gavin, McCarter, Mead, Berkes, Stepp, Peterson & Tang 2015), with growing evidence that integrating Aboriginal women's governance, cultural knowledge and biocultural indicators into law and policy strengthens resilience across cultural, social and ecological systems (Ens, Pert, Clarke, Budden, Clubb, Doran, Douras, Gaikwad, Gott, Leonard, Locke, Packer, Turpin, Wason, Wallace and



Wallace, 2015) (O’Bryan, Garnett, Fa, Leiper, Rehbein, Fernández-Llamazares, Jackson, Jonas, Brondizio, Burgess, Robinson, Zander, Molnár, Venter & Watson, 2021). In Australia, integrating Indigenous biocultural knowledge has demonstrable benefits across fire, invasive species, aquatic systems and climate responses so investing in Aboriginal women’s caring for Country is not only a rights-based obligation, it is also practical environmental management (Ens et al., 2015).

Bambul Bidjaay Yugal Gaay

The Bidjaay yugal gaay methodology (Brown, 2025) examines the relationships of Bambul (Capparis Mitchellii), a cultural significant species for Gamilaroi women as a framework to understand biocultural resilience and women’s relational obligation to care for Country. Using an Aboriginal, relational ontology methodology seeks to explore the relationships between culturally significant entities not as isolate elements but part of a living, complex adaptive system. More than a generic causal loop, it’s a relational map embedded in biocultural storytelling where cultural practice sustains ecological function and ecological change influences cultural expression. Bidjaay yugal gaay makes visible the web of connections and responsibilities that underpin biocultural resilience in visual form and through story it shows how the wellbeing of a single plant is inseparable from the health of the whole system, and how women’s governance, ceremony, language and knowledge are critical in maintaining that system.



FIGURE 5 BY BAMBUL BIDJAAY YUGAL GAAY—BY EVERYONE IN BAMBUL BIDJAAY YUGAL GAAY INCLUDING KATE BROWN



The yugal (song) gaay (story) cycle starts and ends with the Bambul fruit (Figure 6, No#1). The Bambul fruit is an especially important women's plant and food source for Gamilaroi and other First Nations people. The Garriya (Figure 6, No#2) is a Creator spirit, like the Rainbow Serpent. Garriya carries gali (water) Law/Lore and he created the rivers and waterholes, which he still inhabits today. It is one of Garriya's cultural obligations to influencing yuuruu (rain, Figure 6, No#3) by increasing or decreasing its occurrence at regular intervals within the cycle.

In doing so, Garriya influences the dhawun (soil) moisture (Figure 6, No#4). Soil moisture is critical for Bambul because Bambul dhinggal (seed, Figure 6, No#5) needs both adequate rain and soil moisture levels to mature (Figure 6, No#6) and produce for Bambulngiyan (Bambul flower). Bambulngiyan is a delicate ephemeral beauty and she craves the love of her husband (Figure 6, No#7). Her husband is the is Yarragerh spring mayrah (winds) and it is his role to facilitate pollination (Figure 6, No#8). At the same time, Guni (native bee) wishes to gather nectar from Bambulngiyan (flower) to make gugal (honey) for his colony (Figure 6, No#9). Therefore Guni's (the bee) cultural obligation in this story is to bring the Yarragerh (spring wind) by singing (Figure 6, No#10).

Gamilaroi people harvest gugal (honey) as a snack or galindjari (sweet drink). During this harvest, some of the guni would balu-gi (die). Gamilaroi people's cultural obligation is to place deceased bees into Wii (fire; Figure 6, No#11). Wii is very important to Gamilaroi people. Wii features in many cultural ceremonies and practices, including cultural burning, with demonstrated impacts on improving the dhawun soil (Figure 6, No#4). Through wii, the bee's wanda (spirit) travels with the wuyugil (Ceremonial smoke) to the warrambul (milky way; Figure 6, No#12) to help sing to Yarragerh. This story begins and ends with Bambul as she looks after this whole cycle through providing cultural governance over Garriya, although he is fearsome and powerful, Bambul is his mother-in-law. The mother-in-law avoidance relationship is due to them being the 'wrong skin,' a relationship prohibited under Aboriginal Law/Lore in the kinship system. This means a wife's, Bambul's daughter, husband, Garriya, is not allowed to talk to her mother but has obligations to her such as giving her gifts and food (represented as rain in this diagram), thus she keeps the whole system in balance (Brown, 2025).

This part of the story demonstrates that Gamilaroi people's ceremonial and cultural practices are integral to the maintenance of the Bambul story through their role in the creation of spirit bees. There are many other examples of these practices relating to women's and men's roles at each reference point in the diagram, and at those not shown and exploring this relationship is an act of caring for Country which builds biocultural resilience. It can be used by Aboriginal communities as biocultural mapping and revitalisation methodology to identify gaps and prioritise the reactivation of relational networks of reciprocal obligations by identifying the cultural significant entities and their relationships.

Barrier analysis

These barriers interact across policy, governance, cultural and ecological systems. They are both drivers and impacts of **gendered biocultural loss**, creating a self-reinforcing cycle of cultural and environmental decline. To analyse this complexity a two-way, right-way science (Ens et al., 2012) approach was used through a combination of systems thinking methods such as feedback loops and an Aboriginal relational approach Bidjaay yugal gaay between culturally significant species, Law/Lore, kinship, ceremony, ecological indicators and reciprocal obligations.

Systems Mapping and Leverage Point Analysis

To analyse the barriers a systems thinking approach was applied to identify the causes (drivers) and consequence (key impacts) of the main barriers (Appendix C). Followed by systems mapping to identify reinforcing feedback loops that sustain gendered biocultural loss, demonstrating how disruptions in women's cultural governance, ceremony and ecological knowledge compound over time. Leverage points are identified where interventions could break these loops, restore women's roles, and regenerate biocultural resilience (Appendix D) summarised in Table 2.



TABLE 1 SUMMARY TABLE—GENDERED BIOCULTURAL LOSS FEEDBACK LOOPS

Barrier	Feedback Loop Effect	Leverage Point
Intergenerational knowledge decline	Erodes governance and ecological indicators	Fund intergenerational cultural teaching
Gendered policy marginalisation	Reinforces male-dominated decision-making	Inclusion of women’s governance
Ecological and spiritual disconnection	Sustains loss of species knowledge	Support women’s access to species/places
Intersectional burden and leadership attrition	Silences women’s governance	Fund family care-supported leadership pathways

System dynamics:

- When Aboriginal women are excluded from governance, ceremony is disrupted
- When ceremony is disrupted, ecological knowledge and biocultural indicators disappear
- When those indicators disappear, disaster resilience is weakened, because signs of drought, flood or fire are no longer interpreted in time
- When the system sees women as vulnerable, rather than governors, it continues to reproduce the harm
- But when women’s knowledge is funded, protected and integrated, resilience is regenerated culturally, socially, ecologically.

***Bidjaay yugal gaay* biocultural resilience framework**

Bidjaay yugal gaay makes visible the web of relational connections and responsibilities that underpin biocultural resilience and the relationships needed to care for Country. Similar to the systems thinking approach it can be used to identify reinforcing feedback loops, however, this approach is embedded in an Aboriginal relational epistemology within a living Law/Lore system, where health and wellbeing depends on maintaining reciprocal obligations. This is demonstrated in Guni’s pollination and wind singing obligation interlinked with people obligation to create the spirit bees through ceremony network. Using the *Bidjaay yugal gaay* methodology a framework for biocultural resilience was created with culturally significant entities (CSE) and caring for Country (CC) elements below in Table 2. The theoretical framework demonstrates the CSE relational loop (RL) from Figure 6 alongside relational (cultural) obligations and ecological indicators. This framework was then used to formulate legislation, policy and program observations for biocultural resilience (Appendix E) and a two-way indicator matrix caring for Country (Appendix F).

TABLE 2 BIDJAAY YUGAL GAAY BIOCULTURAL RESILIENCE FRAMEWORK

CC	CSE	RL Fig. 6	Relational obligation	Ecological indicator
Law/Lore	Kinship system		Maintain rights and obligations for all beings; govern who can interact with whom	Observance of cultural protocols and law-based roles
Law/Lore	Mother-in-law Law/Lore (Bambul–Garriya)	No#1 ↔ No#2	Uphold avoidance rules; maintain balance through reciprocal obligations	Presence of both species in healthy relationship



CC	CSE	RL Fig. 6	Relational obligation	Ecological indicator
Kinship	Kupathin/Dilbi moiety		Maintain marriage rules, gifting obligations Maintain women’s governance and related Law/Lore roles	Cultural continuity in species relationships Kinship balance across species and sites
Kinship	Guni–Miyay Miyay	No#9 ↔ No#10 ↔ No#12	Maintain ceremonial and seasonal relationships	Pollination and seasonal honey availability
Ceremony	Wii (fire)	No#11	Soil renewal, ceremonial balance, spirit release	Soil health, vegetation recovery
Ceremony	Bee singing (increase)	No#1	Increase fruiting and species abundance	Fruiting rates, pollinator activity
Ceremony	Spirit bees creation	No#11 ↔ No#12 ↔ No#10	Sustain pollinator populations through ceremony	Pollinator abundance and diversity
Land	Bambul (Capparis mitchellianni)	No#1	Governance over Garriya; women’s Law/Lore keeper	Presence, fruiting, health
Land	Guni (native bee)	No#9	Pollination, honey provision	Bee abundance, fruit set
Land	Dhawun (soil)	No#4	Maintain fertility through cultural practices	Soil health indicators
Sea (Water)	Garriya (water Law/Lore)	No#2 ↔ No#3 ↔ No#4	Water governance, rainfall regulation	River/waterhole health
Sea (Water)	Gali (water)	No#3	Maintain sacred waters, connect Land and Sky Law/Lore	Water quality and flow patterns
Sea (Water)	Boobera Lagoon		Protect sacred site; maintain species governance	Site health, presence of Bambul and other species
Sky	Yarragerh (spring wind)	No#7 ↔ No#8	Facilitate pollination, seasonal signalling	Flower pollination rates, seasonal timing
Sky	Warrambul (milky way)	No#12	Ceremonial timing, spiritual guidance	Ceremonial use of night sky



CC	CSE	RL Fig. 6	Relational obligation	Ecological indicator
Sky	Miyay Miyay (Seven Sisters)	No#12	Seasonal guidance, gendered ceremony	Seasonal appearance and associated ecological changes

The feedback loops identified correspond to the interdependencies mapped in the Bidjaay yugal gaay framework. Embedding these loops into the MERI framework will allow interventions to be timed and targeted to disrupt reinforcing cycles of loss and strengthen cycles of resilience. Together, the Bambul narrative, Bidjaay yugal gaay diagram and the two analytical approaches present a multilayered understanding of gendered biocultural loss. The story and diagram articulate the cultural ontology and lived interconnections; the intersectional analysis reveals how power, race, gender and class interact to disrupt these; the systems thinking analysis identifies the reinforcing and limiting feedback loops that drive loss or resilience. Integrating these into the Bidjaay yugal gaay MERI methodology ensures that monitoring is culturally grounded, analytically robust and capable of triggering adaptive responses in policy and practice. Observations operationalise this biocultural values approach by integrating the Bidjaay yugal gaay to co-design biocultural MERI matrix (Appendix F) methodology. Aiming to address the drivers of gendered biocultural loss across Law/Lore, kinship, ceremony, land, sea and sky through a biocultural landscape restoration which recognises and embraces the intrinsic interconnection between ecosystems and human culture. Re-orientating to a biocultural approach and genuine collaboration will achieve positive outcomes for Country, culture and community. A more comprehensive, holistic, and sustainable path towards ecological restoration which supports Country’s capacity for adaptation in the face of change in an uncertain future (Pascoe, Clarke, Hickey, Prentice, Couzens & Clarke 2024).



Observations

Operationalising women's caring for Country supports cultural resilience in complex adaptive biocultural systems and requires multiscale systemic change. These observations cover policy, and program areas at a national and New South Wales. The following observations directly address **gendered biocultural loss** and its intersecting barriers, using the Bidjaay yugal gaay methodology to embed biocultural resilience in governance, law and practice.

Key national observations

Policy

1. Enact a national policy framework for gendered biocultural resilience mandating gendered parity Aboriginal-led governance in biodiversity, climate adaptation, and disaster management (5 years).
2. Progress integration of gendered biocultural indicators into national environmental and climate change planning, co-developed with Aboriginal communities (5 years).

Programs

1. Fund long-term gender parity Aboriginal-led co-designed biocultural resilience programs and monitoring biocultural indicators using two-way approaches such as Bidjaay yugal gaay (five years).
2. Establish a national network of regional hubs for gendered Aboriginal cultural governance, including ceremony spaces, archives, and teaching grounds (10 years).

Key New South Wales observations

Policy

1. Co-develop a New South Wales statewide Aboriginal-led gendered biocultural resilience framework and MERI, using right-way science approaches like *Bidjaay yugal gaay* (five years).

Programs

1. Fund place-based, gender parity Aboriginal-led caring for Country programs restoring species, cultural sites and seasonal practices, measured against biocultural indicators (five years).
2. Establish an intergenerational leadership program supporting on Country learning, governance training, and cultural mentorship (10 years).

The observations in this report are grounded in Aboriginal women's cultural authority and governance. They respond directly to the systemic and intersecting barriers identified, focusing on actions that restore women's roles as governors, protect biocultural knowledge and strengthen community resilience. By embedding Aboriginal relational, women-led solutions into policy, programs and planning, these observations aim to regenerate cultural governance, safeguard biodiversity and ensure Country and community thrive together.



Conclusion

Aboriginal women's responsibilities for caring for Country encompass vital ecological, cultural and spiritual roles that are increasingly being recognised as essential components of climate adaptation and community resilience to natural hazards. These obligations include seasonal land management, ceremony, water Law/Lore and intergenerational teaching, all of which contribute to maintaining ecological balance and cultural wellbeing. In the face of intensifying bushfires, floods, droughts and extreme heat, Aboriginal women's cultural authority provides critical insight and action for disaster preparedness and recovery.

This report demonstrates that effective implementation of caring for Country in New South Wales is not possible without the full recognition, respect and resourcing of women's roles across land, sea and sky. Aboriginal women are not simply stakeholders in environmental management, they are custodians, leaders and knowledge holders with distinct and enduring biocultural responsibilities embedded in Law/Lore. These relationships are dynamic systems of reciprocity and obligation that guide seasonal movement, ecological stewardship and cultural continuity. Women's practices such as cultural burning, waterway healing and ceremony are not only acts of care but also embedded strategies for hazard mitigation, climate observation and intergenerational recovery.

Despite the sustained impacts of colonisation, Aboriginal women continue to care for Country through ceremony, kinship systems and cultural governance. These practices are deeply relational and hold ecological significance. From birthing waters and cultural fire to celestial knowledge and land management, Aboriginal women maintain the balance of Country through lived cultural authority and intergenerational leadership. These obligations are not heritage to be preserved but living systems of knowledge and Law/Lore that sustain both people and place. The barriers identified in this report are intersectional, structural and ongoing but they are not immovable.

Addressing these barriers is not simply a matter of equity it is a foundational step towards removing barriers and enabling Aboriginal women in New South Wales to continue caring for Country with increased biocultural resilience. When Aboriginal women's governance, cultural knowledge and biocultural indicators are meaningfully embedded into law, policy and programs, it regenerates resilience across cultural, social and ecological systems. The Bidjaay yugal gaay framework plays a critical role in anchoring these changes within Aboriginal Law/Lore and practice, ensuring they are guided by both cultural authority and measurable outcomes.

The observations outlined in this report offer a clear and actionable pathway for transformative change. They advocate for systemic reforms based in relational, biocultural worldviews alongside place-based initiatives that recognise, resource, and protect the governance of Aboriginal women, ensuring their leadership and knowledge are central to environmental, climate and natural hazard planning. By implementing these observations, we can strengthen biocultural resilience, safeguard biodiversity and move towards a future where Country is cared for through culturally grounded and community-led approaches. This is report is not the end it's just the beginning, advocating for the next step, Aboriginal women-led co-design for biocultural resilience and caring for Country.

The New South Wales Government has a key role to play in progressing these reforms. A shift is required from consultation to co-governance, from inclusion to cultural authority, and from project-based funding to long-term investment in Aboriginal women's pathways, leadership and knowledge systems. Aboriginal women's relational governance and cultural leadership are central to resilient communities and healthy Country. By supporting and resourcing these roles, we strengthen not only disaster risk reduction but the cultural, ecological and spiritual systems that sustain life. Investing in women's cultural authority is investing in the future resilience of all communities in the face of a changing climate and natural hazards.



References

- Aime, E. & Robinson, D. 2023, 'Indigenous biocultural rights and the Blue Mountains: Local and international policy challenges', *Geographical Research*, vol. 61, no. 4, pp. 413–428.
- Allen, C. 2016, 'Sacred mountains celebrate decade back under Aboriginal management', ABC News, 2 April. Retrieved Nov 22, 2024, from <https://www.abc.net.au/news/2016-04-02/mountains-celebrate-decade-back-under-aboriginal-management/7294216>
- Altamirano-Jiménez, I., Nickel, S., Sy, waaseyaa'sin C. & Aikau, H.K., 2025. 'Introduction to Indigenous Feminisms'. Routledge, London.
- Andrews, M. 2004, 'The Seven Sisters of the Pleiades: Stories from around the world' (4th ed.). Spinifex Press, North Geelong.
- Atkinson, J. 2002, 'Trauma Trails, Recreating Song Lines: The Transgenerational Effects of Trauma in Indigenous Australia', Spinifex Press, North Melbourne.
- Australian Human Rights Commission, 2005. 'Submission to the Senate Inquiry into the Aboriginal and Torres Strait Islander Heritage Protection Bill 2005'. Retrieved Nov 26, 2024, from https://humanrights.gov.au/sites/default/files/content/pdf/social_justice/submissions
- Australian Institute of Health and Welfare, 2025. 'Maternity models of care in Australia', Retrieved 18 February 2026 from <https://www.aihw.gov.au/reports/mothers-babies/maternity-models-of-care>.
- Barclay, L., Andre, C.A. & Glover, P.A. 1989, 'Women's business: the challenge of childbirth', *Midwifery*, vol. 5, no. 3, pp. 122–133.
- Bell, D. 2001, 'The Word of a Woman: Ngarrindjeri Stories and a Bridge to Hindmarsh Island', in P. Brock (ed.), *Words and Silences: Aboriginal Women, Politics and Land*, Allen & Unwin, Sydney.
- Bell, D. 2002, 'Daughters of the Dreaming', 3rd edn, Spinifex Press, North Melbourne.
- Berndt, C.H. 1981, 'Interpretations and 'Facts' in Aboriginal Australia', in F. Dahlberg (ed.), *Woman the Gatherer*, Yale University Press, New Haven & London, pp. 153–204.
- Bromham, L., Dinnage, R., Skirgård, H., Ritchie, A., Cardillo, M., Meakins, F., Greenhill, S. & Hua, X. 2022, 'Global predictors of language endangerment and the future of linguistic diversity', *Nature Ecology & Evolution*, vol. 6, no. 2, pp. 163–173.
- Brown, E. & Williams, B. 2015, 'Resilience and Resource Management', *Environmental Management*, vol. 56, no. 6, pp. 1416–1427.
- Brown, K. 2025, 'The Bidjaay yugal gaay (Paint Song Story): State and transition models from a Cultural Science perspective'. In press - Unpublished manuscript.
- Brown, K. & Hooper, S. 2026, 'Understanding barriers to caring for Country'. NHRA – In press
- Caley, P., 2023. 'Identifying hypotheses for drivers of decline of the bogong moth' (*Agrotis infusa*). *Pacific Conservation Biology*, 29(5), pp. 429–444.
- Cavanagh, V. 2020, 'Friday essay: this grandmother tree connects me to Country. I cried when I saw her burned', *The Conversation*, 23 January. Retrieved from [The Conversation: https://theconversation.com/friday-essay-this-grandmother-tree-connects-me-to-country-i-cried-when-i-saw-her-burned-129782](https://theconversation.com/friday-essay-this-grandmother-tree-connects-me-to-country-i-cried-when-i-saw-her-burned-129782)
- Cavanagh, V. 2021, 'Vanessa Story', in J.F. Weir (ed.), *Cultural burning in Southern Australia*, pp. 11–15, Bushfire and Natural Hazards CRC, Melbourne.
- Clark, E. 2024, 'Māori protests in NZ are about to get bigger and one person is being blamed', ABC News, 16 November. Retrieved Feb 25, 2025, from <https://www.abc.net.au/news/2024-11-16/new-zealand-haka-protest-only-part-of-the-story/104604270>



- Country Needs People, 2018. *'Strong Women on Country: The success of women caring for country as Indigenous rangers and on Indigenous Protected Areas'*, Country Needs People, Canberra.
- Cripps, K. 2023, *'Indigenous women and intimate partner homicide in Australia: confronting the impunity of policing failures'*, *Current Issues in Criminal Justice*, vol. 35, no. 3, pp. 293–311
- Cumpston, Z., Fletcher, M-S. & Head, L. 2022, *'Plants: Past, Present and Future'*, Thames & Hudson Australia, Melbourne.
- Curran, G., Barwick, L., Turpin, M., Walsh, F. & Laughren, M. 2019, *'Central Australian Aboriginal Songs and Biocultural Knowledge: Evidence from Women's Ceremonies Relating to Edible Seeds'*, *Journal of Ethnobiology*, vol. 39, no. 3, pp. 354–370.
- Daniels, C.W., Ngukurr Yangbala rangers, Russell, S. & Ens, E.J. 2022, *'Empowering young Aboriginal women to care for Country: Case study of the Ngukurr Yangbala rangers, remote northern Australia'*, *Ecological Management & Restoration*, vol. 23, Supplement 1, pp. 53–63.
- Daylight, P. & Johnstone, M. 1986, *'Women's Business: Report of the Aboriginal Women's Task Force'*, Australian Government Publishing Service, Canberra.
- Ens, E.J., Pert, P.L., Clarke, P.A., Budden, M., Clubb, L., Doran, B., Douras, C., Gaikwad, J., Gott, B., Leonard, S., Locke, J., Packer, J., Turpin, G., Wason, S., Wallace, M. & Wallace, P., 2015. *'Indigenous biocultural knowledge in ecosystem science and management: Review and insight from Australia'*. *Biological Conservation*, 181, pp. 133–149.
- Felton-Busch, C. & Larkins, S. 2019, *'Remote dwelling Aboriginal Australian women and birthing: A critical review of literature'*, *Women and Birth*, vol. 32, no. 1, pp. 6–15.
- Fredericks, B., 2010. *'Reempowering ourselves: Australian Aboriginal women. Signs: Journal of Women in Culture and Society'*, 35(3), pp. 546–550.
- Gavin, M.C., McCarter, J., Mead, A.T.P., Berkes, F., Stepp, J.R., Peterson, D. & Tang, R., 2015. *'Defining biocultural approaches to conservation'*. *Trends in Ecology & Evolution*, 30(3), pp. 140–145.
- Gavin, M.C., McCarter, J., Mead, A.T.P., Berkes, F., Stepp, J.R., Peterson, D. & Tang, R. 2015, *'Defining biocultural approaches to conservation'*, *Trends in Ecology & Evolution*, vol. 30, no. 3, pp. 140–145.
- Gay'wu Group of Women 2019, *'Songspirals: sharing women's wisdom of Country through songlines'*, Allen & Unwin, Crows Nest, New South Wales.
- Gilmore, M. 1939, *'Old days, old ways: A book of recollections'*. North Ryde: Angus & Robertson publishers.
- Goolmeer, T., Costello, O., Skroblin, A., Rumpff, L. & Wintle, B.A. 2024, *'Indigenous-led designation and management of culturally significant species'*, *Nature Ecology & Evolution*, published 1 August.
- Gupta, N., Kemelgor, C., Fuchs, S., & Etzkowitz, H. 2005, *'Triple burden on women in science: A cross-cultural analysis'*. *Current Science*, Vol. 89, No. 8, p1382–1386.
- Hong, V (dir.) 2013, *'New South Wales/ACT Aboriginal Women's Natural and Cultural Resource Management Network – Conference Highlights'*, Macquarie Marshes, video recording, New South Wales/ACT Aboriginal Women's NCRM Network, (privately published video – referenced with permission).
- Huggins, J. 2022, *'Sister Girl: Reflections on Tiddaism, Identity and Reconciliation'*, University of Queensland Press, Brisbane.
- Hunt, J. 2012, *'Caring for country': a review of Aboriginal engagement in environmental management in New South Wales'*, *Australasian Journal of Environmental Management*, vol. 19, no. 4, pp. 213–226
- Intergovernmental Panel on Climate Change*, 2022. *'Australasia. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change'* Contributors Lawrence, J., Mackey, B., Chiew, F., Costello, M.J., Hennessy, K.,



Lansbury, N., Nidumolu, U.B., Pecl, G., Rickards, L., Tapper, N., Woodward, A. & Wreford, A. [Pörtner, H-O. et al. (eds.)]. Cambridge University Press, Cambridge and New York.

International Dark Sky Association, 2016. 'Warrumbungle National Park Lightscape Management Plan'. Retrieved Jan 04, 2025, from <https://darksky.org/app/uploads/2016/07/WNP-LMP.pdf>

Jones, A.T. 2021, 'Don't make me playhouse n***er: Indigenous academic women treated as 'black performer' within higher education', *The Australian Educational Researcher*, vol. 48, pp. 397–417.

Kijas, J. 2003, 'Women and Landscape: NSW Western Parks Project,' NSW National Parks and Wildlife Service, Sydney.

Kildea, S., Hickey, S., Barclay, L., Kruske, S., Nelson, C., Allen, J., Gao, Y., Blackman, R. & Roe, Y. 2019, 'Implementing Birthing on Country services for Aboriginal and Torres Strait Islander families: RISE framework', *Women and Birth*, vol. 32, no. 5, pp. 466–475.

Kimmerer, R., 2013. 'Braiding Sweetgrass: Indigenous Wisdom', *Scientific Knowledge and the Teachings of Plants*. Milkweed Editions (audiobook), Audible.

Kinnane, S. 2002, 'Recurring visions of Australindia', in A. Gaynor, M. Trinca & A. Haebich (eds), *Country: Visions of Land and People in Western Australia*, University of Western Australia Press, Perth, pp. 21–32.

Kluge-Ruhe Aboriginal Art Collection 2026, 'Djulpan | The Seven Sisters', Madayin Yolŋu Gallery, retrieved Nov 23 2024 from <https://madayin.kluge-ruhe.org/experience/narratives/djulpan-the-seven-sisters/>.

Krishna, S. 2014, 'Genderscapes: Revisioning Natural Resource Management'. Zubaan Books, New Delhi.

Langton, M. & C. 2023, 'Law: The Ways of the Ancestors', First Knowledges series, Thames & Hudson, Port Melbourne.

Laudine, C. 2009, 'Aboriginal Environmental Knowledge: Rational Reverence', 2016 edn, Routledge, Abingdon.

Maddison, S. & Partridge, E. 2014, 'Agonism and Intersectionality: Indigenous Women, Violence and Feminist Collective Identity', in *Intersectionality and Social Change (Research in Social Movements, Conflicts and Change*, vol. 37), Emerald Group Publishing, Leeds, pp. 27–52

Maffi, L. & Dilts, R., 2010. 'Biocultural Diversity Conservation: A Global Sourcebook'. Earthscan / IUCN.

Marshall, C. A. 2023. 'The importance of Aboriginal marine park management concepts for Australia'. In P. D'Arcy & D. D. D.-W. Kuan (Eds.), *Islands of Hope: Indigenous Resource Management in a Changing Pacific* (pp. 123–142). Canberra: ANU Press.

Martuwarra RiverOfLife, Poelina, A., Bagnall, D. & Lim, M. 2020, 'Recognizing the Martuwarra's First Law Right to Life as a Living Ancestral Being', *Transnational Environmental Law*, vol. 9, no. 3, pp. 541–568.

Mathews, R 1899, 'Folklore of the Australian Aborigines', Harper and Company, Sydney.

McKemey, M. & McCormack, P. 2024, 'Identifying and overcoming legal barriers to cultural burning', North East NSW Regional Forestry Hub, 5 July. Retrieved 25 June 2025 from https://nenswforestryhub.com.au/upload/documents/reports/articles/241008033240_IdentifyingandOvercomingLegalBarrierstoCulturalBurning_Final.pdf

McQuire, A. 2024, 'Black witness: The power of Indigenous media'. Audible Studios, audiobook.

Michie, M., Hogue, M. & Rioux, J. 2023, 'Two-Ways thinking and Two-Eyed Seeing as ways of implementing Indigenous perspectives in the science education curriculum', *Disciplinary and Interdisciplinary Science Education Research*, vol. 5, article 23.

Milton, V. 2022, 'Sacred sites battle on Biamanga mountain captured in rare book by Yuin tribal elder, photographer', ABC News, 15 May. Retrieved Nov 22, 2024, from <https://www.abc.net.au/news/2022-05-15/rare-photo-book-paved-way-for-aboriginal-land-rights-in-nsw/101059944>

Moreton-Robinson, A. 2009, 'Critical Indigenous Theory', *Cultural Studies Review*, vol. 15, no. 2, pp. 11



Moreton-Robinson, A. 2015, *'The white possessive: Property, power, and Indigenous sovereignty'*. University of Minnesota Press, Minneapolis.

Morgan, M., Strelein, L. & Weir, J. 2004, *'Indigenous Rights to Water in the Murray–Darling Basin: In support of the Indigenous final report to the Living Murray Initiative,'* Native Title Research Unit, Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS), Canberra.

Morris, M. 2024, *'A Pathway Towards Systemic Resilience Investment,'* Climate-KIC Australia, Sydney. Accessed 17 February 2025 from <https://climate-kic.org.au/2024/09/04/a-pathway-towards-systemic-resilience-investment/>

Mulcahy, V. (2010). *'Gurangatch vs Mirragang'*. Retrieved Nov 23, 2024, from <https://vimeo.com/117995903>

Neale, M. & Kelly, L. 2020, *'Songlines: The Power and Promise'*, First Knowledges series, Thames & Hudson Australia, Melbourne.

New South Wales Department of Planning and Environment 2016, *'Dark Sky Planning Guideline: Protecting the Observing Conditions at Siding Spring'*, New South Wales Department of Planning and Environment, Sydney.

New South Wales Department of Planning and Environment 2023, *'Dark Sky Planning Guideline: Protecting the Observing Conditions at Siding Spring,'* New South Wales Department of Planning and Environment, Sydney. Retrieved March 5th 2025 from <https://www.planning.nsw.gov.au/sites/default/files/2023-06/dark-sky-planning-guideline-2023.pdf>

New South Wales Government 1974, *'National Parks and Wildlife Act 1974,'* NSW Government. Retrieved February 19th 2024 from <https://legislation.nsw.gov.au/view/html/inforce/current/act-1974-080>

New South Wales Office of Environment and Heritage, 2014. *'Plan of Management: Yuin Bangguri (Mountain) Parks.'* Sydney: Office of Environment and Heritage NSW.

Noon, K. & De Napoli, K. 2022, *'Astronomy: Sky Country'*, edited by M. Neale, Thames & Hudson Australia, Melbourne.

New South Wales Environment and Heritage 2024, *Sacred Butterfly Cave safeguarded for future generations,* New South Wales Government, Retrieved from <https://www.environment.nsw.gov.au/news/sacred-butterfly-cave-safeguarded-for-future-generations> 17 February 2025

New South Wales Health, 2024. *'New South Wales Government supports first Birthing on Country program: Waminda's Gudjaga Gunyahlamai Birth Centre receives investment'*, Retrieved 18 February 2026 from https://www.health.nsw.gov.au/news/Pages/20240613_02.aspx

New South Wales National Parks and Wildlife Service, 2022, *Gulaga National Park Aboriginal Joint Management Program,* NSW Government, Retrieved Nov 22, 2024, from <https://www.nationalparks.nsw.gov.au/conservation-programs/gulaga-national-park-aboriginal-joint-management-program>.

O'Bryan, C.J., Garnett, S.T., Fa, J.E., Leiper, I., Rehbein, J.A., Fernández-Llamazares, Á., Jackson, M.V., Jonas, H.D., Brondizio, E.S., Burgess, N.D., Robinson, C.J., Zander, K.K., Molnár, Z., Venter, O. & Watson, J.E.M., 2021. *'The importance of Indigenous Peoples' lands for the conservation of terrestrial mammals'*. *Conservation Biology*, 35(3), pp. 1002–1008.

Osborne, N., Howlett, C. & Grant-Smith, D. 2019, *'Intersectionality and Indigenous Peoples in Australia: Experiences with Engagement in Native Title and Mining'*, in *The Palgrave Handbook of Intersectionality in Public Policy*, Springer, pp. 389–411

Parker, K. 1905, *The Euahlayi Tribe: A Study of Aboriginal Life in Australia*, Project Gutenberg eBooks, 05 November 2024 <<https://www.gutenberg.org/ebooks/3819>

Parker, K. 1978, *'Australian Legendary Tales'*: Being the Two Collections *'Australian Legendary Tales'* & *'More Australian Legendary Tales'*, Bodley Head, London.



- Paul, P. 2019, 'Tiddaism: Negotiating Aboriginality and the Experiences of the Australian Aboriginal Woman in a Cross-Cultural Context', *postScriptum: An Interdisciplinary Journal of Literary Studies*, vol. 4, no. 2, pp. 177–193
- Quiggin, R. 2001, 'Boobera Lagoon', *Indigenous Law Bulletin*, vol. 5, no. 6, p. 4.
- Roe, Y, Allen, J, Haora, P, Hickey, S, Briggs, M, Wilkes, L, Nelson, C, Watego, K, Coddington, R, Ireland, S, Kruske, S, Gao, Y & Kildea, S. 2024. 'Enabling the context for Aboriginal and Torres Strait Islander Community Controlled Birthing on Country services: Participatory action research, Women and Birth', vol. 37, no. 2, pp. 368–378, Retrieved 18 February 2026 from <<https://www.sciencedirect.com/science/article/pii/S1871519223003104>>.
- Rose, D. B. 1992. 'Dingo Makes Us Human: Life and land in an Australian Aboriginal culture'. Cambridge: Cambridge University Press.
- Rose, D.B. 1996, 'Land rights and deep colonising: the erasure of women', *Aboriginal Law Bulletin*, vol. 3, no. 85, p. 6.
- Rose, D.B. 2003, 'Indigenous Kinship with the Natural World in New South Wales', NSW National Parks and Wildlife Service, Sydney.
- Rose, D.B. 2003, 'Sharing Kinship with Nature: How Reconciliation is Transforming the NSW National Parks and Wildlife Service,' Centre for Resource and Environmental Studies, The Australian National University, Canberra.
- Ryan, T. 2020, 'The Intersectional Challenges of Indigenous Women's Leadership', *ab-Original*, vol. 3, no. 2, pp. 149–171
- SBS News 2024, "You are not my King": Lidia Thorpe shouts at King Charles III', SBS News, 21 October. Retrieved Feb 28, 2025, from <https://www.sbs.com.au/news/article/you-are-not-my-king-lidia-thorpe-shouts-at-king-charles-iii/qzmv4nl5t>
- Scott, J.C. 1989, 'Everyday Forms of Resistance', *Copenhagen Journal of Asian Studies*, vol. 4, no. 1, pp. 33–62.
- Steffensen, V. 2020, 'Fire Country: How Indigenous Fire Management Could Help Save Australia', Hardie Grant Publishing, Melbourne.
- Storylines Moruya 2016, 'Dreaming Tracks and Travelling Routes,' retrieved February 2025 from <https://moruya.storylines.com.au/2016/10/12/Dreaming-tracks-and-travelling-routes/>
- Taree Indigenous Development and Enterprise, 2004. 'Boolumbahtee/Djari Bila (Manning River) and Khappinghat Creek/Saltwater Cultural Restoration Strategy: NSW Estuary Asset Protection (NEAP) Aboriginal Assets.' Taree Indigenous Development and Enterprise Ltd, Taree.
- Taylor, K.S., Moggridge, B.J. & Poelina, A. 2016, 'Australian Indigenous Water Policy and the impacts of the ever-changing political cycle,' *Australasian Journal of Water Resources*, vol. 20, no. 2, pp. 132–147
- Tynan, L. & Cavanagh, V. 2021, 'Fire,' *A-Z of Shadow Places Concepts*, pp. 1–4. Shadow Places Network.
- Tynan, L.C. 2020, *Fire and Cultural Practices in Yuin Country*, University of Wollongong, Wollongong.
- Visit central New South Wales 2026, 'Gazing and Grazing down the Lachlan, New South Wales,' retrieved February 17th 2025 from <<https://www.visitcentralnsw.com.au/gazing-and-grazing-down-the-lachlan-New-South-Wales/>>.
- Ward, N.N. 2018, 'Ninu Grandmothers' Law: The Autobiography of Nura Nungalka Ward,' Magabala Books, Broome.
- Warrant, E., Frost, B., Green, K., Mouritsen, H., Dreyer, D., Adden, A., Brauburger, K. & Heinze, S., 2016. 'The Australian Bogong Moth *Agrotis infusa*: A Long-Distance Nocturnal Navigator.' *Frontiers in Behavioral Neuroscience*, 10, Article 77.
- Watson, I. 2009. 'Aboriginality and the Violence of Colonialism.' *Borderlands E-journal*, 8(1), 1-8.
- Weir, J. 2009., 'Murray River Country: An Ecological Dialogue with Traditional Owners Aboriginal.' In 'Cultural Flows in Murray River Country' (pp. 119-129). Canberra: Aboriginal Studies Press.



Weir, J.K., Stacey, C. & Youngetob, K. 2011, *'The Benefits Associated with caring for Country: Literature Review,'* AIATSIS, Canberra.

Williamson, B. 2022, *'Aboriginal community governance on the frontlines and faultlines in the Black Summer bushfires (CAEPR Discussion Paper No. 300/2022),'* Centre for Aboriginal Economic Policy Research, Australian National University.

Williamson, B., Weir, J. & Cavanagh, V.I. 2020, *'Aboriginal People Find Strength Despite Perpetual Grief,'* in *Continent Aflame: Responses to an Australian Catastrophe,'* Palaver, Melbourne, pp. 122–125.

WWF-Australia 2024, *Shining a light on the Cultural Significance of Whales,* WWF-Australia, viewed 17 February 2025 at <https://wwf.org.au/blogs/shining-a-light-on-the-cultural-significance-of-whales/>

Wyld, K. & Biunaiwai, J. 2021, *'Heroes, Rebels and Innovators: Inspiring Aboriginal and Torres Strait Islander People from History,'* Lothian Children's Books, Sydney.



Appendices

Appendix A: You are a sister of the stars

Young emerging Ngemba artist Indi Holliday produced her artwork 'Caring for her Country' (below) at her home in the country while the researchers were yarning caring for Country with her father. Indi was proud of her art, giving the me permission to include her art in the '*Understanding barriers to women caring for Country*' report and was excited to be a published artist. I planned to print the report and give it to her so she could see her work but quickly realised it wasn't culturally appropriate to give an inaccessible academic report about women.

As an Gamilaroi woman I carry cultural obligations to future generations of young girls growing up to care for Country. Knowledge like Country is not owned but held in trust, nurtured and transmitted intergenerationally through story, song, craft and responsibility. When I write or speak about women's cultural authority, rights and obligations I need to ensure that our girls understand this information, see themselves in stories and know their place in the world is strong, valuable and sacred. 'You are a sister of the stars' is the young girls' version of the '*Understanding barriers to women caring for Country*' created to fulfil my cultural obligation to pass knowledge across generations with love.





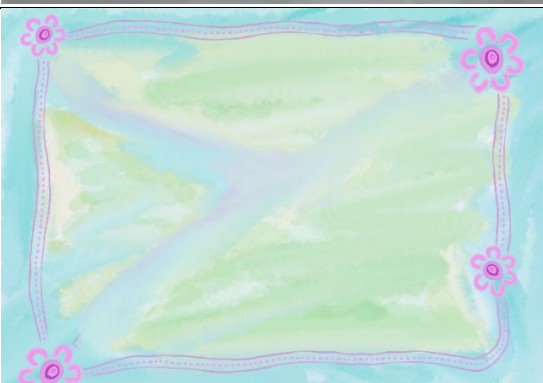
'You are a sister of the stars' recognises that our daughters, nieces, and granddaughters are not just future leaders but that they are already knowledge holders in their own right. By giving them tools, language and stories grounded in our Law/Lore and Country, we strengthen their voice and ensure that cultural governance continues. 'You are a sister of the stars' is also a way to honour the women who walked before me, made space for me to grow and trusted me to carry their stories. It is a small act of reciprocity and love for all women and the girls who will one day carry this work further than I ever could.



FIGURE 6 CARING FOR HER COUNTRY - INDI HALLIDAY



'You are a sister of the stars' summary

Slide	Image	Text
1		<p>You are a sister of the stars I</p> <p>By Kate Brown</p>
2		<p>'Caring for her Country' Cover art by Ngemba artist Indi Holliday Background art by Kate Brown</p> <p>To all the little sisters of the stars on their journey to care for Country</p>
3		<p>You are born from Country</p> <p>You were born from the land. From the gum trees that whisper, from the rivers that sing, from the sand that warms your feet. Country knows your name. She is waiting for you.</p> <p>When you laugh, Country listens. When you cry, Country holds you. Your first breath was part of a story that began long ago, a story told by women, by Aunties and Nans, who learned it from their Nans before them.</p> <p>You belong here. And Country belongs with you.</p>
4		<p>You walk with the Seven Sisters</p> <p>There are stars in the sky called the Seven Sisters. They shine together, dancing through the night. They are strong. They are clever. They are brave. Just like you.</p> <p>The Sisters teach us that women can lead. They can say 'no.' They can look after each other and escape trouble by sticking together. They don't need to be rescued, they shine on their own.</p> <p>When you look up and see those stars, remember: they are watching over you. You are one of their little sisters.</p>
5		<p>You carry women's knowledge</p> <p>You are learning. When you sit with Elders and listen, when you gather bush foods, when you help light a fire or sweep the leaves for ceremony, you are learning women's knowledge.</p> <p>This is not just ordinary knowledge. It is sacred. It teaches you how to care for your family, for animals, for plants, for stories and for yourself.</p> <p>Every time you listen, think and act with respect, you grow your spirit strong. Respect for yourself is always first. This helps you to understand what is right and wrong. You are becoming a strong young woman.</p>



<p>6</p>		<p>You are strong like the women before you</p> <p>Long ago, women stood tall to protect Country, speaking in important cultural gatherings. Some hid sacred things. Some fought with words, with songs and with silence. Some walked for days just to get home to their land.</p> <p>They were brave. They were tired sometimes. But they never gave up.</p> <p>You are made of the same spirit. Their blood runs through your veins. Their courage is inside you. When you stand up for what's right, you stand with all of them.</p>
<p>7</p>		<p>You are a carer for Country</p> <p>You are learning how to read the land. When to gather, when to rest it, when to burn gently. You are learning to speak to rivers, to stars, to birds.</p> <p>You care for Country not just with your hands, but with your heart. That's what makes you a true carer. You know the land is your relative, not your resource.</p> <p>When you care for Country, Country cares for you.</p>
<p>8</p>		<p>You are not alone</p> <p>There are other girls like you, curious, kind and full of questions. Some live in towns. Some in the bush. Some near rivers. Some by the sea. All of you carry pieces of the same story.</p> <p>When you stand together, you are strong. When you sing together, your voices echo across hills and into the sky. You don't have to know everything yet. Just keep walking, watching, listening and learning.</p> <p>You have sisters everywhere.</p>
<p>9</p>		<p>You shine like the stars</p> <p>One day, you will teach others. You will tell them the names of flowers and how to dance. You will show them how to light a fire with care. You will speak about respect, love and sisterhood. You will be the one little girls look up to and say, 'I want to be like her.'</p> <p>And the Seven Sisters will still be shining above, smiling down, knowing that their story lives on in you. You are their sister. You are a young woman of Country.</p> <p>You are becoming.</p>



Appendix B: Key barriers themes

Gendered biocultural loss

Gendered Biocultural loss is the erosion of interconnected cultural and ecological systems which poses a significant threat to Indigenous knowledge, biodiversity and sustainable living summarised below:

- colonisation displaced Aboriginal communities and disrupted women-centred economies, eroding gender-specific cultural knowledge related to plants, water, and healing (Aime et al., 2023)
- the Stolen Generations and missionisation fractured language, Law and women's cultural practices, weakening the intergenerational transfer of biocultural knowledge (Atkinson, 2002) (Rose, 2003)
- environmental degradation and species loss, such as the decline of Bogong moths and native fish, have disrupted ceremonial practices and intertribal gatherings essential to women's governance and ecological stewardship (Curran et al., 2019) (Gilmore, 1934) (Caley, 2022)
- women's ceremonial songs and practices, which are vital for maintaining ecological and cultural knowledge, are often neglected in mainstream environmental and academic discourse and rarely supported through funding (Curran et al., 2019)
- colonial male-centred governance structures excluded Aboriginal women from land-based responsibilities and decision-making, despite their traditional roles in caring for sacred sites and ecosystems (Berndt, 1981) (Cumpston et al., 2022)
- pollution, resource extraction and restricted access have undermined women's water Law and ceremonial responsibilities, while formal water governance frameworks often exclude their knowledge and practices (Weir, 2009) (Morgan et al., 2004) (Watson, 2009)
- the homogenising influence of media and reduced opportunities for ceremonial performance contribute to language and species loss, creating a feedback loop that further weakens Traditional Ecological Knowledge (Curran et al., 2019).

Intersectional discrimination and silencing of women's voices

Intersectionality refers to the recognition of multiple, overlapping systems of power such as colonisation, gender and race, that shape the diverse lived experiences of Indigenous peoples and must be considered in policy and planning to avoid reproducing inequities:

- intersectional systems of colonialism, patriarchy, and racism shape Indigenous women's lived experiences and must be addressed in policy and planning to avoid reproducing inequities (Osborne, Howlett & Grant-Smith 2019)
- colonisation disrupted family structures and reshaped gender roles, with Aboriginal women's bodies becoming central sites of control within broader systems of oppression (Altamirano-Jiménez, Nickel, Sy and Aikau, 2025)
- these intersecting systems silence Aboriginal women's voices through exclusion from decision-making spaces and lack of representation in caring for Country initiatives where the gap between stated commitments and actual practice created emotional and professional burdens (Jones, 2021)
- Aboriginal women are often excluded or misrepresented within mainstream Australian feminist frameworks, which have historically overlooked the colonial and gendered realities of Indigenous women's lives (Maddison & Partridge 2014)
- compounded discrimination based on race, gender, and class restricts Aboriginal women's access to leadership roles and recognition (Ryan, 2020)
- some Aboriginal women experience cultural in-betweenness, feeling disconnected from both colonial and traditional cultural identities (Paul, 2019)
- colonial narratives continue to portray Aboriginal women as passive or erase their stories, reinforcing systemic and gender-specific barriers to caring for Country (Moreton-Robinson, 2011)
- despite acts of resistance from historical figures like Tarenorerer to contemporary leaders such as Senator Lydia Thorpe and MP Hana-Rāwhiti Maipi-Clarke, Aboriginal women's authority and knowledge remain undervalued (Wyld et al., 2021) (Clark, 2024).



Academic, institutional and policy siloing and exclusion

Aboriginal women's caring for Country are holistic and relational often conflict with by Western worldviews, laws and siloed policies creating exclusion:

- Western frameworks disregard essential elements of Aboriginal knowledge systems such as ceremony, kinship and Law/Lore, which are diverse, place-based, and embedded in language and culture (Daniels et al., 2022). Aboriginal women's holistic and relational Law/Lore often conflicts with rigid Western biodiversity laws and policies, leading to misrepresentation and marginalisation (Goolmeer, Costello, Skroblin, Rumpff & Wintle 2024)
- Colonial systems fail recognise Aboriginal women's customary governance, such as viewing rivers as living ancestral beings, undermining spiritual and ecological rights (Martuwarra RiverOfLife, Poelina, Bagnall & Lim 2020) (Hunt, 2012) while narrow policy frameworks and complicates approvals sidelines Aboriginal women's leadership and practice (McKemey et al., 2024) (Williamson et al., 2020)
- Policy siloing fails to acknowledge the interconnectedness of Land, Sea and Sky Country, and its relationship to social and wellbeing issues while complex administrative and jurisdictional separations in environmental agencies misalign with Aboriginal cultural landscapes and kinship-based governance systems (Hunt, 2012; Rose, 1996; Goolmeer et al., 2024)
- Aboriginal women are systematically excluded from environmental and water governance due to insufficient legal protections for Aboriginal women's water rights and cultural heritage (Taylor, Moggridge & Poelina 2016; Morgan et al., 2004). Sacred sites like Gulaga and Boobera Lagoon have faced prioritisation of recreational and development interests over cultural values, despite long-standing efforts by Yuin and Gamilaroi women for legal recognition (Quiggin, 2001).

Socioeconomic inequality and care burdens

Colonisation fragmented Indigenous family and social structures, altering traditional roles and understandings of gender and womanhood and intersecting burdens continue to limit Aboriginal women's access to leadership, economic opportunity, and cultural authority in caring for Country:

- the imposition of patriarchal systems created unequal socioeconomic conditions and intensified the 'triple burden' (Gupta et al., 2005) of elder care, employment, and cultural obligations for Aboriginal women (Berndt, 1981) and disrupted traditional child-spacing and caregiving practices, leaving mothers without communal support and overwhelming their caregiving responsibilities (Berndt, 1981)
- colonial systems commodified women's food collection roles and separated them from childrearing, reinforcing the notion that caregiving was a barrier to leadership (Paul, 2019; Berndt, 1981) while displacement from traditional lands disrupted women-centred, seed-based economies and reduced access to native food resources, undermining autonomy and cultural practices (Curran et al., 2019)
- Aboriginal women's spiritual and healing roles were historically dismissed as 'submerged evidence,' contributing to systemic erasure and political interference (Bell, 2001) along with disrupted kinship networks, ceremony, and storytelling has marginalised women's healing, increase, and birthing practices in both medical and environmental policy contexts (Parker, 1905)
- resistance from health care authorities and legislators has led to the systematic erasure of Aboriginal childbirth knowledge and bureaucratic barriers to recognising culturally significant birthing sites (Barclay et al., 1989) and marginalisation of birthing on Country practices has contributed to cultural erosion and poorer health outcomes, despite evidence that their protection fosters resilience and ecological harmony (Kildea et al., 2019) (Felton- Busch et al., 2019)
- limited sustainable funding, training, and institutional support restrict the long-term effectiveness of community-based programs like Indigenous Protected Areas (IPAs) and Green Teams, which are vital for cultural and environmental wellbeing (Hunt, 2012). Programs like the Ngukurr Yangbala Rangers show that Aboriginal women's engagement in caring for Country often begins from a place of exclusion, requiring intentional efforts to restore ceremonial authority (Daniels et al., 2022).

Disruption and devaluation of women's cultural knowledge



The marginalisation of Indigenous women's roles, methodologies, and practices has contributed to intergenerational loss of cultural and ecological knowledge:

- the marginalisation of Aboriginal women's roles, methodologies and governance has led to intergenerational loss of cultural and ecological knowledge, reinforced by stereotypes and exclusion from environmental, academic, and feminist spaces that fail to reflect the unique cultural contexts of Aboriginal womanhood (Kimmerer, 2013; Ryan, 2020; Moreton-Robinson, 2011; Paul, 2019)
- disruptions to knowledge transfer such as the marginalisation of grandmother's Law/Lore and disregard for oral and sacred knowledge undermine women's governance, as seen in struggles to protect sites like Kumarangk and the Butterfly Caves (Ward, 2018) (Kildea et al., 2019)
- Western environmental and legal frameworks often clash with Indigenous ways of knowing, excluding women's leadership, ceremonial songs and culturally significant species like the Bogong moth from conservation efforts, while prioritising male-dominated systems and misinterpreting women's conceptual frameworks (Cavanagh, 2020) (Fredericks, 2010)
- colonisation has deeply disrupted kinship systems and ceremonial roles, eroding women's biocultural responsibilities and spiritual practices, despite evidence that kinship-informed approaches strengthen ecological and social outcomes (Rose, 2003) (Laudine, 2009)
- the erosion of biocultural knowledge is accelerated by species loss, limited ceremonial opportunities, mainstream education systems and lack of safe spaces for women to gather and share knowledge—raising Indigenous Cultural Intellectual Property concerns and restricting transmission from Elders to younger generations (Bromham, Dinnage, Skirgård, Ritchie, Cardillo, Meakins, Greenhill & Hua 2022)(Aime et al., 2023).

Patriarchal exclusion of women's authority and practice

Patriarchal systems have devalued women's ecological knowledge and plant care roles, increased labour burdens and disrupting cultural transmission to younger generations:

- patriarchal systems and colonial narratives have devalued Aboriginal women's ecological knowledge and cultural roles, reinforcing male dominance in environmental governance and research, and contributing to underrepresentation and gender imbalance in ranger and leadership roles (Cumpston et al., 2022) (Paul, 2019) (Daniels et al., 2022) (Hunt, 2012)
- structural and community-level barriers including insecure, low-paid ranger roles, inadequate funding for women-led initiatives, lateral violence and generational dissonance, limit women's leadership pathways and can result in backlash, including gender-based conflict and domestic violence when empowerment is prioritised (Cripps, 2023) (Tynan, 2020) (Ryan, 2020)
- historical exclusion from ceremonial and spiritual domains, often perpetuated by early male anthropologists, has diminished women's access to sacred practices and recognition in cultural site management, as seen in examples like Yuendumu and Warrumbungle Dark Sky Park (Berndt, 1981; Bell, 2002;; International Dark Sky Association, 2016)
- gendered exclusion from decision-making in conservation and land management continues to undervalue women's knowledge, particularly in managing culturally significant species, water governance and cultural burning, while institutional structures reinforce patriarchal norms (Daniels et al., 2022) (Goolmeer et al., 2024) (Weir, 2009)
- colonial disruption and systemic neglect have eroded women's ceremonial and ritual practices such as mourning, healing and birthing on Country despite their foundational role in maintaining ecological and cultural balance, with limited support from mainstream health and environmental frameworks (Aime et al., 2023) (Berndt, 1981) (Kildea et al., 2019) (Daniels et al., 2022).

Colonisation, historical dispossession and environmental decline

Colonisation profoundly disrupted Aboriginal women's lives, access to Land and Sea Country, resources and caused environmental decline:

- colonisation and patriarchal systems have dispossessed Aboriginal women's autonomy, and access to Cultural significant entities and spiritual domains while reinforcing gendered violence and marginalising their practices as impure or inauthentic due to colonial impact (Fredericks, 2010; Brown & Hooper, 2025; Moreton-Robinson, 2011; Atkinson, 2002; Altamirano-Jiménez et al. 2025)



- environmental degradation and restricted access including light pollution, private land ownership and altered hydrological flows have disrupted women's ability to engage in cosmological knowledge, care for culturally significant species, and maintain biocultural aquatic ecologies (Rose., 1992; Noon et al., 2022; Weir, 2009; Hunt, 2012; Goolmeer et al., 2024)
- dispossession and limited land rights in New South Wales, where Aboriginal land ownership is around one per cent has severely constrained rights-based environmental management and reduced opportunities for cultural practice and stewardship (Paul, 2019; Hunt, 2012; Goolmeer et al., 2024)
- historical exclusion and exploitative research practices have created deep mistrust between Aboriginal communities and government agencies, with relationships often remaining transactional and failing to support true self-determination (Aime et al. 2023) (Brown et al., 2026)
- ongoing colonial impacts including limited access to clean water, traditional resources, and dark Sky Country continue to erode Aboriginal women's ability to exercise cultural authority, transmit knowledge, and lead in environmental governance (Noon et al., 2022; Weir, 2009; Hunt, 2012).



Appendix C: Key barrier driver and impact

Barrier	Key driver (cause)	Key impact (consequence)
Gendered biocultural loss	Colonial dispossession + environmental degradation increases language/species loss; exclusion of women’s Law/Lore, kinship and ceremonial governance from western governance systems.	Intergenerational traditional ecological knowledge (TEK) decline; disrupted cultural calendars and activities; reduced biodiversity and women’s decision-making authority.
Intersectional discrimination and silencing of women’s voices	Intersecting systems (colonialism, patriarchy, racism) across policy, colonial feminism and representation in anthropology misrepresent or exclude women.	Under representation in decisions and leadership; chronic underfunding; continued silencing of women’s authority in caring for Country.
Academic, institutional and policy siloing and exclusion	Rigid laws/standards and agency silos (i.e. land/sea/sky split) that ignore kinship landscapes and song ceremony and knowledge.	Fragmented governance; barriers to practices like cultural burning and increases ceremonies; constrained influence over policy and management.
Socioeconomic inequality and care burdens	Dispossession, segregation and commodification of women’s labor; loss of kinship and female network supports and limited long-term funding.	Triple burden (care/work/culture) limiting leadership; erosion of practices (e.g., Increase and birthing on Country) and poorer health outcomes.
Disruption and devaluation of women’s cultural knowledge	Dominant Western frameworks undervalue oral/sacred knowledge; reduced ceremony; limited safe spaces for intergenerational transfer.	Loss of intergenerational knowledge; misinterpretation/appropriation; weakened cultural identity and ecosystem health.
Patriarchal exclusion of women’s authority and practice	Anthropological bias + institutional norms; poorer access to resources/training and to roles like cultural burning.	Under representation in ranger/governance roles; diminished ceremonial authority; slower leadership pathways.
Colonisation, historical dispossession and environmental decline	Limited land, sea and sky access, restrictive laws, weak recognition of rights/obligations & self-determination, mistrust of agencies; constrained cultural authority	Limited access and use of culturally significant species, species/cultural loss leads to a loss of biocultural knowledge and opportunities to share and learn



Appendix D: Gendered biocultural loss feedback loop analysis

(R) 1. Intergenerational knowledge decline loop

Barrier: Disruption and devaluation of Aboriginal women's Law/Lore, ceremony and ecological knowledge

- loss of access to ceremony and culturally governed spaces ↓
- reduced intergenerational teaching of species, seasons, and indicators ↓
- decline in women's authority over biocultural governance ↓
- further exclusion from decision-making ↓
- fewer opportunities to practise and transmit knowledge ↓

(R) Reinforces ongoing erosion of gendered biocultural systems

Leverage point: Fund and protect women-led cultural teaching, species monitoring and seasonal governance.

(R) 2. Gendered policy marginalisation loop

Barrier: Male-dominated environmental and cultural governance

- women's knowledge and biocultural indicators excluded from policy ↓
- planning systems focus on Western ecological models alone ↓
- Caring for Country decisions become ecologically incomplete ↓
- loss of cultural legitimacy for women's governance ↓

(R) Reinforces policy blindness to gendered ecological knowledge

Leverage point: Inclusion of women's governance in environmental planning, embed cultural indicators.

(R) 3. Ecological and spiritual disconnection loop

Barrier: Colonisation, land dispossession and habitat loss

- loss of access to culturally significant species and places ↓
- Ceremony and seasonal practice decline ↓
- species knowledge and ecosystem stewardship erode ↓
- weakened governance and community resilience ↓

(R) Feeds back into loss of access and further decline

Leverage point: Support women's access to cultural species and landscapes through co-management and tenure agreements.

(R) 4. Intersectional burden and leadership attrition loop

Barrier: Intersectional discrimination, care burdens and trauma

- cultural leadership undermined or silenced ↓
- fatigue and withdrawal from public governance ↓
- reduced advocacy for women's knowledge in systems ↓
- continued structural exclusion from decision-making ↓

(R) Perpetuates invisibility of women's cultural authority

Leverage point: Invest in wrap around family care-supported leadership pathways.



Appendix E: Bidjaay yugal gaay biocultural resilience observations

TABLE 3 BIDJAAY YUGAL GAAY BIOCULTURAL RESILIENCE OBSERVATIONS

CC	CSE	RL Fig. 6	Cultural obligation	Ecological indicator	Recommendation legislative	Recommendation policy	Recommendation program
Law/Lore	Kinship system		Maintain rights and obligations for all beings; govern who can interact with who	Observance of cultural protocols and law-based roles	Recognise Aboriginal cultural Law/Lore in environmental and heritage legislation	Embed kinship governance and law obligations into site management plans	Fund governance-strengthening activities led by Aboriginal women Elders
Law/Lore	Mother-in-law Law/Lore (Bambul–Garriya)	No#1 ↔ No#2	Uphold avoidance rules; maintain balance through reciprocal obligations	Presence of both species in healthy relationship	Protect species governed under cultural Law/Lore	Integrate avoidance Law/Lore considerations into site plans	Fund community-led Law/Lore education and cultural governance projects
Kinship	Kupathin/Dilbi moieties		Maintain marriage rules, gifting obligations Maintain women’s governance and related Law/Lore roles	Cultural continuity in species relationships Kinship balance across species and sites	Recognise kinship-governed species in planning laws Protect kinship-governed sites	Require co-management agreements that reflect kinship roles Integrate kinship governance into land and water policy	Support kinship education and cultural mapping Fund women’s leadership programs in site governance
Kinship	Guni–Miyay Miyay (Seven Sisters)	No#9 ↔ No#10 ↔ No#12	Maintain ceremonial and seasonal relationships	Pollination and seasonal honey availability	Protect pollinator habitats	Recognise pollination-linked ceremony in biodiversity policy	Fund pollinator restoration linked to cultural events
Ceremony	Wii (fire)	No#11	Soil renewal, ceremonial balance, spirit release	Soil health, vegetation recovery	Embed cultural burning rights in fire legislation	Recognise cultural burning as a conservation action	Train and support women-led cultural fire teams
Ceremony	Bambul singing (increase)	No#1	Increase fruiting and species abundance	Fruiting rates, pollinator activity	Protect rights to conduct increase ceremonies	Integrate increase ceremonies into conservation planning	Fund seasonal women’s increase ceremonies



Ceremony	Spirit bees creation	No#11 ↔ No#12 ↔ No#10	Sustain pollinator populations through ceremony	Pollinator abundance and diversity	Protect ceremonial rights linked to species	Recognise pollinator creation as cultural conservation in policy	Fund intergenerational transmission of pollinator ceremonies
Land	Bambul (Capparis mitchellianni)	No#1	Governance over Garriya; women's Law/Lore keeper	Presence, fruiting, health	List as culturally significant species in biodiversity acts	Include Bambul in biodiversity strategies	Fund women-led replanting and rehabilitation
Land	Guni (native bee)	No#9	Pollination, honey provision	Bee abundance, fruit set	Strengthen pesticide restrictions	Include pollinator needs in biodiversity policy	Support pollinator habitat restoration
Land	Dhawun (soil)	No#4	Maintain fertility through cultural practices	Soil health indicators	Protect culturally significant soils	Integrate soil health indicators into conservation plans	Fund soil restoration through cultural burning and ceremony
Sea (Water)	Garriya (water Law/Lore)	No#2 ↔ No#3 ↔ No#4	Water governance, rainfall regulation	River/waterhole health	Protect sacred water sites in water management acts	Embed cultural flow requirements	Support ceremonial practices linked to water governance
Sea (Water)	Gali (water)	No#3	Maintain sacred waters, connect Land and Sky Law/Lore	Water quality and flow patterns	Protect cultural water sources	Integrate Aboriginal water rights into policy	Fund waterway restoration projects led by women
Sea (Water)	Boobera Lagoon		Protect sacred site; maintain species governance	Site health, presence of Bambul and other species	List as protected cultural site	Develop co-governance management plan	Fund site restoration including replanting and ceremony
Sky	Yarragerh (spring wind)	No#7 ↔ No#8	Facilitate pollination, seasonal signalling	Flower pollination rates, seasonal timing	Recognise seasonal winds in climate policy	Integrate wind and seasonal indicators into monitoring	Fund seasonal cultural activities linked to Wind Law/Lore
Sky	Warrambul (milky way)	No#12	Ceremonial timing, spiritual guidance	Ceremonial use of night sky	Protect cultural star knowledge	Integrate star knowledge into ecological monitoring	Support Sky Law/Lore education programs



Sky	Miyay Miyay (Seven Sisters)	No#12	Seasonal guidance, gendered ceremony	Seasonal appearance and associated ecological changes	Protect stories and indicators in cultural heritage Law/Lore	Embed star-based seasonal markers in biodiversity policy	Fund seasonal ceremony revival linked to Star Law/Lore
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Appendix F: Bidjaay yugal gaay biocultural MERI matrix

TABLE 4 TWO-WAY INDICATOR MATRIX CARING FOR COUNTRY

CC	CSE	RL	Cultural indicator	Ecological indicator	Methods and data sources	Frequency	Leadership & governance	Improvement trigger
Law/Lore	Kinship system		Elders confirm observance of roles, rights, obligations in site decisions	Co-governance agreements in place and enacted	Elder yarning, governance review, document analysis	6 monthly	Women Elders council, agency co lead	Protocol breach identified
Law/Lore	Mother-in-law Law/Lore (Bambul–Garriya)	No#1 ↔ No#2	Protocols upheld, avoidance respected, gifting observed	Co presence of species at site, evidence of balanced condition	On Country audit, storying, site transects	Seasonal	Women Elders with site rangers	Signs of imbalance or conflict
Kinship	Kupathin/Dilbi moiety		Participation of right kinship moiety custodians in decisions and practice	Balanced representation recorded in governance	Attendance logs, yarning	6 monthly	Women Elders council	Under representation trend
Kinship	Guni–Miyay Miyay	No#9 ↔ No#10 ↔ No#12	Seasonal ceremony linked to honey and Star Law/Lore conducted	Pollinator activity and honey availability observed	Ceremony logs, night sky calendar, pollinator counts	Seasonal	Women ceremony leads	Missed seasonal ceremony or declining pollinators
Ceremony	Wii (fire)	No#11	Cultural burning conducted to renew soil and Law/Lore	Soil condition and vegetation structure improving	Cultural fire records, soil tests, photo points	Dry season as appropriate	Women cultural fire team	Soil health decline or fuel build-up
Ceremony	Bambul singing (increase)	No#1	Increase songs and women’s teaching conducted	Fruiting and flower set recorded	Ceremony logs, phenology surveys	Spring and summer	Women knowledge holders	Low fruiting across two seasons
Ceremony	Spirit bees creation	No#11 ↔ No#12 ↔ No#10	Ceremony for spirit bees conducted and taught to youth	Pollinator diversity and abundance rising	Ceremony logs, pollinator transects	Seasonal	Women ceremony leads	Pollinator diversity drops below baseline



Land	Bambul (Capparis mitchellianni)	No#1	Women confirm Bambul governance is active at site	Presence, crown health, fruiting rates	Elder assessment, tree health scoring, phenology	Quarterly	Women site custodians	Tree health index below threshold
Land	Guni (native bee)	No#9	Cultural stories of bees being heard and taught	Abundance and nesting activity	Acoustic spots, visual counts, habitat checks	Quarterly	Women rangers and youth	Two consecutive low counts
Land	Dhawun (soil)	No#4	Elders' assessment of soil vitality and smell after rain and fire	Soil carbon, infiltration, ground cover	Soil tests, infiltration rings, photo points	Biannual	Women land team	Soil carbon trend declines
Sea	Garriya (water Law/Lore)	No#2 ↔ No#3 ↔ No#4	Ceremonies for water Law/Lore conducted, Law/Lore stories active	Base flows, waterhole condition	Ceremony logs, water quality and flow monitoring	Seasonal	Women water governance group	Base flow falls below seasonal threshold
Sea	Gali (water)	No#3	Cultural use of water sites maintained respectfully	Turbidity, dissolved oxygen within range	Water sampling, visual turbidity tube	Monthly	Women water monitoring team	Two months outside target
Sea	Boobera Lagoon		Site protocols upheld, healing camps held	Return of culturally significant species and plants	Event logs, species surveys, replanting records	Seasonal	Local women custodians	No ceremony for a year or species decline
Sky	Yarragerh (spring wind)	No#7 ↔ No#8	Stories and seasonal guidance used in planning	Flowering aligned with wind patterns	Seasonal calendars, flowering transects	Seasonal	Women knowledge holders	Desynchrony across two seasons
Sky	Warrambul (Milky Way)	No#12	Night sky ceremony informs timing	Ecological activities align to sky indicators	Sky calendar, ceremony records	Seasonal	Women ceremony leads	Activities out of alignment
Sky	Miyay Miyay (Seven Sisters)	No#12	Girls and women's teachings conducted	Seasonal appearance used in planning	Teaching logs, sky calendar	Seasonal	Women knowledge holders	Missed seasonal teaching

