OUR KNOWLEDGE OUR WAY

in caring for Country

Indigenous-led approaches to strengthening and sharing our knowledge for land and sea management

Best Practice Guidelines from Australian Experiences

Edited by Emma Woodward, Rosemary Hill, Pia Harkness and Ricky Archer

Australian Government | National Environmental Science Programme | CSIRO | NAILSMA North Australian Indigenous Land and Sea Management Alliance | IUCN National Committee Australia

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Front cover artwork: Sharing the knowledge for caring for our Land.
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WARNING: Aboriginal and Torres Strait Islander readers are advised that this publication contains many images and names of Aboriginal and Torres Strait Islander people, who may have passed away since this publication was compiled.

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BEST PRACTICE GUIDELINES FROM AUSTRALIAN EXPERIENCES

These Guidelines are a key output from a project of the Australian Government's National Environmental Science Program (NESP), Northern Australia Environmental Resources (NAER) Hub, titled *Knowledge Brokering for Indigenous Land Management*. Building institutional and individual capacity through distilling and sharing best practice is a key goal of the project funders and partners.

The project co-leaders – the North Australian Indigenous Land and Sea Management Alliance and CSIRO – established an Indigenous-majority Project Steering Group to ensure Indigenous leadership of the project (Table i). The Project Steering Group asked "who decides what is best practice and how?" and provided the critical direction that:

Indigenous people must decide what is best practice in working with our knowledge.

The Guidelines are therefore Indigenous-led and based on an open, transparent process established by the Project Steering Group of calling for Indigenous people to submit case studies where:

- Indigenous people are using their Indigenous and traditional knowledge to care for their Country, including in the development of business opportunities and enterprises
- Indigenous people have experienced positive engagement and good outcomes when their Indigenous knowledge has been brought into co-management or research projects
- Indigenous people and their knowledge have been treated the right way when engaging with others (government, non-government organisations, researchers, industry, etc.)
- Indigenous land managers share lessons learned about knowledge sharing
- Indigenous land managers identify the conditions under which good knowledge sharing can occur (Appendix 1).

Approach to development of the Guidelines

The Project Steering Group decided to adopt the International Union for Conservation of Nature's (IUCN) approach to best practice guidelines. The IUCN Best Practice Guidelines Series discusses key concepts, issues and challenges, and grounds these in many case studies, drawing lessons about how to move towards best practice, rather than presenting a recipe. These Guidelines are similar – essentially guidelines towards best practice. The Guidelines are presented as a current picture of work-in-progress. We recognise that the material does not cover all Indigenous Peoples, individuals and issues in Australia, with greater representation of experiences from northern and central Australia. We look forward to future updates and developments.

The Project Steering Group invited the Australian Committee for IUCN to partner in their development. The NAILSMA/CSIRO/ACIUCN partnership supported the development of the Guidelines through multiple stages of Indigenous leadership (Table ii).

NAILSMA led the call for case studies, seeking feedback from Indigenous groups and their partners involved in land and sea management and related enterprise development across the country. Indigenous authors of these case studies, together with other Indigenous experts invited as highlight chapter co-authors, are the foundation of the Indigenous voice throughout the Guidelines. *Our* and *we* in these Guidelines refer to Australian Aboriginal and Torres Strait Islander people.

Several non-Indigenous staff from NAILSMA and CSIRO provided significant support to the Indigenous case study authors and drafted much of the text for subsequent checking and summarising by Indigenous lead co-authors. The non-Indigenous staff position themselves in this role as allies working for and with Indigenous people: diligent, conscientious, skilful and respectful followers of Indigenous leadership. They have written what they have heard Indigenous people saying, and carefully checked with Indigenous people to make sure that what is written is correct.

Each chapter was independently checked by expert Indigenous highlight co-authors, who provided critical reflections distilled as highlights at the beginning of each chapter. In the attributions, highlight co-authors then became lead author of each chapter, followed by case study co-authors in the order the case studies appear in the chapter, and the NAILSMA and CSIRO staff co-authors. Case study co-authors gave permission for both co-authorship of their case study, and the chapter. Face-to-face discussions were held with Indigenous land and sea rangers through five workshops at the Northern Territory Indigenous Ranger Forum held at Charles Point near Darwin in August 2019. Some 60 individual Indigenous rangers provided high level input, identifying critical considerations about forming new partnerships or engagements involving Indigenous knowledge. The draft document was further reviewed by eight expert reviewers invited by the Australian Committee of the IUCN and a further two Indigenous expert reviewers invited by CSIRO (Table ii).

Sharing and use of this publication

The content of the Guidelines is based on principles of respecting Indigenous ownership of Indigenous knowledge and ensuring free, prior and informed consent (FPIC) for its publication. The case study co-authors provided FPIC to CSIRO and NAILSMA for release of their material as part of this document, while retaining the intellectual property in the copyright of their original production of the case studies, as well as ownership of their Indigenous cultural and intellectual property (ICIP). CSIRO and NAILSMA hold the copyright of other material and the rights to release the case study material within this report. This report is publicly released under a Creative Commons Attribution-NonCommercial-No Derivatives Licence 4.0 Australia (CC BY-NC-ND 4.0), which means you can share the share the document provided you do not use it commercially, and you acknowledge the source. If you mix, transform or change the material, it cannot be shared with others without further permission. This licence does not restrict fair citation for academic and educational purposes. Indigenous knowledge not otherwise covered by copyright is intended to be protected by an Indigenous Cultural and Intellectual Property (ICIP) Notice (inside front cover) which asserts our ownership, authority and control over our ICIP and how we wish people to use it.

Table i. Members of the Project Steering Group of the Knowledge Brokering for Indigenous Land Management *project, Northern Australian Environmental Resources Hub, National Environmental Science Program.*

Project Steering Group Member	Type of organisation
Kimberley Land Council	Indigenous organisation
Nyamba Buru Yawuru	Indigenous organisation
Northern Land Council	Indigenous organisation
Cape York Partnership (until July 2018)	Indigenous organisation
Australian Department of Agriculture, Water and the Environment	Government agency
Australian Department of the Prime Minister and Cabinet	Government agency
Wilinggin Aboriginal Corporation	Indigenous organisation
The Nature Conservancy	Environmental non-government organisation
James Cook University researchers from related NESP projects	Research organisation

Table ii. Timeline of key events in the development of the Guidelines.

Event	Timing
Project Steering Group first meeting, adoption of Interim Terms of Reference	October 2016
Project Steering Group decides to adopt the IUCN Best Practice approach, and invite ACIUCN to partner	December 2016
ACIUCN expresses positive interest to partner in the project, highlighting need for appropriate review and input by members	April 2017
Discussions at the Kimberley Ranger Forum highlight the benefits of learning together through case studies	August 2017
Partnership inception meeting (NAILSMA, CSIRO, ACIUCN)	June 2018
NAILSMA sends out national call for Indigenous-led case studies on behalf of partnership with CSIRO and ACIUCN	September 2018
Project Steering Group face-to-face meeting selects Indigenous-led case studies and suggests additional Indigenous groups to approach	October 2018
Liaison with 23 Indigenous case study authors to finalise contributions together with free, prior and informed consent	November 2018–November 2019
Discussions with the Indigenous Peoples Organisations in IUCN and their support team within the IUCN Commission on Environment, Economic and Social Policy	May 2019
Indigenous highlight co-authors: contributions from six Indigenous experts as chapter leads	June–February 2020
Project Steering Group review of progress and proposed content	July 2019
Indigenous face-to-face review and consultation through five workshops with 23 ranger groups at the Northern Territory Indigenous Ranger Forum	August 2019
ACIUCN and Indigenous expert review of first draft	September–October 2019
Presentation at the ACIUCN Symposium on Healthy People in a Healthy Environment	October 2019
Revision in response to reviews	October–November 2019
ACIUCN and Indigenous expert review of second draft, including 8-page summary. Co-authors checking of case studies and chapters	November–February 2020
Project Steering Group review and approval of final draft	December 2019–February 2020
Launch of *Our Knowledge Our Way* in caring for Country	July 2020

NAILSMA

The North Australian Indigenous Land and Sea Management Alliance Ltd (NAILSMA) is an Indigenous not-for-profit company operating across north Australia, established in 2004. We work to assist Indigenous people manage their Country sustainably for future generations, drawing on a broad set of skills and interests to address needs from governance, research, monitoring and evaluation, to ecosystem service enterprise development. We operate at local and regional scales and provide Indigenous leadership in the delivery of large-scale and complex programs that meet the environmental, social, cultural, and economic needs of Indigenous people across northern Australia. NAILSMA works with all stakeholders to realise its philosophy of 'Looking after our Country … Our Way', to empower Indigenous people to take control of their lands and sea.

CSIRO

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is Australia's national science agency and innovation catalyst, solving the greatest challenges through innovative science and technology. CSIRO collaborates with industry, government, universities and research organisations to turn big ideas into disruptive products. CSIRO's collaborative research turns science into solutions for food security and quality; clean energy and resources; health and well-being; resilient and valuable environments; innovative industries; and a secure Australia and region. CSIRO unlocks a better future.

The Australian Committee for IUCN Inc.

The International Union for Conservation of Nature (IUCN) is the world's largest and most diverse environmental network, which brings thousands of people together to develop solutions to the world's most pressing environmental and development challenges – from threatened species and habitats, to climate change and food security. The Australian Committee for IUCN was founded over 40 years ago to advance the network's global mission and program in Australia by providing a neutral forum that brings different interest groups together to pursue common goals, develop policy advice, share knowledge, build capacity, and work towards a 'just world that values and conserves nature'.

NESP

National Environmental Science Program (NESP) research partnerships with Indigenous communities have demonstrated their value by delivering culturally fit-for-purpose research as well as increasing cultural capacity in the environmental research sector. These partnerships are yielding significant learnings about culturally appropriate pathways to engage Indigenous people, and ensure their views and traditional ecological knowledge is incorporated in research that affects their communities, land and cultural resources. The Indigenous-led and co-developed *Our Knowledge Our Way* Guidelines are a great example of what NESP is aspiring towards in terms of research practice.

NAER Hub

The NESP Northern Australia Environmental Resources (NAER) Hub supports sustainable development in northern Australia and is assisting decision-makers to understand, use, manage and safeguard northern Australia's outstanding natural environment through world-class science. Current research focuses on: landscape-scale studies covering savanna and freshwater ecosystems and biodiversity; land and water planning for new developments, e.g. agriculture and infrastructure; and Indigenous land management including Indigenous Protected Areas.

FOREWORD

Gigari George
Chairperson, NAILSMA

Indigenous knowledge is one of the country's great hidden assets.

NAILSMA has been working for more than a decade to ensure that students and academics not only recognise the value of Indigenous knowledge but deal with it and the people who own it properly. As more Australians start to understand, and value, the leading role that Indigenous people play in land and sea management, it is timely that a guide like this be developed. Ideas about protocol, trust and consent are all rightly highlighted in this guide, but it is worth remembering that listening and allowing Traditional Owners the chance to really lead is the foundation of great practice.

The land and sea sector has had its challenges with Indigenous partnerships, but there have been more peaks than valleys. Unlike other sectors where these matters can seem theoretical, land and sea management forces people to work together to sort out the hard problems of ownership and partnership in real dirt and saltwater. Because of this our sector is presented with an opportunity to lead the way and provide a model for how we deal with the cultural wealth of our Old People. If we can model it properly, others will follow.

Finally, I would remind you that while these guidelines have value, they are only a starting point. The principles and approaches presented here are only signposts on the road. In the end what matters most is whose hands are on the steering wheel.

Dr Larry Marshall

Chief Executive, CSIRO

CSIRO is delighted to collaborate with the more than 50 partners and contributors supporting the development of the *Our Knowledge Our Way* Guidelines. The Guidelines give a voice to Australian Indigenous Peoples through detailing what constitutes best practice for working with Indigenous knowledge in caring for Country.

As Australia's national science agency, CSIRO's purpose is to solve the greatest challenges through innovative science and technology. These challenges can only be met through collaborative action involving the community, industry, government and research sectors. One significant challenge we face globally is to enhance the resilience, sustainable use and value of our environments.

Indigenous Australians play a leading role in meeting this challenge, particularly through their management of an extensive Indigenous estate extending across the continent. The *Our Knowledge Our Way* Guidelines highlight these knowledge-driven efforts and provide insight into the diverse ways in which Indigenous Australians build sustainable futures through their management of land and sea Country. This includes the weaving of Indigenous knowledge and science with western science to develop innovative practices and solutions.

Last year I was privileged to lead a delegation of CSIRO people to the Garma Festival, Australia's largest Aboriginal-led cultural exchange, hosted on Country by Yolŋu Traditional Owners. I was humbled by the opportunity for personal learning, growth and reflection. We are proud of CSIRO's more than 100 years of science and innovation, but this hardly compares to more than 60,000 years of Indigenous knowledge, science and innovation.

The Guidelines remind us that we have much to learn from Indigenous Peoples and so much more to achieve through working together. For example, knowledge synergies and innovation can occur at the interface of Indigenous and western science. The co-development of new knowledge creates opportunity for transformative learning to better address our environmental challenges. The Guidelines critically remind us that in order to achieve best practice in land and sea management, partners must work together across diverse knowledge systems in the right way: with understanding and respect for local values and governance, cultural protocols and Indigenous cultural and intellectual property. Through supporting Indigenous leadership, governance and protocols we position our country to realise the full potential of Indigenous knowledge systems in the care and management of Australia's lands and sea, for the benefit of all Australians.

These Guidelines are the first Indigenous-led and co-developed attempt to guide a new paradigm for how Indigenous knowledge is engaged in Australia. They align with the commitments made in the CSIRO Reconciliation Action Plan and support best practice approaches to international responsibilities and initiatives. These include the UN Declaration on Rights of Indigenous Peoples, the Nagoya Protocol under the Convention on Biological Diversity, and the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services (IPBES).

I sincerely encourage all potential partners to learn from the knowledge and practice contained within the *Our Knowledge Our Way* Guidelines, so you are able to lend support to strong sustainable futures for Indigenous Peoples, culture and Country.

Peter Cochrane

IUCN Councillor, Australian Committee for IUCN

This is a vitally important document. Indigenous-driven and led, it distils the knowledge, lessons and understandings of Indigenous land and sea managers from across Australia through diverse case studies to present a set of guidelines for current and future managers and policy-makers.

Recognition and respect is growing in Australia and in many other countries for the deep knowledge and expertise of Indigenous and local communities in the sustainable management and use of natural resources. As humans place ever-increasing demands and pressure on the planet's extraordinary biological diversity, this depth of knowledge and understanding is an essential input for more effective protection and restoration of nature.

The International Union for Conservation of Nature (IUCN), founded over 70 years ago to promote an evidence-based approach to the conservation and sustainable use of the world's natural resources, draws extensively on Indigenous Peoples' knowledge to inform its work, including its Best Practice Guidelines.

The support from the Australian Committee of IUCN for this publication reflects its acknowledgement and respect for Australia's long and rich history of land and sea management by its Indigenous Peoples across a vast and changing continent.

NAILSMA and CSIRO and the many contributors who have shared their knowledge and stories should be very proud of this landmark publication.

Project Steering Group

The Project Steering Group is proud to have supported the development of the *Our Knowledge Our Way* Guidelines. This Indigenous-led, co-designed body of work incorporates many Indigenous voices. It has created an important opportunity for Australian Indigenous Peoples to determine what is best practice when working with Indigenous knowledge in caring for Country.

As a group, we supported the project team in choosing good methods and processes for developing the Guidelines, including an open Australia-wide call for case studies from Indigenous land and sea managers and those involved in Country-based enterprises. The case studies that were submitted are the foundation of the Guidelines. They shine a light on the diverse, dedicated land and sea management work being led by Indigenous Peoples, through enacting their knowledge of Country, and the significant impact this is having across Australia.

Traditional Owner members of the Project Steering Group see the Guidelines as a good way of getting concepts across to people:

It's good for non-Indigenous people to see what we're doing and how we do it. We're not one mob, we are all from different areas, with different languages, and different views. The Guidelines bring that all together in one place, so people can learn about that … and understand that we all have different ways, and we have different knowledge.

Potential partners need to be aware of the cultural protocols that govern who can access and share Indigenous knowledge, including the unique governance arrangements that exist for each language group, community and family group.

The case studies highlight that partnerships work when there is trust between partners, founded in mutual respect for Indigenous knowledge and Country. Formal agreements that clearly outline obligations and benefit sharing arrangements have been found to be useful in many cases, including in the protection of Indigenous cultural and intellectual property.

We truly hope that these Guidelines prove to be a useful tool to assist sharing and learning between Indigenous land and sea managers. We hope to educate current and future partners about the diversity of Indigenous knowledge and its applications in caring for Country, and the tools and processes that might support mutually beneficial partnerships that realise good outcomes for people and Country.

Professor Michael Douglas
Leader, NESP Northern Australian Environmental Resources Hub

The NESP Northern Hub has been delighted to support the development of the *Our Knowledge Our Way* Guidelines. The Northern Hub and its predecessors have a long history of working with Indigenous Peoples across northern Australia, and we have always sought ways to foster stronger partnerships and better research outcomes. We have had some great successes, but any improvements have come mostly through a slow process of trial and error.

Now, as the issues confronting environmental managers increase in both scale and urgency, there is growing recognition of the value of Indigenous knowledge in providing solutions to the challenges we face. We need a step change in how we work together. The Guidelines are a game-changing response to this need. They bring together a wealth of insight and practical advice on how to recognise, strengthen and share knowledge for Country.

Led by Indigenous people and based on shared experiences from a diverse range of case studies, the Guidelines will be a vital part of research that is more inclusive, equitable and useful for everyone.

CONTENTS

LIST OF CASE STUDIES

LIST OF BOXES

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

ACCU	Australian Carbon Credit Units
AIATSIS	Australian Institute for Aboriginal and Torres Strait Islander Studies
ALA	Atlas of Living Australia
BOM	Bureau of Meteorology
CBD	Convention on Biological Diversity
COP	Conference of Parties
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DDLMB	Dhelkunya Dja Land Management Board
DDW	Dja Dja Wurrung
DDWCAC	Dja Dja Wurrung Clans Aboriginal Corporation
DSS	Desert Support Services
EMRIP	Expert Mechanism on the Rights of Indigenous Peoples
ENGO	Environmental non-governmental organisation
FPIC	Free, prior and informed consent
ICIP	Indigenous cultural and intellectual property
ICOMOS	International Council on Monuments and Sites
IIFBES	International Indigenous Forum on Biodiversity and Ecosystem Services
IK	Indigenous knowledge
ILK	Indigenous and local knowledge
ILSMPs	Indigenous land and sea management programs
IP	Intellectual property
IPA	Indigenous Protected Area
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPO	Indigenous Peoples' Organisations
IUCN	International Union for Conservation of Nature
IYIL	International Year of Indigenous Languages
KISSP	Kimberley Indigenous Saltwater Science Project
LCIPP	Local Communities and Indigenous Peoples Platform (for the UNFCCC)
MDWg	Mirima Dawang Woorlab-gerring Language and Culture Centre
MLT	Mobile Language Team
MTWAC	Melythina Tiakana Warrana (Heart of Country) Aboriginal Corporation
NAER	Northern Australia Environmental Resources (Hub)
NAILSMA	North Australian Indigenous Land and Sea Management Alliance
NESP	National Environmental Science Program
NGO	Non-government organisation
NRM	Natural resource management
NRS	National Reserve System
PBC	Prescribed Body Corporate
RNTBC	Registered Native Title Body Corporate
TEK	Traditional ecological knowledge
TSRA	Torres Strait Regional Authority
UN	United Nations
UNDP	United Nations Development Program
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNFCCC	United Nations Framework Convention on Climate Change
UNHRC	United National Human Rights Commission
UNPFII	United Nations Permanent Forum on Indigenous Issues
WAMSI	Western Australia Marine Science Institute
WIN	World Indigenous Network (World Network of Indigenous Peoples and Local Community Land and Sea Managers)

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We wish to thank the following people who assisted in the compilation of the Guidelines but who are not recognised as authors in the document: Dr Jane Addison, CSIRO and JCU; Glenn James, NAILSMA; and Kathy Zischka, previously ACIUCN.

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CONVENTIONS

- These Guidelines incorporate diverse land and sea management-related interests across Australia, and the numerous individuals and groups that have contributed to its development choose to identify in diverse ways. The Guidelines therefore adopt the terms *Aboriginal and Torres Strait Islander Peoples*, *Indigenous Australians*, *Indigenous Peoples*, and *First Nations Peoples* to refer to the diversity of self-determined groups, including family, clan, language and other groups who identify as descendants of Australia's First Peoples. *Indigenous people* and *Aboriginal and/or Torres Strait Islander people* refer to the individuals rather than the groups.
- *Country* is upper case throughout when it refers to the traditional land and sea territories of Australia's Aboriginal and Torres Strait Islander Peoples, except where it occurs within a direct quote.
- *Indigenous* is upper case throughout in accordance with Australian academic protocols.
- *Elders*, *Old People* and *Traditional Owners* are upper case throughout in accordance with protocols of respect.
- *We* in these Guidelines refers to Indigenous Australians writing about our knowledge, except where otherwise indicated. Both Indigenous and non-Indigenous authors have contributed to writing these Guidelines. All of the text has been reviewed and co-authored with Indigenous people, so that we are confident that the Guidelines genuinely reflect Indigenous voices about *Our Knowledge Our Way*.
- Conventions are noted in a footnote the first time they are used in order to alert the reader.
- Case studies use a diversity of editorial styles in accordance with their authors' preferences.

Willem van Akem

EXECUTIVE SUMMARY

Our purpose in producing these Best Practice Guidelines from Australian Experiences is to support learning, by both ourselves and our partners, about good ways of using our Indigenous knowledge to look after our land and sea Country.

Our Indigenous knowledge connects us to our Country and our cultures. Our knowledge is owned by us as Traditional Owners and is diverse across Australia. The vision for *Our Knowledge Our Way* in caring for Country, established by the Indigenous-majority Project Steering Group, is:

- Indigenous people are empowered to look after Country *our way*
- Improved environmental conditions and multiple social, cultural and economic benefits come from effective Indigenous adaptive management of Country.

The Guidelines are Indigenous-led and co-developed, respecting the principle that:

> Indigenous people must decide what is best practice in working with our knowledge

Indigenous leadership of the Guidelines is through:

- Indigenous-led Project Steering Group
- Indigenous-led case studies
- Indigenous lead co-authors for each chapter
- Indigenous review, consultation and input
- Face-to-face discussions about the Guidelines at meetings and workshops.

Our 23 case studies from Australian experiences show that *Our Knowledge Our Way* in caring for Country can be supported by:

- Strengthening Indigenous knowledge
- Strong partnerships
- Sharing and weaving knowledge
- Indigenous networks.

STRENGTHENING INDIGENOUS KNOWLEDGE

Holding and strengthening Indigenous knowledge for Country involves having the rights to Country, listening to Country, interpreting that knowledge, and communicating it to others.

Indigenous knowledge is different between groups. It comes from Country, from our ancestors and ancestral beings present in Country today. Our kinship relationships connect us as Aboriginal and Torres Strait Islander Peoples within a network of other people, plants, animals and features in the landscape. Connection is maintained through our knowledge and through our actions to care for our Country. Culture and Country are spoken about together. Keeping our Indigenous knowledge strong and vibrant requires access to our Country and strong cultural governance of our knowledge.

Keeping knowledge strong through access to Country

Access to our land and sea Country is the foundation of keeping our Indigenous knowledge strong. We need to be on our Country to sing, dance, tell stories, collect bush tucker, practise art, and to speak our language to the plants, animals and ancestral beings in our landscapes and seascapes. While colonisation has severely impacted our access to Country, we use different legal and agreement-making approaches to keep our connections as much as possible.

Strong cultural governance of knowledge

The United Nations Declaration on the Rights of Indigenous Peoples, and other international laws and policies, recognise our rights to self-governance and autonomy.

This means:

- Decision-making about knowledge needs to respect and follow each group's customary governance and cultural protocols. This usually requires collective decision-making by key people, including Elders.
- New organisations resulting from government policies need to be resourced and supported to strengthen, not weaken, cultural norms of knowledge governance.
- New laws are needed to provide protection for Indigenous cultural and intellectual property (ICIP).
- Agreements can provide for both customary law and Australian nation-state legal protection when sharing knowledge.

Keep and revitalise knowledge, language and culture

Our knowledge is kept alive and is passed on through language, song, dance, art, story, through being on Country, hunting, harvesting, and through many other cultural practices. Opportunities to continue these practices are essential to the survival of our culture.

We are educating our youth through Indigenous-led bi-lingual education, learning on Country and two-way science programs. New and emerging digital technologies can engage youth, and record and revitalise knowledge, provided knowledge protocols are followed.

BUILDING STRONG PARTNERSHIPS

Partnerships that enable the building of respect and appreciation for Indigenous knowledge are desired – particularly where they support an Indigenous voice in decision-making processes that affect us. Respect for Indigenous knowledge, culture and Country are critical for the development of trust and relationship-building, which underpin strong partnerships.

Trust and relationships in knowledge work

Custodians of knowledge feel an obligation and responsibility to the ancestors to treat knowledge the right way. It takes time for trust to build between knowledge holders and outsiders before knowledge might be shared.

We seek engagements and partnerships where we think our knowledge will be treated the right way. This can mean taking a very slow approach to building a partnership, and testing partners to see if they are respectful and trustworthy, before knowledge is shared.

Taking the time and interest to build relationships between people will underpin positive experiences in knowledge sharing. Relationship-building demands that all partners recognise and respect multiple cultural backgrounds and knowledges in creating a safe space for sharing.

Protocols

Our knowledge protocols are vital to positive experiences in sharing knowledge. It is our business to know and follow our own cultural protocols when sharing knowledge within and outside of different Traditional Owner groups.

Other protocols can be negotiated between Indigenous and non-Indigenous partners to facilitate sharing of knowledge the right way, and these can operate at many scales. Protocols can include: agreement on the activities, responsibilities and contributions of each partner; acknowledgement and consideration of background intellectual property (IP); and how the research IP will be shared. Formalised research agreements between institutions offer a higher level of protection to IP because they are binding.

Consent for sharing knowledge

Free, prior and informed consent (FPIC) is critical to the sharing of knowledge. The UN Declaration on the Rights of Indigenous Peoples, and many other international and national laws and policies, recognise FPIC as the best-practice approach to engaging with Indigenous knowledge.

FPIC requires that individuals and groups are provided with sufficient accessible information to enable full consideration of the risks and benefits of a proposed project, prior to them making a decision about whether or not to consent to that proposal. Partners should ensure that their project budgets accommodate payment of interpreters where appropriate, to ensure Indigenous partners are adequately informed before giving consent. The requirement for consent entitles Indigenous Peoples to determine the outcome of decision-making that affects them.

CSIRO

SHARING AND WEAVING KNOWLEDGE

Indigenous managers often weave knowledge to manage new and complex land and sea management issues. Externally funded Indigenous land and sea management ranger programs sometimes draw on western science to build ecological monitoring and evaluation programs into their work plans. Sometimes scientific rigour lends support to the development of land and sea management-based enterprises – for example, in developing a methodology for traditional burning regimes to offset carbon emissions.

All knowledge sharing is based on first strengthening and preparing the knowledge systems that will be shared. Four subsequent steps can help: *communicate*, *discuss*, *bring together* and *apply*.

Strengthen, prepare: involves ensuring people are able to practise and maintain their Indigenous knowledge in a culturally safe place, and that relevant western scientific knowledge is available.

Communicate: involves presenting knowledge from one knowledge system into a format that can be understood by people with a different knowledge system, e.g. seasonal calendar.

Discuss: requires us to talk together and interact around our different knowledges. 'Boundary objects' that people from different knowledge systems can connect through, like a 3D catchment model, can help discussions.

Bring together: after discussions and negotiations, we can bring our different knowledge systems together, e.g. in Indigenous Protected Area management plans.

Apply: the final step in weaving knowledge is application of the new, (partly) woven knowledge, which has been shown to deliver many co-benefits.

Communication tools for sharing and weaving knowledge

- Indigenous-led and co-developed tools are most appropriate for sharing and weaving knowledge
- Tools that promote the inter-generational transfer of knowledge are highly valued

The case studies demonstrate that co-created tools can facilitate the communication of specific messages, and can be used amongst Indigenous participants and government scientists to facilitate relationship building and promote discussion. Co-produced communication tools can promote learning about culture and language, as well as assist understanding across knowledge systems.

INDIGENOUS LAND AND SEA NETWORKS FOR SHARING KNOWLEDGE

Global networks that promote Indigenous-led knowledge practices and their application to international environmental challenges include the UN Permanent Forum on Indigenous Issues, the International Indigenous Forum on Biodiversity and Ecosystem Services and the Indigenous and Local Knowledge Centres of Distinction. These networks are important as they offer peer-to-peer learning opportunities for Indigenous land and sea management practitioners. They support:

- Learning about good partners, projects and approaches to keeping knowledge strong, our way
- Learning from others about best practice protocols and processes for managing partnerships
- Building strength and inspiration through solidarity.

In recent years there have been great opportunities at the national level for us to build strength in knowledge through peer-to-peer learning. In recent years, Indigenous Ranger Forums have been held to promote knowledge sharing amongst rangers and land and sea management-related partners across northern Australia. At the 2019 Ranger Forum, held on Kenbi Country, rangers discussed the importance of the Guidelines in the context of building knowledge between ranger groups. The idea of a national Indigenous land and sea network has been discussed and needs exploring further.

Willem van Akem

1

FOUNDATIONS OF OUR KNOWLEDGE OUR WAY

Authors:
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HIGHLIGHTS

- Our vision for looking after Country our way
- Opportunities to learn together through Indigenous-led and co-developed Best Practice Guidelines
- Ancient wisdom is held by diverse knowledge holders
- Evidence is generated through sharing lived experiences
- Indigenous Australian knowledges are informed by people's deep relationships with the natural environment
- Indigenous Australian knowledges and practices are reliant on a balance between people and place-based sharing of their learnings and understandings
- Indigenous Australians combine observation and reflection to inform better practice
- International protocols strengthen and validate Indigenous Australian knowledges and guidelines.

1.1 OUR VISION AND PURPOSE FOR OUR KNOWLEDGE OUR WAY

The Guidelines have been created with the understanding, articulated so powerfully in the Uluru Statement from the Heart[1a], that:

Our Aboriginal and Torres Strait Islander tribes were the first sovereign Nations of the Australian continent and its adjacent islands, and possessed it under our own laws and customs. This our ancestors did, according to the reckoning of our culture, from the Creation, according to the common law from 'time immemorial', and according to science more than 60,000 years ago.

This sovereignty is a spiritual notion: the ancestral tie between the land, or 'mother nature', and the Aboriginal and Torres Strait Islander peoples who were born there from, remain attached thereto, and must one day return thither to be united with our ancestors. This link is the basis of the ownership of the soil, or better, of sovereignty. It has never been ceded or extinguished, and co-exists with the sovereignty of the Crown.

This ancestral tie is central to using our knowledge for looking after our land and sea Country[b]. Our knowledge is current, relevant, dynamic and adaptable. We[c] use it today, as we did in the past, to look after Country *our way*.

Our connection to Country is alive and part of us, and underpins our vision for *Our Knowledge Our Way* in caring for Country[d]:

> Indigenous[e] people are empowered to look after Country *our way*
>
> Improved environmental conditions and multiple social, cultural and economic benefits come from effective Indigenous adaptive management of Country.

Figure 1.1. Cultural connections at Kimberley Ranger Forum, Pender Bay 2017. Above: Bardi Jawi dance at the Welcome Ceremony. Below: Ranger at open microphone evening. Photos: Kimberley Land Council.

a https://www.referendumcouncil.org.au/sites/default/files/2017-05/Uluru_Statement_From_The_Heart_0.PDF

b *Country* is upper case where it refers to the traditional land and sea territories of Aboriginal and Torres Strait Islanders.

c *We* in these Guidelines refers to Indigenous Australians writing about our knowledge, except where otherwise indicated. Both Indigenous and non-Indigenous authors have contributed to writing these Guidelines. All of the text has been reviewed and co-authored with Indigenous people, so that we are confident that the Guidelines genuinely reflect Indigenous voices about *Our Knowledge Our Way*.

d This vision was established by the Project Steering Group, including members from the Northern Land Council, Kimberley Land Council, Cape York Partnership, and Nyamba Buru Yawuru.

e Indigenous is upper case throughout in accordance with Australian academic protocols.

Our **purpose** in producing these Guidelines is to **support learning, by both ourselves and our partners, about good ways of using our Indigenous knowledge to look after our land and sea Country**.

These Guidelines give Australian Indigenous Peoples a voice about what is best practice in working with our knowledge in caring for Country, which is alive and deeply connected to us[2].

Country in Aboriginal English is not only a common noun but also a proper noun. People talk about country in the same way that they would talk about a person: they speak to country, sing to country, visit country, worry about country, feel sorry for country, and long for country. People say that country knows, hears, smells, takes notice, takes care, is sorry or happy. Country is not generalised or undifferentiated … country is a living entity with a yesterday, today and tomorrow, with a consciousness, and a will toward life. Because of this richness, country is home, and peace; nourishment for body, mind, and spirit; heart's ease.

Debra Bird Rose[2] (p.7)

Key Articles in the United Nations Declaration of the Rights of Indigenous Peoples[f] (UNDRIP) provide the basis for our approach *that Indigenous people must decide what is best practice in working with our knowledge* (Box 1-1)[g].

Box 1-1 Key Articles in the United Nations Declaration of the Rights of Indigenous Peoples that provide the basis for the development of the Guidelines.

Article 4
Indigenous peoples, in exercising their right to self-determination, have the right to autonomy or self-government in matters relating to their internal and local affairs, as well as ways and means for financing their autonomous functions.

Article 11
Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artefacts, designs, ceremonies, technologies and visual and performing arts and literature.

States shall provide redress through effective mechanisms, which may include restitution, developed in conjunction with Indigenous peoples, with respect to their cultural, intellectual, religious and spiritual property taken without their free, prior and informed consent or in violation of their laws, traditions and customs.

Article 12
Indigenous peoples have the right to manifest, practise, develop and teach their spiritual and religious traditions, customs and ceremonies; the right to maintain, protect, and have access in privacy to their religious and cultural sites; the right to the use and control of their ceremonial objects; and the right to the repatriation of their human remains.

Article 13
Indigenous peoples have the right to revitalize, use, develop and transmit to future generations their histories, languages, oral traditions, philosophies, writing systems and literatures, and to designate and retain their own names for communities, places and persons.

Article 19
States shall consult and cooperate in good faith with the Indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them.

Article 31
Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions.

In conjunction with Indigenous peoples, States shall take effective measures to recognize and protect the exercise of these rights.

f https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf

g Similar principles recognising Indigenous Peoples' rights are found in other international law and policy, for example in the Operational Guidelines to the World Heritage Convention (https://whc.unesco.org/en/guidelines/), and the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (http://portal.unesco.org/en/ev.php-URL_ID=17716&URL_DO=DO_TOPIC&URL_SECTION=201.html).

These Guidelines are Indigenous-led and co-developed, respecting the principle that:

Indigenous people must decide what is best practice in working with our knowledge.

As detailed in pages iv-v, Indigenous leadership of the Guidelines is through:

- Indigenous-led Project Steering Group
- Indigenous-led case studies
- Indigenous lead co-authors for each chapter
- Indigenous review, consultation and input
- Face-to-face discussions about the Guidelines at meetings and workshops (Table i, p.iv).

Co-development of the Guidelines comes through:

- Co-writing and editing by research staff at CSIRO and NAILSMA
- Adopting the world-leading IUCN Best Practice Protected Areas Guidelines Series as a model for *Our Knowledge Our Way*
- Co-writing and reviewing with our Australian Committee for IUCN Reference Group
- Discussions with the Indigenous Peoples Organisations in IUCN and their support team within the IUCN Commission on Environment, Economic and Social Policy.

1.1.1 Who are the Guidelines for?

The Guidelines first and foremost aim to *benefit* our Indigenous colleagues across Australia by highlighting their empowered, active, knowledge-driven practices in caring for their Country. In addition, the *target audience* of the Guidelines are those who support and enable caring for Country, including staff of Indigenous and partner organisations, policy-makers and the wider community.

These Guidelines may also be of interest to First Nations, Indigenous Peoples and partners in other countries who also seek ways to keep culture and connections with Country alive, overcoming the challenges posed by colonisation, industrialisation and capitalism.

Most of all, we hope that our pride and success will inspire others throughout Australia and across the world. Our practices and tools bring people together to value the ancient and continuing knowledge and wisdom of First Nations/Indigenous Peoples in the ecologically sustainable development and management of land, sea, skies and waterways in Australia and across the world.

Figure 1.2. Land and sea rangers discussing the OKOW Guidelines at the NT Ranger Forum (see page vi). Photo: Patch Clapp.

1.2 INDIGENOUS KNOWLEDGE SYSTEMS

Our Indigenous knowledge systems include practices that have supported our sustainable livelihoods on Country for millennia[3]. These knowledge systems keep our Country alive and determine the social roles and responsibilities of people, other living creatures, the wider environment, and our management of land and sea.

Land and sea management activities keep our plant and animal foods plentiful and diverse. These activities are also important for other goals, like cleaning (burning) the Country to make lands accessible[4,5]. The sustainability of our lives on Country is dependent upon our knowledge systems.

The importance of our knowledge is deeply embedded in our Aboriginal and Torres Strait Islander ways of speaking in, about and with Country[6]. *Traditional Owners* is our way of talking about those people who have inherited the rights and responsibilities to Country from their ancestors and ancestral beings. Indigenous knowledge connects us with Country, and also with our cultures, languages and laws. Across Australia, there are hundreds of Indigenous societies with different cultures, languages and laws, all with deep connections to their own Country (Figure 1.3).

Figure 1.3. Indigenous languages of Australia map. Credit: Indigenous Languages Illustration by David Foster (fostertype.com). This map is based on the AIATSIS map of Indigenous Australia, © AIATSIS 1996. For more information about using this map please visit aiatsis.gov.au.

Common to all Indigenous knowledge systems is the emphasis on knowledge coming from a specific place[7]. It relates our people to our places and to our everyday life[3]. The laws and acceptable practices that govern knowledge use are determined by local groups and need to be understood and negotiated at the local level[3]. While Indigenous knowledge is uniquely connected with our many different language groups (Figure 1.3), there has always been cultural exchange over large areas of Australia. Ceremonies, songs, dances, words, ideas, plants, artefacts and more all flowed back and forth along our songlines and traditional trade routes[8] and have shaped our Indigenous knowledge systems over time. Our Indigenous knowledge, belief and authority are integral to the values we hold for significant cultural heritage places across Australia.

What we are referring to as *our knowledge* has been variously described in other places as traditional ecological knowledge, Indigenous heritage, cultural heritage, Indigenous knowledge, Indigenous and local knowledge, lore, law, Indigenous practice, and Indigenous knowledge systems. Words can help show the complexity and deep structures of Indigenous knowledge and can also create misunderstandings and problems[3].

The term *traditional ecological knowledge* is used by many of us, but can also cause misunderstanding as the word *traditional* can indicate a fixed and unchanging body of knowledge from the past. *Indigenous knowledge* is being used more widely as it conveys a broader meaning. Indigenous knowledge comes from observing and being on Country and responds, evolves and adapts to changing conditions[9]. It is constantly renewed and reconfigured[3]. Recently, many different governments at the Plenary of the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services (IPBES) approved some text that may help others understand what is meant by the term *our knowledge* (Box 1-2).

Box 1-2 What are Indigenous and local knowledge systems? Excerpt from IPBES 5/15/Annex II to decision IPBES-5/1[h].

Indigenous and local knowledge systems are in general understood to be bodies of integrated, holistic, social and ecological knowledge, practices and beliefs pertaining to the relationship of living beings, including people, with one another and with their environments. Indigenous and local knowledge is grounded in territory, is highly diverse and is continuously evolving through the interaction of experiences, innovations and various types of knowledge (written, oral, visual, tacit, gendered, practical and scientific). Such knowledge can provide information, methods, theory and practice for sustainable ecosystem management. Many Indigenous and local knowledge systems are empirically tested, applied, contested and validated through different means in different contexts.

Maintained and produced in individual and collective ways, Indigenous and local knowledge is at the interface between biological and cultural diversity. Manifestations of Indigenous and local knowledge are evident in many social and ecological systems.

1.3 INDIGENOUS KNOWLEDGE GOVERNANCE AND PROTOCOLS

Our knowledge is closely connected to our governance – our ways of deciding about how knowledge continues to be practiced, by whom, where and in what form. The most fundamental principle for good governance of Indigenous knowledge is that of our rights, as set out in the United Nations Declaration on the Rights of Indigenous Peoples and other international laws and policies, to self-governance or autonomy (Article 4), and the requirement for free, prior and informed consent for any usage of our knowledge (Article 11) (Box 1-1).

Indigenous knowledge is owned, performed and shared by groups of people, the Traditional Owners of that knowledge. In some Australian Indigenous societies, knowledge is protected by *managers* or *caretakers* who have rights through kinship to supervise and control the use and performance of certain aspects of knowledge. Not all knowledge is freely available. Only Traditional Owners who have knowledge, specific relationships, and special rights and responsibilities can speak for Country[10]. Different groups have different rules for knowledge, for how, when and with whom it can be shared[11]. Some knowledge can only be shared when we are on Country, and sometimes several senior custodians need to be present. Some knowledge is shared only through special ceremonies, dances or songs. Following our knowledge protocols is vital for our cultural safety and obligations.

Speaking for Country involves having the rights to Country, listening to Country, interpreting that knowledge, and communicating it to others[7]. As Patricia Marfurra McTaggart explains[12 (p.135)]:

Us Mob are different from all other Aboriginal people: different language, custom, culture, songs and dances

In Australia, we keep our Indigenous governance strong, working within the constraints of non-Indigenous governments now on our traditional territories. Our governance systems emphasise networks, and collective decision-making among self-defined social groups[13]. Our governance systems connect us with rights over our knowledge, as explained by Rose[14 (p. 2)]:

Knowledge … points to Country and to relationships between the possessor of knowledge and the Country to which it refers. Performance of knowledge (through song, dance, story, history, use of Country) is a performance of ownership: it identifies the person as one with rights and responsibilities to that Country.

h https://www.ipbes.net/event/ipbes-5-plenary

1.4 INDIGENOUS KNOWLEDGE, CULTURES AND COUNTRY

Indigenous knowledge comes from Country, from our ancestors and ancestral beings present in Country today. Our use of the term *Country* can challenge non-Indigenous people's understanding of the word. When we talk of Country, we are referring to all of those places that Traditional Owners speak for, the landscapes and the particular named sites and significant places within those landscapes[15,16]. A person's Country might include land and sea. It might include freshwater places and/or the intertidal zone. It includes the cosmos, and the winds and clouds.

We are connected to our Country in many and diverse ways[2,15,17]. Our kinship relationships connect us as Aboriginal and Torres Strait Islander Peoples within a network of other people, plants, animals and features in the landscape[18]. These relationships are formed through Country[19]. Connection is maintained through our knowledge and through our actions to care for our Country. Our physical presence on Country reproduces our knowledge, including of seasonal and long term changes[19]. We renew our relationships with Country through gathering, preparing, sharing and eating food from Country. We collect, prepare and use plants as medicines and for the creation of arts and crafts. We observe and talk with Country. We look after our sacred sites and dance, sing and hold ceremonies about the life-giving nature of Country[20,21].

Caring for Country keeps our cultural life, identity, autonomy and health strong[9,22-24]. Kinship, language and culture come together in our land and sea management activities and shape our health and well-being[22,23,25]. We rely on our power to look after Country – if we fail in our obligations to keep our Country healthy, we believe that the health of the Traditional Owners will also fail[26].

Our cultures are rich and diverse across our language and clan groups. We sometimes use the English words *law* and *lore* as a way to talk about our cultures. *Culture* in the Indigenous sense has legal, political and moral force. Many Indigenous people talk about the unchanging nature of this law and culture, and how this is different from non-Indigenous laws, which seem to constantly change[27]. Culture and Country are spoken about together:

> *When I talk about culture, I talk about the Country. The Country is alive. The river, the land they're all an energy system … It's also a healing mechanism – this relationship between land and people – we need to have this connectivity to Country.*
>
> Anne Poelina[29] (p.19)

The *Dreaming* is important in all Australian Aboriginal cultures, and has different names – Ngujakura[29], Altyerre[30], Tjukurpa[31], and many others. During the Dreaming, ancestral beings in both human and animal form moved across the land singing, fighting, marrying – or tricking or helping one another. As they travelled, they created all parts of Country – the lands, waters, plants and animals, rock features, the people, languages, ceremonies. They also established the moral, practical and spiritual laws that still govern our Indigenous societies. At journey's end, the ancestral beings transformed themselves into important waters, hills, rocks, stars and metaphysical entities. Knowledge of the stories of those ancestors is held collectively by senior people, with some culturally strong knowledge held by select individuals. Ancestral beings generated some of the earliest Indigenous knowledge and persist as part of Country. The land itself also contains and reveals knowledge, as do the species which keep it alive[32].

Culture and Country, and the laws and practices that nurture and protect them, place a heavy obligation on current custodians to protect and pass on as much as we can to subsequent generations[33]. Yolŋu Traditional Owners explain this well in Case Study 1-1 (excerpt from the Dhimurru Indigenous Protected Area Management Plan 2015-2022).

CASE STUDY 1-1

Ancestral spirit beings of the Dhuwa and Yirritja in Yolŋu culture

Authors: Dhimurru Aboriginal Corporation

- Dhuwa and Yirritja are ancestral beings in Yolŋu culture
- The journeys of Dhuwa and Yirritja created the world and linked people in a network of life
- Art, dance, song and deep connectedness of kinship connect us to Country, people, beliefs, knowledge, law, language, symbols, ways of living, sea, land and objects

Ancestral Spirit Beings of the Dhuwa and Yirritja moieties created us and the known world – the celestial bodies, land, sea, living plants and animals. The journeys of these ancestral creators created our landscapes and seascapes and breathed life into all living things on our Country. The origins of these ancestral beings, their behaviour as they crossed the landscape, their meetings with other ancestral beings and their resting places have marked our land and sea Country with sites of great significance to us. From these ancestral journeys and the network of important sites created across the land and sea, we gain our names, our identity and our way of life.

We call up the names we have for important places in our land and sea Country for different reasons and purposes – some are deep and secret. We celebrate and respect these creation journeys with their network of important sites in everyday life and in more serious ceremonial rituals. They link us to each other and our world, they connect us to our land and sea Country and everything within it. Our stories do not work alone; we are endowed with art, dance, song and deep connectedness of kinship. We weave together the narratives of ancestral beings, important and sacred sites and creation activities across the lands of inter-related estate owning and language groups. All this is our cultural heritage, which gives us our society, our traditions of politics, history and knowledge and guidance on how to live in harmony with our land and sea Country.

Indigenous cultural heritage is dynamic. It includes tangible and intangible expressions of culture that link generations of Indigenous people over time. Indigenous people express their cultural heritage through 'the person', their relationships with Country, people, beliefs, knowledge, law, language, symbols, ways of living, sea, land and objects all of which arise from Indigenous spirituality[33] (p. 46).

We are connected into family groups that link us with each other, and with plants and animals known as our *totems*. Kinship systems and totems are different among our many cultures. The Warmun community in the east Kimberley have explained their Kija system:

> *Everyone is born into a skin group and has a skin name … There are sixteen skin names in the Kija skin system. The skin name we are given depends on our mother's name (Figure 1.4).*
>
> *Female skin names are passed from mother to children in two cycles. In the first cycle, if a woman's skin name is Nangari, her daughter's skin name is Nangala.*
>
> *Each female name has a matching male name (Table 1-1). The matching names are brothers and sisters. When Kija marry, they must choose someone from the other skin name cycle.*
>
> *We believe the Kija skin system was given to us by our Spirit Ancestors who created this Country. They have skin names as well. Each skin name is also connected with an animal. We call these our totems (Table 1.2). So our skin systems link us with our Dreaming and with animals that live in our Country* (Warmun Community[34] pp.10-12).

Figure 1.4. Kija skin cycles. Source: Pelusey and Pelusey, 2006.

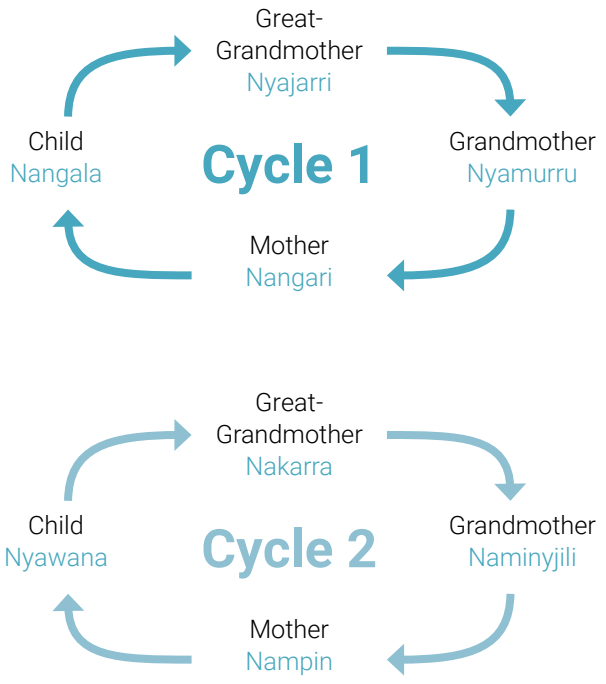


Table 1.1. Kija brother and sister skin names. Source: Pelusey and Pelusey 2006.

Cycle one skin names		Cycle two skin names	
Sister	Brother	Sister	Brother
Nyajarri	**Jawalyi**	Nakarra	**Jakarra**
Nyawurru	**Juwurru**	Naminyjili	**Jungurra**
Nangari	**Jangari**	Nampin	**Jampin**
Nangala	**Jangala**	Nyawana	**Janama**

Table 1.2. Kija skin names and totems. Source: Pelusey and Pelusey 2006.

Female skin name and totem		Male skin name and totem	
Nyajarri	Bush turkey	**Jawalyi**	Dingo
Nyawurru	Emu	**Juwurru**	Crocodile
Nangari	Crow	**Jangari**	Eagle
Nangala	Brolga	**Jangala**	Goanna
Nakarra	White-tailed kangaroo	**Jakarra**	Kangaroo
Naminyjili	Magpie	**Jungurra**	Frill-necked lizard
Nampin	Black-headed snake	**Jampin**	Hawk
Nyawana	Water monitor	**Janama**	Hill python

The *Anpernirrentye framework for enhanced application of Indigenous ecological knowledge in natural resource management* is a model developed between Arrernte Aboriginal people and researchers to build understanding (Figure 1.5)[30]. It shows how Arrernte knowledge about plants is connected to all aspects of Arrernte life.

The figure shows major domains (large circles) and associated elements or values of the plant species (small circles). These elements are equivalent to cultural values inherent in a plant species. There are many and complex interrelationships between a bush food species, Dreaming, Country and people. Thus, species have multiple connected values[30].

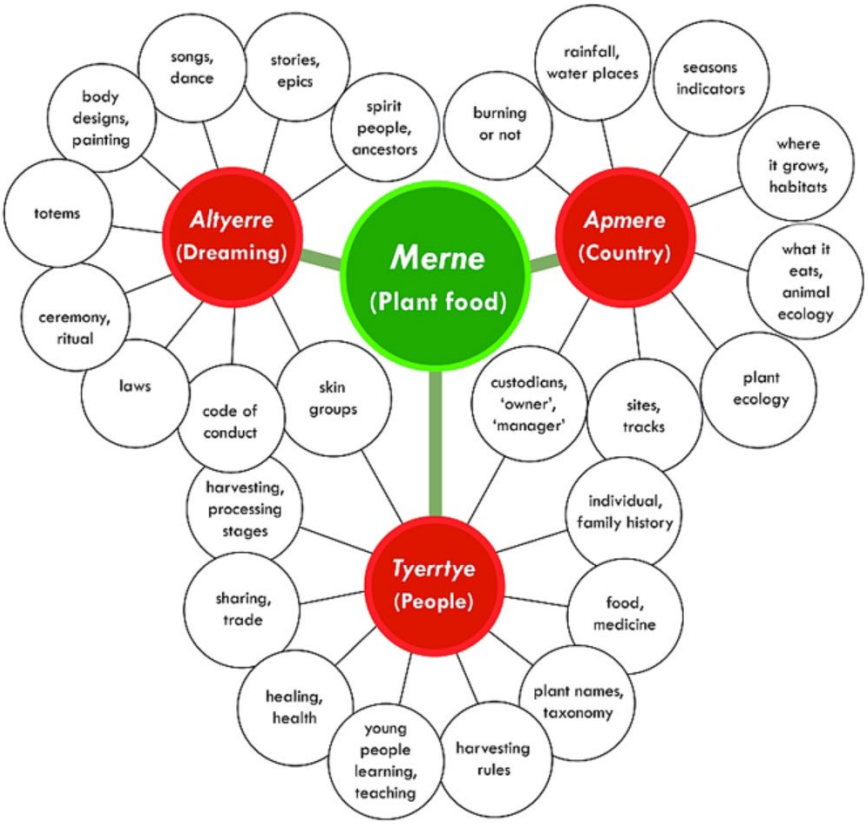


Figure 1.5. The Anpernirrentye framework. Source: Walsh, Dobson and Douglas (2013); Figure 2.

1.5 COLONISATION AND INDIGENOUS KNOWLEDGE

1.5.1 Impact of colonisation

The colonisation of Australia has led to devastation of much of our Country, for which we feel a heavy responsibility. These words from a Juwaliny-Walmajarri woman help to explain her responsibility to care for her traditional lands, her waterholes, or jila[35 (p.40)]:

> *We were crying when we saw that place [when we returned to our desert homelands]. The waterholes were black with the kura [faeces] of the camels. We had to clean that place out, clean out all the kura and kumpu [urine]. We did that juju [ritual]. We tell the water we're sorry, we're back now; we won't leave you for such a long time again. When we leave that place, we tell the jila, [waterhole] 'don't worry, we'll come back, we'll see you next time ...'.*
>
> Juwaliny-Walmajarri woman

For thousands of years, we occupied and took responsibility for our lands and seas, with boundaries established through intimate cultural relationships and languages (Figure 1.3). First contact between Aboriginal Australians and British colonisers in 1788 quickly escalated into frontier violence. Cultures and lands were divided in ways that continue to split Australia. One of the most immediate and devastating impacts of British colonisation was the introduction of diseases. Many of the Eora people from the foreshores of Sydney Harbour died from small pox in the first years of colonisation. Frontier conflict varied widely in duration and intensity in Australia from the 1790s to the 1930s[36].

Massacres of our people occurred across Australia, the most widely documented occurring at Forrest River NT and Myall Creek NSW[36]. Colonisation dramatically reduced the numbers of our people. Government policies of forced removal from our land and assimilation with the colonising society led to decline of our Indigenous languages[37]. Estimates of the number of languages spoken in Australia before colonisation vary, but sources suggest a figure of between 200 and 300[37]. In the 2016 Census, around 160 of these languages were reported as being spoken at home, and only 13 by children[38].

This colonial aftermath has powerfully shaped our experiences as Indigenous Australians from the late 1700s to the present day. Our social, political, economic and spiritual well-being continues to be systematically eroded[39]. This has a far-reaching impact on Indigenous culture and knowledge. Our Aboriginal and Torres Strait ancestors showed resistance, bravery and, above all, extraordinary resilience in the face of colonisation[8]. We have kept our knowledge alive and strong throughout the time since colonisation, and now are finding safe ways to share it. For example, we have kept our knowledge of the powerful connections and responsibility of Darkinjung, Darug, Gundungurra, Dharawal, Wanaruah and Wiradjuri people for our Country in the mountains around Sydney, despite ongoing destruction of our sites and our societies. Our adaptive cultures, continuing practices and connections to the ancient art, historic events, songs and stories of what is now known as the Greater Blue Mountains are gaining recognition as part of the outstanding values of this World Heritage Area[40].

Now is the time for recognition, reconciliation and starting the journey towards healing. Towards this goal, the Dr Charles Perkins AO Annual Memorial Oration was established in acknowledgement of his tireless dedication to human rights and social justice for Indigenous Australians. Each year, a spokesperson within the field of Indigenous and non-Indigenous race relations is invited to give the oration.

1.5.2 Healing impacts of colonisation with Indigenous knowledge

Our response across Australia to transition away from colonisation is to begin the healing of Country together with the healing of our Peoples. This is not to gloss over or trivialise the devastation that our people endure from the disasters inflicted by colonisation – but to show that we continue, and our pathway continues, for the future of our Indigenous societies[41]. As Dja Dja Wurrung woman, Rebecca Phillips explains[42 (p.1)]:

> *Dhelkunya Djandaki, Dhelkunya Murrup, Dhelkunya Djaara Ngulumbarra – Murun dhelk (Healing our Country, Healing Spirit, Healing People gathering together – living good health). Dhelkunya Dja – healing land or make good Country – is the foundation of knowing that we are all a part of something much bigger than ourselves. That we are connected to the health and well-being of our environment and our community. Healing one part will help heal another.*
>
> Rebecca Phillips

In *The Elders' Report into Preventing Indigenous Self-harm and Youth Suicide*[28], Elders[i] explain the impact of colonisation on the loss of culture, and the critical reasons for rebuilding cultural strength:

> *The only way to stop suicide is to fulfil our cultural obligation to teach our young people because that's what we have been brought up with, strength of character through strength of culture, not by white man's cultural obligation, we need to educate our young ones culturally.*
>
> George Gaymarrangi Pascoe[28 (p.46)]

> *We want Government to support the Elders so we can teach culture to our young people – when they have culture first they have the very thing that will hold them strong through their lives no matter what they choose to do or where they choose to do it.*
>
> Eustice Tipiloura[28 (p.9)]

We know our young people are responsible for carrying knowledge forward for the benefit of future generations[30]. The youth need opportunities to learn about how to construct, rehearse, perform and celebrate knowledge practices collectively, as well as knowledge of place names and stories. Art centres are very important for keeping our practices going[43].

> *Corroboree and painting are like our archives. This is what the art centre is. That's what the Old People wanted. It keeps us strong and keeps connection to Country and gives us strength to live in the white man's world.*
>
> Gabriel Nodea, Kija Artist and Chairperson of Warmun Art[43]

i Elders, Old People and Traditional Owners are upper case throughout in accordance with protocols of respect..

Older people today don't find many opportunities to be out on Country with our younger generations to share knowledge, such as about healthy bush tucker[44]. Many Traditional Owners want to record knowledge before it is lost, as older knowledge holders pass away:

There is a small group of us older people still trying to follow the way of the ancestors. We are worried about what young kids are thinking. Kids today are moving with time too fast … too quickly. We need to get all these things documented and kept archived and when the little kids are older they can go back to those things … and know two ways. When they are going to school they are learning 'that' way, and when they are here with us they are learning 'our' way.

Patricia Marrfurra McTaggart[12] (p.138)

I made this painting after eating bundjunu (bush orange) … I was thinking about how we used to eat when I was a child … I was thinking about nowadays … and about the rubbish that our children eat.

Yolŋu Elder Mulkuŋ Wirrpanda, explanation for her first bark painting of Bundjunu (*Capparis umbonate*)[44]

When we welcome people to our Country, we are deeply sharing these connections, inviting the visitors to listen and form their own connections, and become part of this journey of healing. As Aunty Shaa Smith, story holder for Gumbaynggirr Country explains, Welcome to Country is a time for everyone to acknowledge Country themselves (Case Study 1-2).


CSIRO

CASE STUDY 1-2

Dunggiidu ngiyaanya ganggaadi (Heed the Call of Dunggirr, Koala)

Authors: Aunty Shaa Smith, Neeyan Smith, Sarah Wright, Paul Hodge and Lara Daley

- Yandaarra, Gumbaynggirr for 'shifting camp together'
- Living protocols in the face of colonisation
- A planting ceremony, Dunggiidu ngiyaanya ganggaadi
- Healing Country and people together, coming back into the whole and placing us in the web of life

Planting the eucalyptus trees for Dungirr: North Farm. Photo: Yandaarra

We call ourselves Yandaarra, which is Gumbaynggirr for a group shifting camp together. We are Aunty Shaa Smith, story holder for Gumbaynggirr Country, her daughter, Neeyan Smith, and Sarah Wright, Paul Hodge and Lara Daley, three non-Gumbaynggirr academics from the University of Newcastle which sits on Awabakal Country. We see Yandaarra as binding beings together, living the protocols of Maangun, the Lore/Law, of the Dreaming. We also see Yandaarra, our research, as a re-creation story. It's about remembering what was (what is) as part of recreating, rebinding, remaking protocols as we honour Elders and custodians, human and non-human, past, present and future. Our intercultural collaboration requires us to know our place and histories.

Though it is not the same everywhere, for Yandaarra on Gumbaynggirr Country, Aunty Shaa suggests a need to see the violence of colonisation as part of a creation story as well. It is destruction but it is also creation. We are in that creation time now. The *Dunggiidu ngiyaanya ganggaadi* (Heed the Call of Dunggirr, Koala) planting ceremony is one such gathering and yarn that took place in November and December, 2018 connecting three places on Gumbaynggirr Country: North Farm, Scotts Head and Yarriabini.

Dunggiidu ngiyaanya ganggaadi is Country speaking, Country calling. Heeding the call, Yandaarra, the Jaliigirr Biodiversity Alliance of NRM practitioners, Bellingen Landcare and local landholders came together at North Farm, a property just outside of Bellingen on the mid-north coast of NSW. Calling in ceremony and the Old Fellas, connecting the eucalyptus tree planting for improved Dunggirr habitat to the Dunggirr creation story, Aunty Shaa invited those present to connect and belong in place, in and on Gumbaynggirr Country, in new ways. As Aunty Shaa reminds us:

There is no longer just Gumbaynggirr people on Gumbaynggirr Country. We are at a stage where radical change is necessary, and Gumbaynggirr wisdom can help create a new pathway of how to live on and with Mother Earth as kin.

In heeding the call of Dunggirr, in creation time now, Aunty Shaa led the story, which continued at Scotts Head and Yarriabini as she followed the Dreaming yarn and its lessons on how to live now. This yarn is the recreating, rebinding, remaking of protocols for NRM practitioners and those working on and with Country. This honouring, this remembering, learning our responsibilities to Maangun, Lore/Law, is at the heart of Yandaarra as we shift camp together on Gumbaynggirr Country. For Aunty Shaa:

The Dreaming stories hold and carry the Lore/Law of how to live on this earth. And that Lore/Law has been passed on for thousands upon thousands of years, from generation to generation for so long.

Aunty Shaa invited those present, the non-Gumbaynggirr as well as Gumbaynggirr participants, to invite in their ancestors as part of building that relationship to Gumbaynggirr Country. Opening up difficult conversations, people shared what came in for them as they 'called in' their ancestors, 'warts and all', including recognising colonising legacies and violence so prevalent in Australian race relations. For Aunty Shaa, acknowledging these difficult pasts, as part of 'calling in' is to accept that destruction is part of the healing and building of an honest relationship with place, to belong now on Gumbaynggirr Country.

Heed the Call of Dunggirr, Koala planting ceremony invitation. Artwork: Aunty Shaa. © Yandaarra

Planting ceremony participants: North Farm. Photo: Yandaarra

1.5.3 New protections needed for Indigenous knowledge rights

The frequent calls for wider use and application of traditional knowledge, innovations and practices is of concern to Indigenous communities[45].

Indigenous cultural and intellectual property (ICIP) rights are based in customary laws which are not properly recognised by the Australian nation-state or international legal systems. Commonly, once our knowledge leaves our customary territories, we lose control over its future use[46]. Misappropriation and misuse of our Indigenous knowledge is frequent. A recent discussion paper highlighted some of these problems:

- Indigenous languages and clan names are being used without the consent of the Traditional Custodians
- Copyright law passes ownership of Indigenous knowledge to the recorder of the knowledge, unless there is an agreement that protects the copyright. Once Indigenous knowledge is recorded, controlling access, use and interpretation of underlying Indigenous knowledge contained in those works is often beyond the control of the owners of the Indigenous knowledge rights
- Fake Indigenous arts and crafts products are being sold
- Traditional knowledge of Indigenous Peoples is being commercially exploited without benefits flowing to communities
- Indigenous knowledge of genetic resources (e.g. edible plants) is being used to commercialise products (e.g. bush foods) without benefits being shared
- Sacred and secret knowledge is being used in ways that are considered harmful by traditional custodians[11].

Currently, international ICIP law does not provide adequate protection for Indigenous knowledge[47]. ICIP law focuses on protecting 'new' information that has been 'discovered'. Indigenous knowledge that is transgenerational and communally shared is considered to be in the public domain and unprotectable. We want to protect our Indigenous knowledge and reclaim ownership of Indigenous and local knowledge (ILK) materials released publicly through unauthorised access. The well-established protection of intellectual property (IP) in inventions, literary and artistic works, designs, symbols and images through patents and copyright can help[48]. Traditional knowledge labels or an emerging biocultural label concept can also be used to identify and clarify which material has community-specific restrictions regarding access and use[49], and be a tool in delivering and implementing cultural protocols directly into digital repositories and across available software platforms. Nevertheless, new national laws and policies are needed to provide the protections sought by Indigenous Peoples[50]. IP Australia[j] is looking at ways the IP system can better support Aboriginal and Torres Strait Islander Peoples to protect and benefit from their Indigenous knowledge.

Any legal regime that affords reasonable protection for Indigenous knowledge must also provide security for:

- Sacred property (images, sounds, knowledge, material, culture or anything that is deemed sacred and thereby not commodifiable)
- Knowledge of current use, previous use, and/or potential use of plant and animal species, as well as soils and minerals
- Knowledge of preparation, processing or storage of useful species
- Knowledge of formulations involving more than one ingredient
- Knowledge of individual species (planting methods, care for, selection criteria, etc.)
- Knowledge of ecosystem conservation (methods of protecting or preserving a resource that may be found to have commercial value, although not specifically used for that purpose or other practical purposes by the local community or the culture)
- Biogenetic resources that originate (or originated) on Indigenous lands and territories
- Cultural property (images, sounds, crafts, arts and performances)
- Classificatory systems of knowledge, such as traditional plant taxonomies[51].

j https://www.ipaustralia.gov.au/about-us/public-consultations/indigenous-knowledge-consultations

Protection of these 'components' of traditional resources would be adequate only if they are conserved, maintained, and enhanced *in situ* – as a part of the lands, territories and cultures of the Peoples themselves[46].

In Australia, options to improve the current situation include:

- Requiring free, prior and informed consent and access and benefit-sharing in government-funded programs
- Standardising research protocols and guidelines
- Making protocols enforceable
- Greater use of trademarks and branding
- Developing standard research agreements that ensure the rights over knowledge are with the Indigenous people
- Changes to the *Native Title Act 1993* (Commonwealth) and other legislation to respect and protect Indigenous rights and interests to our knowledges
- Specific legislation for Indigenous knowledge[11].

1.5.4 Knowledge sharing protocols

Our knowledge protocols are vital to positive experiences in sharing knowledge. It is our business to know and follow our own cultural protocols when sharing knowledge within each of our different Traditional Owner groups.

We have worked together with scientists and others to establish protocols and guidelines for sharing knowledge outside. For example, scientists and Traditional Owners worked together in a National Environmental Science Program project that distilled four key lessons for sharing fire knowledge[27 (p.22)]:

1. Indigenous peer-based knowledge sharing on Country, for example through 'fire walks', promotes and grows Indigenous knowledge, which is highly valued by Indigenous fire practitioners and leaders across Australia and critical to effective partnerships.
2. Knowledge sharing between Indigenous and non-Indigenous fire experts and practitioners is key to managing contemporary landscapes. Sharing can be formal or informal and needs to be co-designed with Traditional Owners and empower Indigenous decision-making to effectively support Indigenous fire management partnerships.
3. Knowledge-sharing relationships are key for collaborative and adaptive management. They inform partnership negotiation, design, and the monitoring and evaluation of the multiple benefits, risks, opportunities and practices of Indigenous fire management projects and partnerships.
4. Successful Indigenous fire knowledge practices and partnerships are embedded in and influenced by knowledge about people, Country and fire institutions. Systems thinking can help link Indigenous and non-Indigenous knowledge and facilitate knowledge partnerships.

Many of our Indigenous groups, through their representative organisations including Prescribed Bodies Corporate, Aboriginal Corporations and Land Councils, are formulating their own protocols and guidelines for partnerships. For example, in their Healthy Country Plan[52], the Bardi Jawi have established *Traditional Owner Engagement and Protocols* that apply to knowledge sharing (Box 1-3).

Box 1-3 Bardi Jawi: Traditional Owner engagement and protocols[52 (p.7)].

Traditional Owner Engagement and Protocols

Agencies often have difficulty in engaging and consulting effectively with Traditional Owners. Time constraints and not knowing who to speak to often result in poor outcomes for everyone.

An outside agency or individual may be welcomed to a community and believe that the matter they are there to discuss has been well received. They may believe that permission has been obtained for the proposed work to go ahead. In many cases work may be stalled later over heritage, legislative or intellectual property concerns. Under native title, a council oversees crucial decision-making processes. The Bardi Jawi Niimidiman Prescribed Body Corporate (RNTBC) is the peak council and must be formally approached about any matter that may affect Bardi Jawi land and sea Country.

Any proposal concerning research, joint management or development to do with cultural heritage, use or documentation of traditional knowledge, or on-ground works, must be referred to the RNTBC for consideration. Failure to refer a project may lead to legal action.

Source: Kimberley Land Council and and Bardi Jawi Niimidiman Aboriginal Corporation RNTBC

In the absence of good laws to protect our ICIP, we work with contracts and protocols for recognition of our rights[53]. Agreement-making between Traditional Owners and partners, based on following Indigenous knowledge protocols, can provide for both customary law and Australian nation-state legal protection. We have developed agreements about using our local cultural protocols for working with our governments to ensure free, prior and informed consent for their activities. For example, the Dja Dja Wurrung Clan's Aboriginal Corporation (DDWCAC) supported the processes of FPIC for a Joint Management Plan with the Victorian Government. Dja Dja Wurrung (DDW) people engaged in collective understanding through several activities including: DDW Champions Focus Groups, with several held on Country; Healthy Country Planning workshops; the DDWCAC Annual General Meeting; opportunities for interactive online mapping; and a three-day 'Map-a-Thon' workshop in collaboration with Parks Victoria. The DDWCAC Board made decisions at six board meetings held during 2017-18 (Box 1-4)[54].

Indigenous leaders in Perth worked with the National Trust of Australia to provide guidance about how our rights and understanding of knowledge, respect and ownership are the foundations for interpreting our heritage. Rights and understanding underpin the practical methods of an Indigenous Reference Group and agreement-making (Box 1-5)[55].

Box 1-4 Dja Dja Wurrung people's cultural protocols for free, prior and informed consent for joint management plan with the Victorian Government[54 (p.16)].

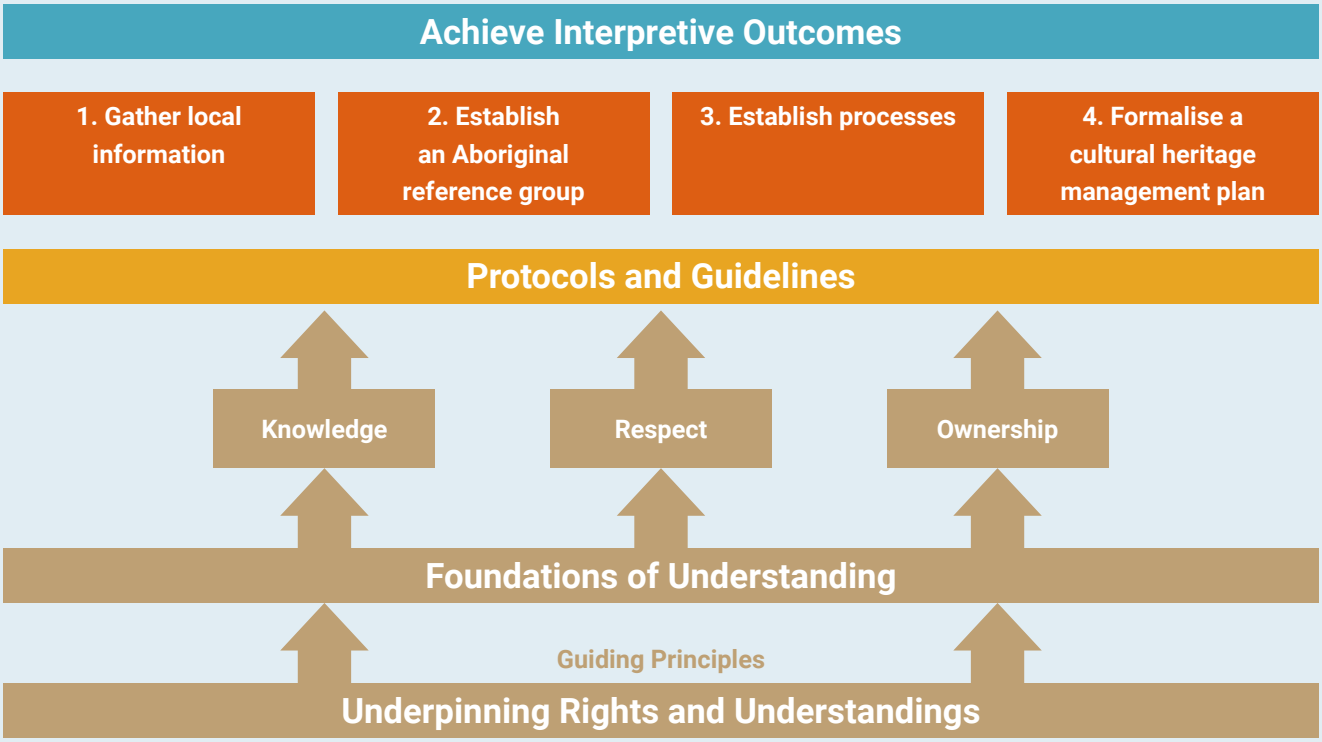
Dja Dja Wurrung free, prior and informed consent (FPIC) timeline
DDW Participation and Consultation

May 2017	DDW Champions Focus Group: Bendigo input to scope of the Plan
June 2017	DDW Champions Focus Group: Hepburn Regional Park on-Country discussions
August 2017	DDW Champions Focus Group: Kooyoora State Park and Wehla Nature Conservation Reserve on-Country discussions
October 2017	DDW Champions Focus Group: Paddys Ranges State Park and Kara Kara National Park on-Country discussions
November 2017	DDW Enterprises and Conservation Management; Healthy Country Planning workshop
December 2017	DDWCAC Annual General Meeting: Project display and interactive mapping
December 2017	DDW Map-a-thon: Interactive mapping over three days
February 2018	DDW Champions Focus Group: Greater Bendigo National Park on-Country discussions
May 2018	DDW Champions Focus Group: Feedback on Draft Plan
August 2018	DDW Champions Focus Group: Discussions of Final Plan

Dja Dja Wurrung free, prior and informed consent (FPIC) timeline
DDWCAC Board decision-making and consent

May 2017	DDWCAC Board: Consent to scope of Plan
October 2017	DDWCAC Board: Consent to Summary of Stakeholder Engagement
February 2018	DDWCAC Board and DDLMB: joint meeting about Draft Plan
February 2018	DDWCAC Board: Consent to Draft Plan for public release
July 2018	DDWCAC Board: Consideration of Final Plan
August 2018	DDWCAC Board: Consent to Final Plan

Box 1-5 Underpinning rights and understanding for sharing/interpreting cultural heritage[55 (p. 13)].



There are also important guidelines for knowledge sharing that have been developed by Australian organisations, including the Australian Institute for Aboriginal and Torres Strait Islander Studies (AIATSIS), the National Health and Medical Research Council (NHMRC), the Australian Government and others:

- Ethical guidelines for research with Aboriginal and Torres Strait Islander Peoples[k]
- Guidelines for Ethical Research in Australian Indigenous Studies[l]
- We're a Dreaming Country: Guidelines for interpretation of Aboriginal Heritage[m]
- Working with Indigenous knowledge in Natural Resource Management – Guidelines for Regional Bodies[n]
- Indigenous Engagement with Science: Towards Deeper Understanding. Expert Working Group Report[o].

k https://www.nhmrc.gov.au/research-policy/ethics/ethical-guidelines-research-aboriginal-and-torres-strait-islander-peoples

l https://aiatsis.gov.au/research/ethical-research/guidelines-ethical-research-australian-indigenous-studies

m https://www.nationaltrust.org.au/wp-content/uploads/2015/09/WereaDreamingCountryWEBOct13.pdf

n https://webarchive.nla.gov.au/awa/20090217231544/http://pandora.nla.gov.au/pan/94645/20090214-0001/www.environment.gov.au/indigenous/publications/pubs/guidelines.pdf

o https://www.industry.gov.au/sites/default/files/2018-10/inspiring_australia-indigenous_engagement_with_science-towards_deeper_understandings_2013.pdf

1.6 THE BENEFITS OF LEARNING FROM EACH OTHER AND FROM COUNTRY

As Indigenous people, we enjoy learning from each other, and from Country. Recent research has shown that sharing knowledge can be negatively associated with our well-being, while learning is positively associated[56]. We think this is because of our heavy responsibilities to follow cultural protocols when sharing knowledge, a responsibility that is not always well understood by those with whom we may be asked to share.

Seven key messages about the benefits of Indigenous land and sea managers learning from each other were identified at the Kimberley Ranger Forum in 2017:

1. Being on Country, welcomed by Traditional Owners, following cultural protocols and reciprocity, sets the tone for respectful and collaborative deliberations, creating the right environment for learning, sharing and growing together.

2. Rangers are empowered through social cohesion, collegiality and a sense of pride experienced at the Forum.

3. Groundedness in Indigenous cultural ways of knowing, being, doing and learning through story, song, dance, art, language, family and kinship connections are most important in creating a safe space where Aboriginal and Torres Strait Islander Peoples can be who we are – honouring and acknowledging how we best learn, share from and grow with each other.

4. Peer-to-peer exchanges and one-on-one interactions allow for more targeted learning and follow up.

5. Exchanging/sharing common experiences, successes and challenges allows rangers to feel heard, valued and understood in being central to the success of any land and sea management program, through identifying what works and why in policy, program design and on-ground activities. This also supports women rangers and land managers to be stronger and more confident in our own roles and decision-making.

6. Engaging in practical, hands-on activities together, particularly the realistic first-aid scenarios, building the tables, the smack-down on the beach and fixing machinery, are great ways to undertake training.

7. Greater formal and informal interaction between rangers and non-Indigenous invitees to Forums can cultivate more of a collaborative working culture (collaborative empowerment)[57].

> *I love hearing the ideas and different perspectives from different people and the way they work on Country.*
>
> Cissy Gore-Birch,
> Kimberley Ranger Forum, August 2017.

The Forum was uplifted by happiness and unity of purpose. We hope that these Guidelines will also be a source of happiness and unity of purpose. We have included numerous links to videos and online material throughout the Guidelines and in the future would like to produce more videos and online tools to support people who like to learn in different ways.

Figure 1.6. Hundreds of Indigenous rangers from across northern Australia gathered at the Kimberley Ranger Forum in 2017. Photo: Kimberley Land Council.

1.7 LESSONS TOWARDS BEST PRACTICE FROM THIS CHAPTER

Important ideas and guidance from Indigenous Peoples:

- Indigenous knowledge is highly diverse and has many different terms – traditional ecological knowledge (TEK), local knowledge, cultural heritage, lore and practices
- Indigenous knowledge is owned by groups of people – Traditional Owners of that knowledge, and is protected by customary laws
- Different groups have different protocols – rules that govern knowledge. This includes protocols about who holds and shares knowledge, when and with whom
- All Traditional Owners have heavy responsibilities to follow knowledge protocols, keep and pass on our knowledge, and to keep Country and cultures strong
- Our knowledge governance emphasises networks and collective decision-making among self-defined social groups
- Our knowledge connects us to our Country and our cultures, which are diverse across Australia
- Colonisation eroded our social, political, spiritual and economic well-being
- Practising our knowledge and knowledge protocols helps healing
- Learning through Indigenous peer-to-peer knowledge exchange on Country, following local cultural protocols, is an enjoyable and successful way to strengthen our knowledge.

Resources and guidance for partners:

- Following the knowledge governance and protocols of the Traditional Owners of that knowledge is vital to positive experiences in using and sharing knowledge, as is the respect and recognition of rights of ownership by Indigenous Peoples of their Indigenous cultural and intellectual property (ICIP)
- Free, prior and informed consent and benefit-sharing agreements are recognised nationally and internationally as necessary for positive knowledge sharing
- Many national, regional and local guidelines formulated by Indigenous Peoples and specific Traditional Owner groups exist that can help partners support positive experiences in knowledge sharing
- Support for Indigenous governance practices, usually based on networks and collective decision-making, is vital for following knowledge protocols
- Relationships between people underpin positive experiences in knowledge sharing
- Groundedness in Indigenous cultural ways – story, song, ceremony – creates a safe space for sharing.

Actions and issues for Indigenous people and partners in working towards best practice:

- Respectfully working together on knowledge can foster reconciliation and healing to overcome the legacies of colonisation
- ICIP are based in customary laws that are not properly recognised in Australian or international legal systems.
- Agreement-making between Traditional Owners and partners, based on Indigenous knowledge protocols, can provide for both customary law and Australian nation-state legal protection
- New laws are needed to provide protection for ICIP.

2

STRENGTHENING
OUR KNOWLEDGE FOR COUNTRY

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HIGHLIGHTS

- Our role in caring for Country
- The importance of listening and hearing Country
- The connection between language, songs, dance and visual arts and Country
- The role of Indigenous women in caring for Country
- Keeping ancient knowledge for the future
- Modern technology in preserving, protecting and presenting knowledge
- Unlocking the rich stories that our cultural heritage tell us about our past
- Two-ways science ensuring our kids learn and grow within two knowledge systems – Indigenous and western science.

2.1 INTRODUCTION TO CARING FOR COUNTRY

It is part of our responsibility [to be] looking after our Country. If you don't look after Country, Country won't look after you.

April Bright[2] (p.49)

Our caring for Country includes people, animals, plants, the dead, and the yet to be born. There is sea Country, land Country; sky Country too … it exists both in and through time. We see caring for Country as custodial, looking after things for the next generation[58]. In the words of academic Jon Altman[9] (pp.221-222):

Indigenous people have … spiritual connection, obligations to occupy and nurture a landscape that is perceived as sentient and dear. People have an ethic of care and custodianship and personal relationship to the land and species and sites of significance; this means the condition of Country is linked to their sense of self-worth, notions of being and well-being and happiness and sense of future hope.

Jon Altman

In Australia, our rights and responsibility for our traditional territories have been recognised over almost half the land area and some of the seas[9,59,60]. Even where our rights are not recognised, we still have responsibilities to care for our Country. Using our knowledge our way is vital to everything we do in caring for Country[58]. Our land and sea management includes, but is not limited to: on-ground physical actions; cultural management actions; being present on Country; engaging in research; monitoring and evaluation; and engaging in planning and decision-making processes[33,61].

We have a proud history of 65,000 years as active custodians of Australia's vast land and seascapes[62]. Each of our 250 Australian Indigenous language groups has their own unique and deep-time knowledge base for caring for Country (Figure 1.3). We also each have our own unique struggles in seeking legal recognition of our rights to our land and sea[60]. The Mabo High Court decision of 1992 recognised that we Indigenous Peoples of Australia have rights to our ancestral lands under their customary law[13,59]. We wish to control, direct and manage our lands and waters, including through partnerships with government and other stakeholders, to create opportunities for new and innovative livelihoods that sustain traditional connections to Country[63,64].

We do many different actions to manage and look after Country[9,60,65,66]. Individuals and family groups manage their Country on a daily basis. We do this by being on Country; sharing stories and songs about Country; observing and engaging Country through conversation; maintaining sacred sites; using our knowledge to collect plant and animal resources; and in preparing resources for consumption, medicinal purposes, construction and arts and crafts. We use our locally-tailored Indigenous knowledge and practices for all of this.

Many of us started our Indigenous ranger groups years ago – for example, in the 1980s in Queensland – through community-driven action with some assistance from Aboriginal Land Councils, Aboriginal Corporations, local Aboriginal Councils, government agencies, local community organisations and NGOs[67-69]. Each group has a different story and had different goals when they started[61,70]. For example, Aboriginal ranger operations were at the forefront of catchment development in Queensland, with the Kowanyama Aboriginal Land and Natural Resources Management Office instigating the Mitchell River Watershed Management Group after witnessing impacts on their Country. Today, our Indigenous land and sea management programs are strong and getting better support from governments and others[57]. We are glad that recent investments in Indigenous Land Management Programs are proving to be a pathway to economic development and Closing the Gap[71,72]. Our members of the Indigenous Advisory Committee[p] to the Australian Minister for Environment[q] under the *Environment Protection and Biodiversity Conservation Act 1999* have helped in promoting the benefits of these programs.

We have also worked in Indigenous heritage programs for many years. The National Indigenous Cultural Heritage Officers network, established in the 1990s, was the first peak body in Australia to advocate for Aboriginal and Torres Strait Islander cultural heritage[73]. We have taken up opportunities to protect our Indigenous heritage through registering our sites as state, national and world heritage places, taking court action under state and national legislation, and establishing and being active in many heritage organisations[74]. For example, the Indigenous Heritage Reference Group[r] provides high-level advice to Australia ICOMOS (International Council on Mounuments and Sites), an organisation that works on heritage protection throughout Australia.

p https://www.environment.gov.au/epbc/advisory-committees/iac

q A statutory committee established in 2000 under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) [section 505A]

r https://australia.icomos.org/get-involved/working-reference-groups/indigenous-heritage-reference-group/

We are very concerned that our Country and our heritage are still being damaged. The most recent State of the Environment report recognises that Indigenous heritage is enjoying a resurgence, but remains at risk from incremental destruction and loss of knowledge and tradition[75]. We are worried that there is little real support for keeping our knowledge strong, including recording and documenting Indigenous knowledge. It is hard to get resources to support Elders to engage youth in learning language and culture and maintaining connection to Country – the key foundations of strong Indigenous knowledge systems. Much Indigenous knowledge is encoded in our local languages. Our traditional custodians hold grave concerns about their knowledge being lost as they pass away, and before it is properly passed on to the next generation[12].

In this chapter, we provide information about ways to keep our knowledge strong in caring for Country, together with case studies from around Australia.

2.2 LISTENING AND TALKING WITH COUNTRY

Listening and talking to and with Country is an important part of our caring for Country. As Yolŋu people express through the concept *wetj*, translated most simply as sharing, there is a strong people-Country relationship. We care for Country and we care as Country[76]. Deep listening, also called dadirri, a word from the Ngan'gikurunggurr and Ngen'giwumirri languages of the Aboriginal people of the Daly River region, is described by Aboriginal writer and senior Elder Miriam-Rose Ungunmerr-Baumann as an inner, quiet still awareness[77]:

> *Dadirri is inner, deep listening and quiet, still awareness. Dadirri recognises the deep spring that is inside us. We call on it and it calls to us … When I experience dadirri, I am made whole again. I can sit on the riverbank or walk through the trees … A big part of dadirri is listening.*
>
> Miriam-Rose Ungunmerr-Baumann

Traditional Owners of Gumbaynggirr Country in New South Wales share their story of listening with Country (Case Study 2-1) part of their work in healing Country (Case Study 1-2)[78].

CASE STUDY 2-1

Listening, slowing down, attending to Gumbaynggirr Country, Country speaks

Authors: Aunty Shaa Smith, Neeyan Smith, Sarah Wright, Paul Hodge and Lara Daley

Gumbaynggirr and non-Gumbaynggirr, slowing down and listening on Country

- Gumbaynggirr and non-Gumbaynggirr shifting camp together
- Listening and yarning with Country, slowing down
- A new way, we experienced together and learned a lot

Country decides what will be done, how it will be done, and when. Over the 4 hours of the planting ceremony at North Farm, Aunty Shaa held the space sharing what needed to be shared; what came in for her from the Old Fellas (see Case Study 1-2, page 13). This slowing down and listening was a new experience for many of the NRM participants. A tree planting is normally a hub of activity, 'getting the job done', the primary focus. But on this day, things went at a different pace. As part of the ceremony, and before the planting, Aunty Shaa led the smoking ceremony and invited people to spend 10 minutes to attend to Country, connect and listen and see what comes in. The following exchange shows some of the learnings that came in for non-Gumbaynggirr participants:

I'd like to thank you for letting it all just progress at a slow speed. My brain is always going, going, going. I'm thankful (you, Aunty Shaa) slowed it down for us. That I actually stopped and connected. It's rare that I, 'just am' (that I can) 'just be'. Briefly, for a second …

I agree. When you did the smoking, I immediately felt really dreamy; it was almost like a meditation feeling. That's how it felt to me; giving the permission to drop down. It was good, very grounding.

To heed the call of Dunggirr, is to listen and attend in new ways. When you slow down, depth can happen, depth of movement of Country. During the yarn participants became aware of the signs from Country. Eagles circling overhead at North Farm, the winds at Scotts Head and Yarriabini – the two sisters who made the sea and sand became the wind, Aunty Shaa tells us – the sound of the ocean and tide coming in at Yarriabini! (kilometres from the ocean!). So a mixing of time/space as Country speaks.

We don't have all the answers, we are finding our way through and with Gumbaynggirr stories and Country. We're trying and making mistakes, but there is a learning in the mistakes made and Country knows. As Gumbaynggirr custodian Neeyan Smith[18] (pp.18-19) says:

We are doing something positive and creative. We have to find a way, not be paralyzed about doing a wrong thing or making mistakes. Our mistakes we try to learn from; we open up, move forward. Gumbaynggirr Country knows we are trying. She knows what we are doing, we trust that too. That is where the ancestors come in also, to help us make the next step. We are finally doing something … finally.

Left: Dunggirr Ceramic, Yarriabini. Photo: Ali Buckley.
Right: Shifting camp together, Yarriabini. Photo: Yandaarra

The Dunggirr story place, Scotts Head. Photo: Yandarra

Want to know more?
Here are some useful links:

- Deep listening (dadirri) (https://www.creativespirits.info/aboriginalculture/education/deep-listening-dadirri)
- Country talks back (https://www.youtube.com/watch?v=mGaxcVwjlwk&list=PLmWe-V9tacwEPDUHggQgzE8YPRMaInQyA&index=19&t=0s)
- To learn your Country, start by learning its Aboriginal names (https://www.abc.net.au/news/2019-01-21/to-learn-your-country-start-by-learning-its-aboriginal-names/10719890)

2.3 SINGING AND DANCING OUR COUNTRY

Our singing and dancing have kept our knowledge of our Country alive and strong from the beginning till today. As Yorta Yorta/Dja Dja Wurrung woman Lou Bennett sings in "Our Home Our Land" [79 (p. 178)]:

Our home is our land where we stand proud and tall

Our home is our land where we stand together

We sing our home, our home, our home

We dance our land, our land, where we stand together.

Traditional Aboriginal songs are regarded by Arrernte people … as the quintessential repository of their law and culture … knowing songs – including the dances, narratives and visual designs that accompany them – are a significant part of Aboriginal identity.

Myf Turpin, quote in Perkins[80]

Aboriginal Australia, like many cultures, had no written language, though our stories that are thousands of years old are recorded in pictorial form on rock walls in many parts of the country. We remember, recount and pass on knowledge through our traditional dances and songs. Traditional dances for bush foods, for butterflies[81], for native bees[82], emus and many other plants and animals are being passed on and renewed across Australia. Traditional songs pass on knowledge of the tides, eclipses, movements of the stars, and allow us to navigate across Country. Songlines, or song cycles, tell the story of the creation of the land, animals and plants, provide maps for the Country, and hand down the law[83]. Songlines cross Australia[84], connecting people to Country and connecting language groups to one another, telling of our journeys today as well as in the past.

Songspirals are the essence of people in this land, the essence of every clan. We belong to the land and it belongs to us. We sing to the land, sing about the land. We are that land. It sings to us.

Gay'wu Group of Women[84]

In Australia's arid interior, songs carry rich knowledge of the worlds of Aboriginal societies whose actions have continuously shaped the ecology of the region over many generations[85]. Singing passes biocultural knowledge along through the generations, and is integral to the spiritual health of the ecosystem[85].

Repeating verses, accompanied by melody, helps with recalling information[80]. Colonisation has severely depleted the rich and interwoven tapestry of song that once existed in a multitude of languages, and which stretched across the Australian continent and into the seas around it. The on-going loss of these cultural treasures is a major concern for us, and heightens the importance of efforts to preserve and revitalise Indigenous languages. In some cases, only older community members have a full command of the poetics of song[86]. For some groups who have lost their language, songlines still exist in the natural landscape, in the formations of mountains and rivers, and they continue to express songlines through paintings and artwork[87].

Each year the Garma Festival of Traditional Cultures in eastern Arnhem Land, Northern Territory, and the Laura Dance Festival in Far North Queensland, provide important opportunities for clan and language groups to get together and celebrate traditional music, dance and song. These festivals are held on important ceremonial sites for local groups. The Garma Festival seeks to *facilitate reconciliation, education and understanding through sharing of culture and traditional practice; promoting and highlighting Yolŋu culture; and creating economic opportunities beneficial to Northeast Arnhem Land*[88]. At the Laura Aboriginal Dance Festival – located near one of Australia's most significant collections of rock art – people from communities across Cape York come together to celebrate through music, dance, song and cultural performances. These opportunities to come together to practise and share our cultural heritage are vital to their continued existence.

Over a five-week period in 2015, Arrernte women gathered near Alice Springs to record songs. Myfany Turpin, a linguist giving her time to assist the project, was the only woman from outside the Arrernte. Rachel Perkins[80] describes her as one of the few non-Indigenous Australians who understands that song is key to unlocking the original Australian knowledge systems. Songs, stories and body designs tell people who they are and where they belong. Songs are crucial to the proper management of the land because, through the performance of songs, the world is made afresh.

Kathleen
https://www.flickr.com/photos/72821066@N04/

CASE STUDY 2-2

Arrernte Women's Project

Authors: Peter Yates with Amelia Turner, Mia Mulladad, Rachel Perkins and Myf Turpin

- Arrernte women held a five-week camp to renew and record their songs
- Project started by Rachel Perkins and supported by AIATSIS
- Bringing back old songs and keeping them safe
- Making sure the songs are only heard by the right people

Amelia Turner and Mia Mulladad participated in the Arrernte Women's Project. Photo: Peter Yates

These days people are not hearing their songs, only hip hop … not hearing what was passed down through generations

The Aboriginal knowledge in this project were sacred songs that carry importance for Country and people, and they needed to be protected from being lost or forgotten. But they also needed to be protected from being heard, learned or accessed by the wrong people.

Too much knowledge has been given out in the past. We need to keep control

The Arrernte Women's Project was started by filmmaker Rachel Perkins (herself an Arrernte woman) with support from the Australian Institute for Aboriginal and Torres Strait Islander Studies (AIATSIS).

The project was adopted and strongly led by the Elder women. They were in turn supported by a group of more western-educated middle-aged women who were more comfortable with the contemporary world. No men were involved in the process – their exposure to women's law is not allowed and can be dangerous to them. Of all the project workers, who included film and sound recordists, only one 'outsider', Myfany Turpin, a highly respected linguist, was involved.

The project began with a search for, and repatriation of, the few women's songs collected in the past. Careful checks were made to ensure that these songs were returned to the correct people and families. There followed a five-week camp wherein clan groups were invited and scheduled to come to the camp to sing and record their songs on video. Some families chose not to participate, and participants reflected that some of those that initially chose not to participate '*felt sorry afterwards*'.

When recording was finished, the women collectively decided on how the songs would be managed. The Elder women gave a final authority to the decisions.

Each song is assigned a Tjungayi (ceremonial manager). The recordings cannot be viewed by anyone without the permission of that Tjungayi.

We all sat down and talked about where the knowledge was to be kept

The decision as to where the songs should be kept was of great importance, and several locations were considered before AIATSIS was chosen as the 'keeping place'. AIATSIS was chosen because it has the expertise in Aboriginal heritage and has best practice archival facilities for electronic materials. Two representatives were sent to Canberra to view the facility at AIATSIS prior to the decision being made to keep the recordings there.

Lose language, and something very special will be missing

Songs, dances and stories are vital for caring for Country – and it is also vital that we follow customary laws and protocols to make sure only the right people are involved in holding the knowledge.

Want to know more?
Here are some useful links:

- Djambidj: An Aboriginal Song Series from Northern Australia
  https://aiatsis.gov.au/publications/products/djambidj-aboriginal-song-series-northern-australia
- Mission Songs Project
  http://apraamcos.com.au/news/2016/july/exploring-modern-day-songlines-with-mission-songs-project/
- Saltwater Freshwater Dance
  http://www.saltwaterfreshwater.com.au/program/dance/
- Paint up – Dance
  https://australianmuseum.net.au/about/history/exhibitions/body-art/paint-up-aboriginal-dance/

2.4 ART FOR COUNTRY

Through art and artefacts, we tell the stories of our Country. Our art about Country can be on sand, bark, in body-designs, on rocks, turtle backs, scarves and other textiles, baskets, walls, doors and more. It tells about our songlines, story places, bush medicines, our ancestors in our Country. We don't just paint anything. Only the people with the right connection to Country under our customary law can paint their stories[89].

The law painting … is not just a painting. It is a legal document in Ngarra law. This painting is based on the honey bee (Niwuda gugu) ceremony. The black part at the top is the hole where the honey bee goes in and makes the honeycomb. The story for this painting is about that honey bee … This Niwuda gugu landed in the Warrayngu and Bunggu clan groups. Niwuda gugu flew to different places to invite them to become peaceful tribal people and to recognise each other as being part of the Niwuda gugu law.

James Gurrwanngu Gaykamangu, 2012[89]

We use art and visual expression in many of our contemporary plans for managing Country[90], and to help others understand our ways of caring for Country[91]. A unique eco-cultural project drawing inspiration from artistic form has emerged through a collaboration between Noongar rangers and partners around Nowanup. With an aim to both restore habitat and heal Country in Western Australia's Gondwana Link landscape, giant animals, including a 300m-long goanna comprised of trees and shrubs, are emerging from the ground and bringing life back to the diverse landscape. The Nowanup Rangers[s] are planting thousands of seedlings into the designs to bring the animals to life, with drones being used to document the creatures as they emerge from the ground.

Ngariniyin artist Sandra Mungulu explains the knowledge of bees and Wandjinas in her painting *Wanjina and Waanungga* (Figure 2.1)[92 (p.292)]:

> *Waanungga is a word for various forms of bush honey, 'sugarbag', found in trees and termite mounds. The Wandjinas (ancestral beings from the Dreaming, present in the landscape today) keep the countryside fresh and healthy which allows the native bees to produce high quality honey. My mother is called 'Guduwolla', the Ngariniyin name of a particular tree which produces white pollen in early summer, and is the main source of sugar bag in the Kimberley region of north-west Australia.*

Art exhibitions provide opportunities for others to understand our caring for Country. *Yiwarra Kuju: The Canning Stock Route*[t] has more than 100 canvases from artists telling the story of Country and the historic travel route that cuts across it. The *We don't need a map*[u] exhibition showed the inextricable connection of Martu people to the Western Desert.

Want to know more?
Here are some useful links:

- Desart: Culture First: https://desart.com.au/
- Association of Northern, Kimberley and Arnhem Land Aboriginal Artists: http://ankaaa.org.au/
- Indigenous Art Centre Alliance: https://iaca.com.au/
- Rock Art is forever – Mimal Land Management http://www.mimal.org.au/latest-news/celebrating-ipa
- Desert, River, Sea https://desertriversea.com.au/

Figure 2.1. 'Wandjina and Waanungga', artist Sandra Mungulu (1960), acrylic on canvas © Sandra Mungulu/Copyright Agency, 2019.

2.5 BRINGING INDIGENOUS LANGUAGES INTO ALL ASPECTS OF LIFE

Indigenous Peoples across Australia are leading language revitalisation initiatives which are diverse and broad. It is important to note that actions for caring for Country are made more meaningful with the application of language. The simple act of applying fire to Country is made more in-depth when song and language are applied. The Djabugay Rangers in the rainforest of north east Queensland are finding new meaning in old songs and phrases when burning on Country. These songs and phrases talk to the intricate approach to fire application and burning certain Country certain ways in the right season. Many groups have also come together to

s https://www.facebook.com/GreeningAustralia/videos/484202812325609/

t https://www.nma.gov.au/exhibitions/yiwarra_kuju/home

u http://wedontneedamap.com.au/

strengthen our work through our network First Languages Australia[v].

Our language centres are as diverse as our communities and languages! They are vital places for language protection and revival: supporting language research; documentation of language; and the production of learning resources including dictionaries and guides to grammar. Our biennial Puliima National Indigenous Language and Technology Forum[w], attracts hundreds of our language activists, and showcases the myriad of language revival programs prevalent across the country.

Some clan and language groups have created cultural hubs on Country which enable immersion of children and others in learning through language. The programs that support these cultural hubs also sustain people on Country, and build strength in knowledge. In New South Wales there are five Aboriginal Language and Culture Nests operating across the state, teaching students in over 60 schools, with learning of Gamilaraay and Wiradjuri languages available at University-level.

These language centres, hubs and programs are building momentum. Our actions are attracting some government and philanthropic support to centres such as Mirima Dawang Woorlab-gerring Language and Culture Centre. This centre started in the 1970s to preserve, analyse and record the language and culture of the Miriwoong and Gajirrabeng people around Kununurra. Like many of our languages, Miriwoong is classified as critically endangered.

Geoff Anderson, a Wiradjuri man contributing to language revitalisation in Parkes, NSW, explains the role that language revival can play in healing by contributing to recovery from the suppression of culture and identity experienced by Aboriginal Peoples. Anderson writes about his own personal experience of healing through learning and teaching Wiradjuri language and his observations of community healing[93 (p.73)]:

Learning the language that belongs inside will heal you. Learning your native language will make you feel more complete.

The more recent rise of digital technologies is also creating new and innovative ways to engage kids in language revitalisation, including smart phone apps.

According to the Second National Indigenous Languages Survey[94], only about 13 Indigenous languages can be considered strong, and around 100 languages are described as severely or critically endangered. However, around 30 or more of these languages are seeing significant increases in levels of use as a result of our language programs.

We know there is a strong connection between language and identity, and between language and community. Participants in the Second National Indigenous Languages Survey[94] talked about keeping language strong, and about their desire for their language to have a stronger presence in their own, and wider, communities as this in turn strengthens identity and connection with Country and heritage.

The Survey also highlighted the need for more work and further funding of activities to support traditional languages. Further, committed and involved community members, adequate funding, and access to language resources were found to be key to the successful delivery of language activities.

The Mobile Language Team (MLT)[x] was established with Australian Government funding in 2009 to promote the revival and maintenance of Aboriginal languages in South Australia. There are 46 languages in South Australia and approximately a quarter of these languages are still spoken to some degree. The other three-quarters of languages have a strong community base, but currently do not have speakers.

Over the past ten years, the MLT has supported 20+ Aboriginal language groups across the length and breadth of the state. Community requests for MLT services are submitted to the MLT Aboriginal Policy and Advocacy Committee, comprising Elders with deep community knowledge and professional standing. Individual language projects are planned in close consultation with community stakeholders, including language speakers, Elders, language learners, Aboriginal corporations and schools. Current projects include: Arabana on-Country language camps; co-curricular learning of Adnyamathanha language in Leigh Creek Area School; Yankunytjatjara oral history videography project in Uluru/Yulara; Safe Language Spaces training for medical students at the University of Adelaide; Online Learning portal development[y]; language and culture museum display and trail in Oodnadatta; and Wangkangurru bilingual storybook production in Birdsville (QLD). The MLT employs linguists, language workers and media personnel with 50 percent Aboriginal staff. The MLT also runs a highly successful young Aboriginal language worker trainee program.

v www.firstlanguages.org.au

w https://www.puliima.com/

x https://www.mobilelanguageteam.com.au/

y portal.mobilelanguageteam.com.au

CASE STUDY 2-3

Language and land: Arabana on-Country language camps

Authors: Veronica Arbon and Eleanor McCall

- On-Country Arabana language camps attracted 140 attendees
- The link between language and land was explored during time on-Country
- A Kati Thanda (Lake Eyre) ranger program is being established which will incorporate Arabana language

Arabana camp attendees gathered on Kati Thanda (Lake Eyre). Photo: Mobile Language Team

Arabana camp leader singing a song in language for attendees at Kati Thanda (Lake Eyre). Photo: Mobile Language Team

Arabana camp leader showing young Arabana boy how to decorate clapsticks. Photo: Mobile Language Team

In 2019 the Mobile Language Team (MLT) secured funding to assist the Arabana community to run two on-Country language camps. Bringing language back to traditional Country had always been one of the main goals of the Arabana community. Six years of language revival work preceded these camps, a strong foundation which ensured the success of this project.

The language camps were held at Finniss Springs Station, which is close to Kati Thanda (Lake Eyre) and Marree. Each camp ran for four days and three nights. Five Arabana camp leaders, who are speakers, Elders or learners of the language, were responsible for the planning and running of camp activities. The MLT staff, in addition to providing training and support in the lead up to the camps, also assisted with logistics, catering and audio-visual documentation of the camps.

The camps attracted 140 attendees in total including 70 children and teenagers. Attendees travelled from many centres across Australia including Darwin, Adelaide, Port Augusta, Broken Hill, Alice Springs, Marree, Roxby Downs and Murray Bridge. Most Arabana people live away from traditional Country, yet a deep connection to Country remains. The disparate nature of the Arabana community reflects the reality of many Aboriginal groups today. The language camps provided an opportunity for Arabana people to return to Country for the purposes of learning and preserving language in its natural context.

Camp leaders led a variety of activities to promote learning and understanding of land, culture and language including: travelling to significant sites (native wells, rock carvings, etc.) to teach place names and stories; preparing kangaroo tails with young men at the camp; teaching children and teenagers to carve and decorate clapsticks from wood they collected themselves; listening to songs and stories around the campfire at night; running a scavenger hunt in language; and painting using traditional animal track motifs.

Arabana woman Dr Veronica Arbon, herself a language learner and advocate, reflects on the 2019 On-Country camps:

The first Arabana language camp involved trips to important sites along with stories and naming Country in the Arabana language along the way. The second Arabana language camp scheduled a trip out to Kati Thanda (Lake Eyre), a walk around the old Finniss Spring Homestead and Mission and artwork, including sand drawings among other activities.

The pure wonder on a child's face when they could clearly say and understand an Arabana word or sentence, rub off the hair of a singed kangaroo tail or walk around Country or Kati Thanda (Lake Eyre) was an experience. Also, the painting of an image, sand drawings or as family playing UNO (trying to input Arabana language for colours and numbers) or sitting around the campfire listening to Elders' stories and the generations share language was brilliant. Of course, there was star gazing too with naming of some late into the night and there were scary stories that happened both out on-Country and around the campfire that moved many. So much to engage in and learn for all. Many commented on how the children were all related to each other in some way. Others commented on how some, who were noticeably disruptive during the first camp, had begun to share together with no mention of 'I'm bored', as one of the Aunties stated. 'It was good to be with Uncles and cousins all around us', as one of the grandsons said, was clearly important to some of the young boys. Many appeared to stand strong and tall on-Country with a new feel and knowing of their heritage. Thinking and talking about this and the stories told, places visited and language learning, my family group considered there were many learnings and messages around relationships, listening carefully, the importance of places and language, working together (especially the young people supporting the older people), leadership and the importance of history. There were messages too of men's roles in caring for family and taking key roles. Most noted was the quiet respect and love expressed. Some who attended have said they will join future Arabana language camps or expressed a desire to visit Country in the future and have said they will work hard on learning language too. Arabana language is clearly critical to Arabana people and to hear, speak, see and feel its emotion was important to each of us. For those who are learning, the experience on-Country with language was extremely rewarding.

Arabana Elder Syd Strangways surrounded by dead mulga trees near camp. Photo: Mobile Language Team

Arabana camp leader demonstrating animal tracks to young girl. Photo: Mobile Language Team

Language and Country

Language and Country are inexorably connected. Many attendees of the Arabana language camps reported that it was easier to use and recall language on-Country in its natural context. Arabana words, songs and conversation flowed through the landscape. Camp Leaders, many of whom grew up in Finniss Springs, taught attendees the names of places, plants, animals and features of the land during the camps. Words that had been forgotten in town were remembered again and recorded while there. 87 year old Elder and speaker Syd Strangways also spoke to attendees about changes to Country that he noticed. Food and water sources were disappearing due to drought, climate change, the introduction of feral animals to the landscape and a lack of traditional land management.

The on-Country camps sparked a new level of interest and support for Arabana language revival amongst the community. The community expressed a great desire for more opportunities to return to Country to connect to their language and culture.

As a natural extension to this success, the MLT was recently approached by the Arabana Aboriginal Corporation to assist with running on-Country language camps as one facet of their newly established Caring for Country program. The program will employ Arabana rangers in Kati Thanda (Lake Eyre) for the first time ever. In addition to the language camps, the MLT will also look to facilitate language training for the rangers and support community planning and development of the project. The Caring for Country ranger project will incorporate traditional Arabana knowledge of Country through the lens of Arabana language.

Repatriation of archival material back to the communities from which they came is common amongst music research partners working with Indigenous people. Noongar researcher Dr Clint Bracknell has seen repatriation increase community access to old recordings of song performances, prompting recollections, triggering new performances and getting communities more engaged in processes of cultural revitalisation. For example, the Wirlomin family clan from the south coast of Western Australia make ongoing efforts to maintain Noongar language and culture (Case Study 2-4). Song sharing via peer-to-peer digital solutions and face-to-face gatherings has supported community priorities to control, consolidate and enhance cultural heritage.
The recovery of archival songs has enlivened south coast Noongar language revitalisation efforts, and workshops focusing on singing these songs have resulted in increased feelings of confidence and connection amongst participants. Enhancing capacity for singing in the home community where recordings were originally captured has helped to open up the archive and truly mobilise the songs it holds.

CASE STUDY 2-4

Wirlomin Noongar Language and Stories

Author: Dr Clint Bracknell

- Wirlomin Noongar people have held workshops and camps to consolidate and enhance endangered language, story and song
- Combines archival information and community-based knowledge
- Re-embeds language, story and song in landscapes

Formalising the longstanding efforts of people belonging to the Wirlomin family clan from the south coast of Western Australia to maintain Noongar language and culture, Wirlomin Noongar Language and Stories (Wirlomin) was established as an incorporated organisation in 2010. Wirlomin has a cultural Elders reference group, committee and over one hundred members. Many of us formally gather a few times each year to share and build Noongar language, stories and song, reconnecting fragmented elements of intangible cultural heritage and re-uniting them with relevant landscapes.

Our intention was, and is, to claim, control and enhance our heritage. We choose to do this by starting with a focused group and progressively sharing with ever widening circles, employing the following staged process:

1. Connecting archival material with its home community of origin;

2. Interpreting and making decisions about this material as a dynamic group including the senior descendants of archival informants and contemporary language custodians;

3. Reconnecting story, language and song to Country via visits to relevant sites; and

4. Sharing with the broader local community.

As a result of this process so far, Wirlomin has produced a website and six bilingual, illustrated books of ancestral stories. Wirlomin members have developed interpretive signage for the public to engage with these stories on-Country, and presented Noongar language, story and song at schools and various public events. As a voluntary organisation, Wirlomin has relied on a diverse range of small federal and state government grants – plus support from two separate Australian Research Council funded projects administered by universities – to continue its work.

The on-Country aspect of Wirlomin activities occasionally requires negotiation with the Department of Parks and Wildlife to gain access to restricted areas of National Parks. A number of productive Wirlomin trips to Fitzgerald River National Park were supported by the non-government organisation South Coast Natural Resource Management, an organisation that coordinates and administers funding provided by the Australian Government and the Government of Western Australia specifically allocated for natural resource management. Over the course of these trips, Wirlomin members were able to locate features in the landscape described in ancestral stories and songs, a vital step in restoring cultural values in the region. Whether engaging in analysis of archival material or collaboration with organisations and institutions, Wirlomin's success relies on good governance, collective decision-making, and its members' creativity, skills and commitment.

Clint Bracknell, Roma Winmar and Iris Woods recording a Noongar story at Point Ann, WA. Photo: Amy Budrikis

A range of national and state government policy support has been helpful for protecting and promoting our Indigenous languages. The Australian Government currently provides around $20 million each year through the Indigenous Languages and Arts program. It supports Aboriginal and Torres Strait Islander communities to revive and maintain languages, and to develop and present art.

Want to know more?
Here are some useful links:

- First Languages Australia
  https://www.firstlanguages.org.au/
- Mirima Dawang Woorllab-gerring: Mirima Place for Talking
  http://mirima.org.au/
- National and Film Archive of Australia: 2019 International Year of Indigenous Languages
  https://www.nfsa.gov.au/latest/2019-international-year-indigenous-languages-nfsa

2.6 ESTABLISHING CULTURAL KNOWLEDGE DATABASES AND ARCHIVES

We have managed complex cultural information systems for thousands of years, restricting access to some knowledge on the basis of seniority, gender and other factors. There is strong demand for safe ways to store knowledge that has varying access arrangements, driven by concern that knowledge is being lost as Elders pass away. Many Indigenous groups are now working with locally managed databases as a way to store cultural knowledge and archives with varying levels of access. Multi-layer data permissions allow for individuals to access different knowledge, dependent on language-specific cultural governance arrangements related to that knowledge. These cultural requirements add complexity to digital Indigenous knowledge databases.

The Ara Irititja project works to accommodate Anangu wishes for the delivery of regularly updated, high quality interactive multi-media databases, in Ngaanyatjarra, Pitjantjatjara,Yankunytjatjara language and English, onto their communities. The project is dedicated to maintain regular Anangu access to these databases and is accountable to Anangu in its management and delivery of this historical material.

https://www.irititja.com/

Other language groups are seeking to repatriate information about their people and their Country, and to maintain control over this archived information into the future. For example, over the last century, many visitors to the Ngaanyatjarra, Pitjantjatjara and Yankunytjatjara lands in Central Australia collected and permanently removed artefacts, photographs, film footage and sound recordings. This included Anangu people of these lands being photographed and their knowledge recorded and published without any negotiation or permission.

In 1994, Anangu Elders, together with the Pitjantjatjara Council and an archival consultant, sought funding for the development of Ara Irititja – a social history project of the Pitjantjatjara Council Aboriginal Corporation. Ara Irititja has now tracked down hundreds of thousands of historical and cultural items and makes them available to Anangu through interactive software. Today, Anangu are careful to determine how their history and culture are presented to the world-wide audience.

A range of third-party designed and hosted databases are emerging in the market, some of which are specifically targeted at Indigenous archiving. Each seeks to act as a repository of images, movies and audio recordings. Some also provide avenues for building geographical data layers (useful for overlaying cultural and natural resource management goals to assist in planning and decision-making), and for compiling family trees and genealogies. A critical aspect of these databases and archives is their usability: ensuring that the interface is engaging and user friendly, so that both younger and older generations want to interact with the knowledge, to add to it, and learn from it.

We are also working with existing national databases to bring in our Indigenous knowledge. For example, senior knowledge holders from the Gamilaraay, Yuwaalaraay and Yuwaalayaay worked to collect and verify Gamilaraay, Yuwaalaraay and Yuwaalayaay language names for plants

and animals[z] and include these words within the Atlas of Living Australia (ALA). This has led to new standards and workflows for the ALA, and given prominence to Indigenous knowledge alongside scientific taxonomy – for example, Emu, Bagabaga, Barrgay, Dhinawan[aa].

Want to know more?
Here are some useful links:

- Ara Irititja Archive https://www.irititja.com
- Indigenous Ecological Knowledge: Atlas of Living Australia https://www.ala.org.au/Indigenous-ecological-knowledge/

2.7 BUILDING STRENGTH THROUGH KNOWLEDGE-RECORDING

2.7.1 Seasonal calendars

Seasonal knowledge is at the heart of our caring for Country. When we are on Country we are alert to how Country is changing with the seasons, and to different signs in the weather, plants and animals around us that signal to us to undertake different activities. For example, when we see calendar plants flowering, or the bark peeling off specific trees, or hear the call of certain insects, we know certain animals, bush tucker plants or medicines that are linked to those observations are now available for us to hunt and gather[4,24]. Over time this builds a detailed calendar of seasonal understanding of Country. We start to learn about these connected events from a young age. We all have our own unique seasonal calendars across Australia[4]. Seasonal calendars, when documented, are also a successful way of communicating our Indigenous knowledge outside our Traditional Owner groups. For example, the Ngan'gi Seasons Indigenous seasonal calendar acted as a tool to communicate to government water planners the importance of Ngan'gi people's attachment to the Daly River, Northern Territory[12,95]. It was also incorporated in the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services' (IPBES) Assessment Report on Land Degradation and Restoration[96] to highlight the breadth of Indigenous knowledge drawn on for ecosystem management (Figure 2.2).

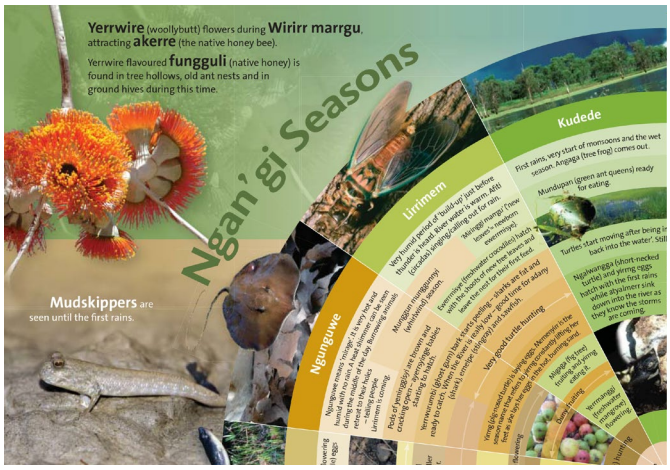


Figure 2.2. A section of the Ngan'gi Seasons Indigenous seasonal calendar.

In the Torres Strait, seasonal calendars are being developed alongside traditional ecological knowledge (TEK) databases to keep knowledge strong. The Torres Strait Regional Authority (TSRA) established a TEK Project in 2011 in response to the concerns raised by many Torres Strait Islander communities around the gradual loss of their Indigenous cultural knowledge – including stories, cultural practices, and knowledge about their land, sea, plants and animals. The TEK Project involved the development of a secure database for each community to record, store, protect and, where applicable, share traditional knowledge within their own community whilst adhering to their respective community's cultural protocols. The TSRA reviewed many traditional knowledge systems and selected consultants to develop and design a pilot database on Boigu Island in 2009.

It is important for them to know, so they can practise this way of life themselves and understand more of their cultural knowledge. This calendar is for all the children of Torres Strait, not just Kulkulgal children, to learn our language and culture. We respect our home, our knowledge and our way of life – lagal pawa. We abide by that. We need to look after our place and respect it.

Mr Moses Mene – Masigalgal Elder, delivering the gift of the Masig Seasonal Calendar to students at Tagai College, Thursday Island Primary Campus.

But it has not always been easy to run rangers' work by seasonal calendars – they get tied in to government time frames and rhythms. Now Masigalgal Elders, the Masigalgal Rangers and the Masigalgal Registered Native Title Body Corporate (RNTBC) are building on the TEK database and bringing traditional knowledge more strongly into management.

z https://collections.ala.org.au/public/show/dr13266

aa https://bie.ala.org.au/species/urn:lsid:biodiversity.org.au:afd.taxon:c2714924-4fd5-456e-bb04-d23edbcf888f

CASE STUDY 2-5

Torres Strait traditional ecological knowledge project

Authors: Melinda McLean, Vic McGrath, Masigalgal Rangers and the Masigalgal RNTBC

- TEK database systems were reviewed and Elders wanted new ways to preserve and promote Indigenous knowledge
- Masig, Mer, Erub and Saibai communities have finalised or are developing seasonal calendars
- Masigalgal Seasonal Calendar poster launched in October 2018 and accompanying booklet launched in August 2019
- Highlights Masigalgal traditional knowledge, for education

Masig Elders and RNTBC Directors launching the Masigalgal Seasonal Booklet. Photo: Melinda McLean

The Torres Strait Regional Authority (TRSA) and rangers, with guidance from Registered Native Title Bodies Corporate (RNTBCs), actively support TEK preservation by recording stories, songs, language, plants and animals, and entering them in the TEK system. We have rolled out TEK database systems to eleven Torres Strait communities over ten islands between 2011 and 2019. Communities are using these TEK systems, and the technology in them, to ensure knowledge is maintained for future generations in a framework that protects culturally sensitive information. Rangers are the primary drivers of the systems, and our TSRA TEK team work with rangers to train community in the use of these systems. TEK databases are closed systems that are only accessible to members of each community and can be accessed by computer or personal smartphone.

All information in each TEK system is protected and shared via a Knowledge Guardianship system that allows communities to view, share, protect and preserve traditional knowledge in accordance with traditional considerations. RTNBCs or an agreed Council of Elders in each community approve the sharing of all knowledge in each system.

In 2016, TSRA reviewed the TEK Project to find out how much the community knew about the project, how satisfied they were with the project, the benefits of TEK to their families and community, the types of traditional knowledge that Elders wanted protected, and ways to increase uses of the systems. We spoke with stakeholders in each community to find out what was working well and how TSRA can support communities to strengthen their cultural knowledge. Communities told us that the TEK systems were positive overall with many the benefits but they thought more could be done to promote knowledge that the Elders identified as being important. Our TSRA TEK team decided to work with one community at a time to improve each TEK system and at the same time work with communities on other ways to promote TEK information and knowledge preservation.

Masig, Mer, Erub and Saibai communities have now made, or are making, seasonal calendars. The Masig Seasonal Calendar and accompanying booklet started in 2017 and developed over an 18 month period with Masigalgal Elders, rangers, Masigalgal RNTBC and the TSRA working together. The RNTBC were keen to develop an educational resource that promoted and preserved public knowledge, TEK information and promoted the conservation of Kulkulgal Ya, the language of the central Torres Strait islands.

The Masigalgal Seasonal Calendar poster was launched in October 2018 and highlights Masigalgal traditional knowledge about the old customary ways of marking annual seasonal changes and events. Common knowledge from the TEK database was put into a poster that underpins the story of how the people from Masig Island in the central Torres Strait have survived and thrived off the land and sea since time immemorial. The Masig Community has also released a Masig Seasonal Calendar booklet which includes additional cultural information from within the TEK database.

Masigalgal RNTBC have strong responsibility and control distribution of the calendar and at this stage only allow its usage as an education tool. Our TSRA TEK team maintains copies, but only hand them out when RNTBC approve the distribution. To date, the calendar has been shared with key educational institutions, art galleries, the Bureau of Meteorology website and universities.

Our TSRA team is working with other Torres Strait communities to support projects that reflect community priorities for Indigenous knowledge preservation. These include cultural mapping projects, additional seasonal calendars and language resources. We are planning further work with communities to collect TEK specific to key groups in communities, including women.

We are excited that the TSRA and the rangers, with permission from Elders and RNTBCs, can support and build on the expertise of Traditional Owners by utilising their traditional ecological knowledge, together with other science, to inform and guide the management of the Torres Strait land and sea Country in a holistic and sustainable manner.

Masigalgal Elder Mr Moses Mene informs Tagai Primary Students how Masigalgal used to work together to harvest from the land and seas for survival in generations past. Photo: Chris de La Rosa

Masigalgal Rangers, TSRA Environment Portfolio member and TEK team, together with the Masig PBC Deputy Chair, present Masigalgal Seasonal Calendar to students at Tagai College, Masig Campus. Photo: Melinda McLean

Masig Elders and RNTBC Directors launching the Masigalgal Seasonal Booklet. Photo: Melinda McLean

Want to know more?
Here are some useful links:

- Indigenous seasons calendars (CSIRO)
  https://www.csiro.au/en/Research/Environment/Land-management/Indigenous/Indigenous-calendars
- Make your own seasonal calendar
  http://www.larrakia.csiro.au/pdf/make-your-own-seasonal-calendar.pdf
- Indigenous weather knowledge (Bureau of Meteorology)
  http://www.bom.gov.au/iwk/
- Indigenous fire and seasonal calendar (NSW)
  https://www.ala.org.au/blogs-news/banbai-nation-community-season-and-fire-calendars/

2.7.2 Illustrated books

Indigenous- and co-authored books and texts have proven important to us in documenting and sharing our knowledge: to prevent its loss as Elders pass away; to assist learning amongst members of our own language and clan groups; and to build awareness and respect for our knowledge with outsiders.

Doris Yethun Burarrwaŋa talks about the importance of involving all relevant Yolŋu knowledge holders, to describe and document ecological and cultural knowledge of shellfish (Case study 2-6). *Maypal, Mayali' ga Wäŋa*: Shellfish, Meaning and Place required many Yolŋu people working together, to make a book to give back to the children for free, so that Yolŋu children will come to share in the knowledge and meaning of shellfish.

CASE STUDY 2-6

Banha ŋanapu bayiŋ birrka'yun walu maypalmi ŋanapu bayiŋ birrka'yun maypalnha bayiŋ baman'ŋuwuynha ŋalapalminy yolŋuny warrany

As the seasons change we think of the Old People, the ancestors, we think of gathering maypal

Authors: Doris Yethun Burarrwaŋa with Bentley James

- An illustrated book and Yolŋu bilingual identification guide to teach our children about shellfish
- Many different knowledge holders tell stories about meanings in many languages with beautiful photographs
- Dances and ceremonies and colours are the linkages that tie all the people of this place together, and to the land and shellfish
- Science is an important tool, it can help us accurately identify the shellfish, but it cannot tell us what they mean

My name is, *Yäkuny ŋarra dhuwala* Doris Yethun Burarrwaŋa

This is the story of my chance to teach children why it's important they know their Country and the meaning of shellfish.

Dhuwanydja dhäwu ŋarrakuŋu nhäwiku marŋgithinyaraw djamarrkuḻiw, dhiyak djäkaw limurrukalaŋaw wäŋaw ga maypal.

Maypal, Mayali' ga Wäŋa: Shellfish, Meaning and Place is a project that many Yolŋu people worked on together, to make a book, to give back to the children for free, so that Yolŋu children will come to share in the knowledge and meaning of shellfish.

Doris cooking Maypal. Photo: Angie Gray

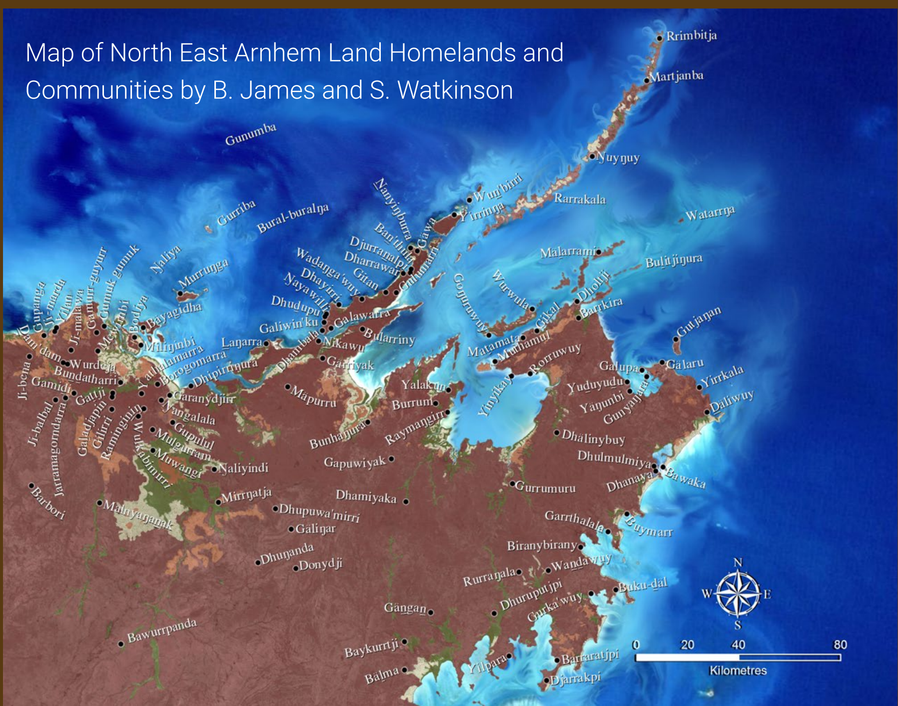
It all started when NAILSMA, the Galiwin'ku Learning on Country program and Yolŋu Traditional Owners asked me to work with them to pass on local knowledge about shellfish. We used rangers (Marthakal, Crocodile Islands, Dhimurru, Djelk and Yirralka) and schools (Shepherdson, Yirrkala and Homelands) and *Buku-larrŋgay mulka* and *Yälu-marŋgikunnhamirr* to get many Yolŋu involved in the right way.

We had two challenges: Firstly, knowledge of maypal live in the seven Yolŋu languages of North East Arnhem Land. To understand maypal, you have to understand this. So, we had to talk to everybody in their language.

Second, we needed a scientifically correct method for identifying shellfish, because people growing-up don't know the detail and all the special names for it, so they're losing the connections.

Top: Mitawara, *Lunella Cinerea*. Bottom: Barawara-bunybu, *Terebralia sulcata*. Photos: D. Hancock and T. Richie

NAILSMA suggested noted North East Arnhem Land beachcomber Bentley James of Crocodile Islands fame. Bentley is my classificatory brother. We have worked on the homelands together since 1993. Together we drew up a plan to create a multilingual shellfish guide for children. First, we needed to get a lot of permissions. Then we took a lot of pictures.



Map of North East Arnhem Land Homelands and Communities by B. James and S. Watkinson

Doris and Bentley at Galiwin'ku Yalu. Photo: David Hancock

Goŋiya-ŋukaliya, *Clibanarius taeniatus*. Photo: D. Hancock and T. Ritchie

For the next 18 months we visited some 40 homelands and six communities many times. It is a really good thing that our project is based on talking to kin through kinship relations. When we visited our kin they were happy to share their stories about maypal.

Old People remember the songs of the shellfish. My brother Dhawa, tells us in the Warramiri language that: *Ŋurruṉaŋgal ŋätjil djanal banha maypalyu bili bilanyamiyu waluyu l̪uŋgurrrmayu*. The north wind tells of the ancestors and the time of maypal.

When I spoke to the Australian Geographic magazine I said, "We sing for them. We care for them … We eat them and celebrate them and, in return, they give us life." Maypal are a crucial part of life by the sea for Aboriginal kids, not just as a supplement to their diet, but also because they provide a spiritual link and a physical and nutritious reconnection with Country and kin.'

Top: Dhuṉ'ku-dhukuray, *Nerita balteata*. Bottom: d̪iyamu-rirriyin-warrapal, *Venerupis aspera*. Photos: D. Hancock and T. Ritchie

Djäma limurr dhu marr ga limurr dhu guyaŋa rom ga dhäwu maypalwalaŋuwuy.

We must work to remember the law and stories of the shellfish.

It is so important to hold on to this work for ourselves and our kids. We linked all the different Yolŋu names to the photos. North Australian shellfish scientist Richard Willan identified all the shellfish and their exact Latin and English common names. The Old People know all the stories of the maypal, but there are not many Old People left now – that is nearly lost . . . all that knowledge, all that connection and law. Our book brings together all the maypal from seven Yolŋu languages, English and science, as a resource for 'two-ways' education in schools on homelands, in communities and for those who want to know more about our kinship and care for the seas. We returned this gift to the kids for free.

Nhä dhuwal mirithirrnydja manymak limurr dhu ga marŋgikum ga dhäwu märram' dhiyak wäŋaw, bukmak dhuwal mala dhäruk, minytji', buŋgul ga ŋula-nha mala ga ŋayadham. Ga dhiyaŋ mala buŋgulyu ga manikayu ga dhäruk ga maypal dhu ga wäŋay ga waŋgany manapan yolŋuny malany. Dhuwandja nhäkun balanya rulwaŋdhunawaynha walalaŋguŋ ŋal̪apalmirriwuŋ ŋäthilyunawuy bitjarr walal gan wäŋan ga dhiŋgaŋal walal.

What is most important are the stories of the Country. All of the different Countries have stories and languages and colours and dances and ceremonies. These dances and ceremonies and colours are the linkages that tie all the people of this place together, and to the land and shellfish. It is a network of links to our ancestors and their stories and their creations that make us all one people.

Dhuwandja nhäkun dharaŋanaraw nha yuwalk, dhiyak napurruŋ yolŋuw mala dharaŋanharaw bäpurruw malaŋuw bala ga balandany buna bala ga gulmaraman ga yakayuna dhiyak malaw bala ga Djawyuna ga djäma mala ga gurrupan ga wiripun djäma mala Balanya mala ŋarra ŋuli ga djäma dhiyal wukirriŋur dharaŋan ga manapan balayi wäŋalil.

It is these understandings about the importance of our myths, about our languages, that are so critical at this time when the balanda (non-Indigenous people) are taking over our Country. This is the work that I do, that I love, because I understand how important it is to be related to Country, and to know the stories and language of my Country.

My mother, Michelle Barra̱tawuy says: *Yalalaŋumirrinydja walalany dhu ŋuthan dhiyakidhi maypalgu wiripu yäku mala ga marŋgithirr*. Later as they grow they will learn the many names of shellfish.

This project makes us strong, linking us all together, visiting, re-visiting, re-linking, re-viewing, re-living and re-searching, with pictures and science, with poetry, our names, our homelands, our winds, our knowledge. Our ideas, our Old People, Di̱la̱k (Elders) and Wäŋa (land) and Riŋgitj (ancestral connections).

This is a story for the children. This is a story about shellfish and the places that they live.

Top: Dhuṉ'ku-dhukuray, *Nerita balteata*. Bottom: ṉoṉda̱wa̱la̱wuny, *Telescopium telescopium*. Photos: D. Hancock and T. Ritchie

Billi yaka limurr dhu moma dhäwu ŋaraka ga mayali' maypalgu bamanpuy ga dhärruk ŋurruŋaŋgalgu. Dhiyaŋ bala ga yu̱ta miyalkthu ga d̠irrimuw walal dhu ga moma ŋaraka ga mayali' maypalgu, ga bayŋu walal gi guyaŋi dhäwu ga rom maypalgu.

Old People say we must not forget the meaning and place of maypal in our words, in the songs of place and the spirit of land and sea.

Maypal celebrates the embeddedness of people in Country, law and languages and values thoughtful collaboration across knowledge systems. We know the future, like the past, relies on knowledge and nurture of Country. Keeping young people interested in ceremony, listening to Country, by visiting Country – Old-fashioned stories about Country giving a new generation of young people strength in Country like the Old People.

Maypal, Mayali' ga Wäŋa: Shellfish, Meaning and Place, A Yolŋu Bilingual Identification Guide to Shellfish of North East Arnhem Land honours the differences of our two knowledge systems. Science is an important tool, it can help us accurately identify the shellfish, but it cannot tell us what they mean. The Yolŋu bilingual identification guide to shellfish tells stories about meanings in many languages with beautiful photographs. It is a gift to children walking in the footsteps of the ancestors.

Doris with ṉonda at Gäwa. Photo: David Hancock

Want to know more?
Here are some useful links:

- Aboriginal knowledge: plants and animals
  https://nt.gov.au/environment/native-plants/aboriginal-knowledge-plants-and-animals
- Australian Indigenous Astronomy (books)
  http://www.aboriginalastronomy.com.au/research/books/
- Australian Institute of Aboriginal and Torres Strait Islander Studies (books)
  https://aiatsis.gov.au/publications/books

2.8 WORKING WITH OUR CULTURAL HERITAGE, OBJECTS AND SITES

Indigenous cultural heritage is found across Australia. Our Indigenous heritage includes many different objects, sites and our Indigenous knowledge, which has been passed from generation to generation, and connects us to our people and our Country. Our heritage also includes books, art, dance and songs which are created now based on our heritage[97]. Our songs, stories and dances are often called intangible cultural heritage. Our material cultural heritage includes artefacts, rock art, artefact scatters, occupation sites, shell middens, stone arrangements, scarred trees, rock wells, carved rocks and burial sites. Looking after and keeping our connections strong with these objects, sites and places is very important to us.

We have established many cultural heritage centres throughout Australia to support our work, and to connect with government-mandated heritage work, such as the Gunditjmara Cultural Heritage Network[ab] established by the Gunditj Mirring Traditional Owners Aboriginal Corporation. Some of our centres are also language centres (see section 2.5). In NSW, for example, the Aboriginal Culture, Heritage and Arts Association Inc[ac] is our network of Aboriginal cultural centres, Keeping Places, knowledge centres, language centres and artist-run studios, established because:

Our Keeping Places and cultural centres are our grass roots portals for the continuance of our cultural practices, our stories and spirituality. They are the contemporary gathering places and trading sites between Indigenous nations.

Alison Williams, Inaugural ACHAA Chairperson[98]

The key to working effectively with our cultural heritage is for us to be in the driving seat – so any of our projects and our partners' projects always must start with identifying the Traditional Owners and other Indigenous people with rights and interests in the place[99]. We see our heritage places as very strongly connected to the stories and songs that go with them – two rock art shelters (which are visible in the landscape) might be connected by an invisible songline, but all of it is part of our Indigenous heritage, part of an overall *cultural landscape*[75,100]. Recently through collaboration with scientists we showed that one of our traditional foods, blackbean, was moved by us along a songline – genomics make the cultural imprint visible![101] Through Virtual Songlines[ad], we are working in a team that uses the technology of augmented reality to make our heritage more visible.

Listing of our heritage places on Country as a cultural landscape helps protect sites, objects and the knowledge that goes with them. For example, the Guringai Tribal Link Aboriginal Corporation and Darkinjung Local Aboriginal Land Council, recently celebrated listing of the Calga Aboriginal Cultural Landscape[ae] almost 16 years after a proposal to expand a sandstone mine threatened the heritage values[102]. This heritage landscape includes many sites of exceptional social and spiritual importance and is known as the sacred birthplace of the creation deities, Baiame, Bootha and Daramulan. Many of the engravings, stone arrangements, landforms and vegetation relate to sacred women's business, and are key resources for teaching future generations of Aboriginal girls and women about their culture and spirituality.

ab https://www.gunditjmirring.com/cultural-hetitage-network

ac https://mgnsw.org.au/sector/aboriginal/

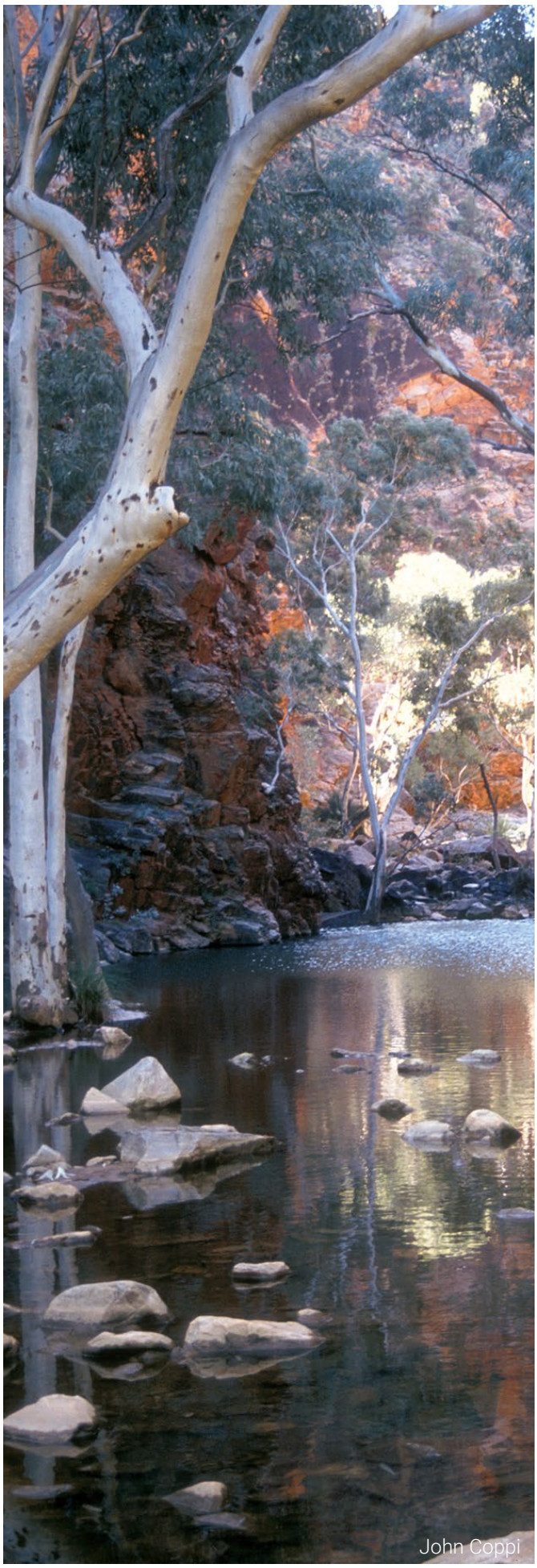
ad https://www.virtualsonglines.org/

ae https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5064142

We work out on Country to manage and protect our cultural heritage places and their stories[103]. We have collaborated for many years with archaeologists on our cultural heritage sites, and with increasing emphasis on social justice in these partnerships. Indigenous archaeologists, with western scientific qualifications, find it challenging to balance the sometimes-conflicting expectations of their community and their profession – for example, to obtain ethical clearance from committees who have no local people on them! We are working to shift these practices towards greater Indigenous leadership. The shift for non-Indigenous archaeologists is from working *with* us to working *for* us[104].

We also work with museums across Australia, and across the world, that have taken our cultural heritage objects. In some cases this has resulted in the return of hundreds of human remains and artefacts, and in new partnerships that have produced very positive collaborative exhibitions and mobile apps[105]. For example, an Indigenous Reference Group guided the collaboration between the National Musuem of Australia, the British Museum and Aboriginal and Torres Strait Islander communities that resulted in 150 items being returned to Australia. All the objects put on display were first taken back to their original place of collection, where contemporary Indigenous people's stories and representations of these objects were then recorded. The resulting exhibition told stories of unique Country and cultures, of the complexities of relationships and shared history between First Peoples and colonisers, and their consequences now and into the future. We displayed our pride, cultural authority and resilience as the oldest continuous living culture on the planet[106].

Some of our cultural heritage sites are places where our people were violently removed from their Country or killed[107]. Historical research is now producing maps of many such places across Australia – for example of Colonial Frontier Massacres in Central and Eastern Australia 1788–1930[af]. We hold these places and seek to heal ourselves, our Country and our cultures through our management actions[108] (Case Study 2-7).



John Coppi

af https://c21ch.newcastle.edu.au/colonialmassacres/map.php

CASE STUDY 2-7

Dhelkunya Wi (healing fire): Healing massacre sites, *Djaara* (people) and *Djandak* (Country)

Authors: Mick Bourke and Nathan Wong

- Djandak Wi (Country fire) for Djandak (Country) and Djaara (people)
- Djandak Wi is the first Aboriginal fire practice to be part of the Victorian State Government's planned burning program
- Wi is part of our Joint Management Plan for our Dja Dja Wurrung Parks, showing our responsibility and connection between Djandak and Djaara
- Wi is a way to cleanse and heal the areas where our people have been massacred, to start the healing of Djandak and Djaara
- Interwoven with our Dreaming stories, our Lore and our martinga kuli murrupi (ancestral spirits)

We are bringing back Djandak Wi (Country fire) onto our Djandak (Country). The Dja Dja Wurrung are the original people of West Central Victoria, Australia. This Djandak was part of the world's first organic super farm, because of the way Djaara (people) used wi (fire) and waanyarra (flowing water) to manage Djandak. With the landscape modified for over 60,000 thousand years, Djandak was like the Garden of Eden and some early invaders said exactly this in their journals. In the 1830s, Central Victoria was invaded by a foreign nation, changing the landscape dramatically with the hunting and massacring of Dja Dja Wurrung and displacing them onto missions.

This is our job: to tell this story and heal Djandak and Djaara, as Djaara still walk these stolen bloody lands. We have massacre sites that have never been cleansed; sites where there has never been any sort of acknowledgement of the Djaara murdered in cold blood for the theft of their Djandak. Evidence of brutality to the original people was hidden. When there are records of massacres, they are dulled down to make the murderers sound as if they were protecting their livestock.

Mick Bourke says:

I am a descendant of Garrugum and his Country, and a member of Dja Dja Wurrung. Through my work bringing back wi to heal Djandak I have been lucky to look over Country and show people the real story. Once, out on Country with a researcher looking at massacres in my grandfather's Country, we came across a massacre site that my family was involved in and when we arrived in that place I had a bad feeling in my stomach and could feel a lot of bad energy in the area. As we walked, it was like someone trying to tell me something. We kept going over the written records of the massacre and walking it out, as the record spoke of a little rock house, owned by the invading thieves, next to a hill and close to a water way. We were in the exact spot of the massacre when something drew my cousin and I to the little rock house. Then, when we began walking away, we came across a greenstone axe, most likely made by NGARRUGUM Djaara. Rather than leave it there in harm's way, we noted the location on a GPS, took the axe to Dja Dja Wurrung Corporation and registered it with the Cultural Heritage Unit.

We spoke to our Elders about some of these cold cases and from these conversations we came up with a way to cleanse this massacre site of NGARRUGUM, a way of Djaara, acknowledging and remembering our ancestors. One of the methods we chose is to use wi and gatgin (water) to cleanse the area and then to come in afterwards, followed by a big ceremony for all living descendants, friends and supporters of the Dja Dja Wurrung community to help heal Djandak and Djaara.

We started bringing back Djandak as soon as we could, after working for years to have our rights recognised. In 2013 our Recognition and Settlement Agreement, was successfully negotiated between the State Government of Victoria and Dja Dja Wurrung through the Traditional Owner Entity – the Dja Dja Wurrung Clans Aboriginal Corporation of Central Victoria.

Djandak is interwoven with our Dreaming stories, our Lore and our martinga kuli murrupi (ancestral spirits). Djandak gave birth to our ancestors and nourished and sheltered them. In return they were the guardians of Djandak, in the care of the waterways and woodlands, ensuring the health and future of both Djandak and Djaara (Dja Dja Wurrung people). Djaara continue to carry that responsibility to look after Djandak today.

In May 2019, our Djandak Wi became the first Aboriginal fire practice to be part of the Victorian State Government's planned burning program. We have been bringing back Djandak Wi onto our Country through partnerships with government agencies, particularly Forest Fire Management Victoria, Loddon Mallee and Parks Victoria. Most importantly, we do it and we do it our way as we have been taught. We let our ancestors know we are on Country through smoking ceremonies, and the work with agencies to burn Country our way. We are setting up Djandak Wi sites across Country including Greater Bendigo National Park. Wi means fire in our language.

We can read the landscape using a wide range of indicators we have been taught, such as colour. Wi is lit at the right time of year, so it burns gently, finding its own course. We make a cool, gentle, creeping fire that takes a natural path through the bush.

We do a cleansing with our Elders first. Photo: R. Hill

Dja Dja Wurrung fireworkers. From left: Trent Nichols, Andrew Murray, Mick Bourke, Amos Atkinson.
Photo: DELWP

Our monitoring site looking at how Wi is changing our Country in Greater Bendigo National Park. Photo: R. Hill © Dhelkunya Dja Land Management Board.

Now we have a monitoring site looking at how the Country is changing. When we burn, we start with dead leaves and place them in a circle and make it go outwards. We don't use lighters or accelerants. We just hand light the fire with our sticks. We do a cleansing with the Elders first.

Wi is good for Country and good for Djaara, showing connections to land, to each other, and Creation time. Making decisions about Country, including fire regimes, without Dja Dja Wurrung threatens our cultural obligations, and will continue to stop the healing of our Country and people. Wi is as much Dja Dja Wurrung culture as it is about how the Country burns.

Wi has dramatically changed since colonisation. Fire management has not considered cultural outcomes, impacts on our food and fibre plants and animals, cultural connections and obligations have been little considered. The natural heritage of Djandak is of great cultural importance and Dja Dja Wurrung see the natural environment as their cultural heritage. Impacts of this from too little fire, intense wildfires or wrong way fires damage our cultural heritage through damaging the environment.

Djandak Wi, in our partnerships, gives us opportunities to restore the health of Country, and to pass knowledge on to our youth. Our Joint Management Plan for our Dja Dja Wurrung Parks sets our goal to re-establish Wi across all our Parks. We are showing the wider community how cultural fire in the landscape promotes ecosystem health and protects property and life.

Want to know more?
Here are some useful links:

- Return Cultural Heritage Project (AIATSIS)
  https://aiatsis.gov.au/publications/books
- Australia ICOMOS Indigenous Heritage Reference Group
  https://australia.icomos.org/get-involved/working-reference-groups/indigenous-heritage-reference-group/

2.9 STRENGTHENING KNOWLEDGE WITH OUR KIDS IN SCHOOLS

2.9.1 Bilingual Education

We are gradually bringing Indigenous knowledge into schools, where the national curriculum sets consistent standards that don't always include Aboriginal and Torres Strait Islander perspectives. The Australian Curriculum Assessment and Reporting Authority in 2019 released a lot of new resources to support Indigenous knowledge in the science curriculum, including through the Inquiry for Indigenous Science Students program[ag].

ag https://www.csiro.au/en/Education/Programs/Indigenous-STEM/Programs/I2S2

Bilingual schools, using both the local Aboriginal language and English, were introduced in the Northern Territory by former Prime Minister Gough Whitlam in December 1972 with the Northern Territory Bilingual Education Program. Aboriginal-run independent schools are very strong in putting Indigenous language, culture and knowledge upfront. Yiyili Aboriginal Community School, in the Kimberley region of Western Australia, is a good example of this.

Yiyili was started in the 1980s by Norman Cox, a Gooniyandi leader who had the vision to return to his traditional lands. Many Aboriginal families were crowded in towns like Fitzroy Crossing after being moved from pastoral properties after the equal pay decision. Norman set up a camp beside the Yiyili reach of the Margaret River. He knew that if you want a real community, not just a holiday camp, there had to be a school for the kids. Norman drew inspiration from the Aboriginal-run Strelley and Noonkanbah schools – if they could do it so could he! A couple of years ago Norman passed on, and Yiyili honoured him with a mural on the basketball court (Figure 2.3).

Yiyili school started with a qualified school teacher and the WA Education Department assessed and registered the school, in a spinifex bough shed at the time. Back then, 37 years ago, the education authorities knew it wasn't about buildings, it was about education and kids being there. They helped a lot, so did Steve Hawke and many other Kartiya (non-Indigenous people) over the years. Norman was the oldest of nine brothers and sisters, so his siblings joined him and today we have 70 students at the school.

Figure 2.3. Mural of Norman Cox, founder of Yiyili community and school.

CASE STUDY 2-8

Yiyili mawoolyi roowa wardbirri Gooinayandigarri – Yiyili kids out on Gooniyandi Country

Authors: Yiyili Aboriginal Community School Board and John Hill

- Yiyili Aboriginal Community School is run by Gooniyandi people
- Gooniyandi language, culture and knowledge are front and centre
- Kids learn Gooniyandi knowledge on our Country
- Bush to Belly Food Company and Laarri Art Gallery

Our beautiful Gooniyandi Country. Photo: Yiyili Aboriginal Community School

Left: Adults pass on Gooniyandi knowledge to children on Country. Right: Kids love being on Country.
Photos: Yiyili Aboriginal Community School

Every year Gooniyandi kids and adults go out on our Country with Yiyili Aboriginal Community School. In 2018, around 40 bush trips happened, passing on Gooniyandi knowledge and culture about hunting, fishing, gathering and preparing bush foods, bush medicines, singing and story-telling, looking after rock art sites, and keeping alive Gooniyandi, our language which is critically endangered. We made books in Gooniyandi for our language program, which is compulsory in our school up to Grade 10. Our Hip-Hop video-song Yiyili Mawoolie, made to celebrate culture, language and the proud history of Gooniyandi people on the 35-year anniversary of our school, was a finalist in the National Indigenous Music Awards.

Yiyili Aboriginal Community School runs along Gooniyandi culture and family lines. We discuss things and make decisions together. Our School Board includes 14 people from each of the 7 local groups. Our first School Chairperson was Mervyn Street, now a famous artist, he was always in the school to teach language and culture, make beautiful posters, season calendars, art-work. He still comes today. We had Penny Mudeling, the purest Gooniyandi speaker in the world, to get our language program strong, and her grand-daughter is our teacher today. Four generations of Yiyili people are involved in the School today.

Being on our Country, together with our important places, bush-tucker sites, is fantastic for finding ways of linking Gooniyandi knowledge to economic development. Our School started our Laarri Art Gallery in 1999. People love to paint, now it brings in money through the grey nomads and other tourism. Lots of tourists come to the gallery, out of interest in the paintings and in us, our Community and our School. So we had another idea, and started the "Bush to Belly Food Company", with an instructional kitchen in our School, supporting students to learn and offer a café with coffee and delicious healthy food for the tourists

and the Community. We have a music room with good equipment, and so many great musicians, the kids love it.

Our greatest challenges are mostly about different parts of resourcing our School. Also, formal schooling is a Kartiya idea and we have to fit it with our Community life, which doesn't match up perfectly. We have always been mobile and today we move for social, cultural, medical reasons so the kids move with us. We need more resources because for significant health issues – physical and mental – no professional help is on hand, so we have to try to up-skill teachers as much as possible. We always need those good Kartiya teachers, as well as our Gooniyandi teachers, and sympathetic, skilled management.

We know it would be very hard to start a new Community or a Community School today – we mostly hear about the government trying to close down our communities. But we'd like to encourage other Indigenous people to talk strongly with whatever school your kids go to. Tell them you want to make your traditional culture and language at the centre. Be bold. Be strong. Tell the system that Aboriginal culture and language is the most important thing.

We are building a strong future for our Gooniyandi kids. Photo: Yiyili Aboriginal Community School

2.9.2 Two-way Science

Science Pathways for Indigenous Communities[ah,ai] supports two-way science in remote Indigenous schools and communities through integrated learning programs. A two-way science approach promotes Indigenous leadership in education, and fosters partnerships between schools, communities, Indigenous ranger programs and scientists. The *Two-Way Science* book presents curriculum-linked activities to support teachers and students[109]. Illustrations of practice[aj] videos, made together with the Australian Curriculum Assessment and Reporting Authority, tell some of our great stories.

Wiluna Remote Community School has been working with the Science Pathways program to develop an integrated two-way science learning program and build connections between the school and community since 2016. A partnership between the school, Wiluna Martu Rangers and Desert Support Services coordinated activities on Country and in the classroom to support transfer of Martu knowledge alongside western science activities related to the cultural heritage and land management work of the rangers.

Wiluna is situated in the northern Goldfields region of Western Australia on the western margins of Martu traditional lands in the Little Sandy and Gibson deserts. The last Martu bush families settled in Wiluna in 1976 and 1977. Wiluna Remote Community School has between 80 and 115 students from four-year olds to year 12. Most students are Martu children, however the school also has students of Fijian, Tongan and European ethnic origins. Most Martu people in Wiluna speak Aboriginal English as well as Martu Wangka.

A 'Two-way Science Week' in May 2019 involved the whole school and featured Martu Rangers, Elders and community leading the learning on Country and in the classroom (Case Study 2-9).

ah Science Pathways for Indigenous Communities program is part of the Indigenous STEM Education project delivered by the CSIRO and funded by the BHP Foundation.

ai https://www.csiro.au/en/Education/Programs/Indigenous-STEM/Programs/Science-Pathways

aj https://www.australiancurriculum.edu.au/resources/aboriginal-and-torres-strait-islander-histories-and-cultures/illustrations-of-practice/

CASE STUDY 2-9

Science Pathways for Indigenous Communities

Authors: Wiluna Martu Rangers, Birriliburu Rangers and Kate Cherry (Indigenous STEM Education Project CSIRO).

Key learnings from Two-way Science week at Wiluna

- Martu Elders see cultural education as an important part of the school program and want opportunities to take their families on Country to teach them
- Taking students out on Country is another opportunity for Elders and families to talk to the young ones about their responsibilities for each other and the respectful ways they should be with each other. Elders say they have less worries and see less bullying and trouble between the kids when they are doing two-way learning at school
- Students talk about 'being happy' and 'connecting to culture and the old days' when they are learning Two-way Science on-Country with the Elders and rangers. Teachers observe them to be more engaged, self-directed in their learning and describe them as active learners
- Multiple stakeholders have key roles that contribute to the success of the week – Elders are an integral and active part of knowledge transfer and leading on-Country learning; rangers and Desert Support Services (DSS) staff play a coordinating and facilitating role and Science Pathways staff have an oversight and support role to all participants
- The school fosters a positive community and family engagement – the principal welcomes families and culture into school, promotes 'best practice' to less experienced staff, listens to families and creates a safe space for their feedback and contribution to learning
- Teachers (non-Indigenous) take on a 'give it a go' approach and become the students – teachers get out of the classroom and onto Country to learn from Elders, rangers and families. This enhances their relationships and allows them to share and discuss Two-way Science learning ideas for the students

Yeah, I do, I look forward to it [coming to the school]. I'm happy because the kids are there and it makes them happy, and they see parents and guardians and nannas and pops and – Of course before it wasn't like this. They never used to come to the school and – No, never used to – Now it's open door for us. Parents will come in

Rita Cutter, Nanna, Ranger, Elder

At Wiluna Remote Community School, it's easy to see how Two-way Science brings students, Elders, rangers and school staff together to put the community's goals into action and support learning outcomes for their young ones.

In Two-Way Science Week, the school classes take turns spending time with the Elders, Desert Support Services staff, Indigenous rangers, parents and teachers. They prepare for learning on Country field trips, to go out bush and coming back to class to reflect and build on what they did, saw and heard.

Activities for the week:

- Track animals in parata (spinifex sand plain) and yapul yapul (rocky) Country, especially Tjilkamarta (Echidna)
- Set up motion sensor camera around the tracks to find evidence of animals
- Learn about Martu Country types
- Collect materials to build a wiltja (shelter)
- Learn how to pick a site and build a wiltja
- Investigate habitats, especially burrows
- Cook Marlu (kangaroo) tail and make damper
- Community day, Two-way Science assembly and student science awards.

In this community, Wiluna Martu are recognised for their leadership of and contribution to two-way learning in school.

Well who else going to teach them the Two-way Science later on when we all gone? Nobody else to teach them. They won't get if off younger people, because they wouldn't go out of their way to go and teach them. So, it's a chance with us Elders to go out and teach Two-way Science. For us we learnt a lot with our Old People when they was there with us, the bush life. For me now I'm proud that I did learn from mum, now I want to pass it to these young people

Rita Cutter and Lena Long together, Elders/ Rangers

When Science Pathways for Indigenous Communities was invited to the community; program staff wanted to engage community members and families with the program and find out what they wanted for their young ones.

At the beginning, it was very much about seeing what the community wanted, and then what schools wanted from our project … that was really important and a really useful part of the process that we didn't come in with an agenda, particularly when it came to working with Aboriginal people. And from that emerged the themes really, from those initial kinds of consultation and discussions

David Broun, Senior Coordinator
Science Pathways for Indigenous Communities.

Desert Support Services staff acknowledged that Martu have clear intentions for student learning: '*the Martu have always pushed for education and getting more young people out on Country*' (Mo Pawero, Ranger Coordinator). One DSS staff member talked about how this long-standing community goal is reflected in their land management and conservation work, as well as their involvement in the Science Pathways program

To quote [the Elders], – they said: 'we've got a classroom, too, out there.' And it is, and one of the big aspirations for the Matuwa Kurrara Kurrara Indigenous Protected Area and Mutawa research centre itself is for it to be a Two-way Science hub. It is like a bush university out there, and that's been the plan from the start, from 2015/16 when it was first an IPA and they wrote that plan, and that's in here. That's part of the IPA plan and then we brought it into this Two-way Science plan

Jessica Chapman, Ranger Coordinator

Desert Support Services also recognised how Science Pathways for Indigenous Communities has built on the community's strengths.

Elder and Ranger Lena Long teaches tracking skills to students. Photo: Kate Cherry, CSIRO.

Students testing their Wiltja built under instruction by Wiluna Martu Elders. Photo: Kate Cherry, CSIRO.

Making damper for lunch during Learning on Country. Photo: Kate Cherry, CSIRO.

Investigating a scorpion burrow revealed after recent fire. Photo: Kate Cherry, CSIRO.

[CSIRO's role is] definitely pretty integral to kickstarting some of this stuff [Two-way Science], Maybe some of it was already happening, but actually taking the time to really facilitate it, to create education materials, to go in and physically work with the schools over a number of years to help them do it, to show them the way, to coordinate it – it's actually having someone in that role to bring people together, to bring the rangers and the schools together. We were already doing it, but it helps structure it. And we would never have produced all those activities. The school might have done one here or one there, we might have done one here or one there, but the amount of effort and time that has gone into that – yeah, that's extremely valuable to have someone who is actually on that.

Jessica Chapman, Ranger Coordinator

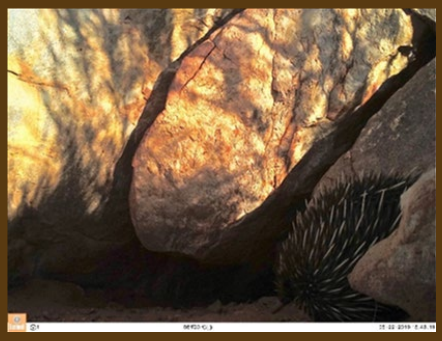
A student completes a tracking data sheet to record evidence of animals in an investigation of parata country (spinifex sand plain). Photo: Kate Cherry, CSIRO.

The teachers at Wiluna Remote Community School acknowledge the benefits of Science Pathways, and the contribution that the Elders, and Indigenous rangers are making to the program. The school principal reported that through the knowledge that Elders, and other families share with students and staff – staff at the school are given the opportunity to be more culturally aware of the Country that they are working on. The staff are also able to use this knowledge and integrate it into the Australian Curriculum. Using local knowledge in this way is a valuable tool that helps students reach their learning outcomes in all areas of the curriculum.

One of the teachers talked about how their on-Country learning translates to the classroom.

We usually take the iPads and we might collect some things, we'll take photos, and then we'll link it back up in a digital technology lesson, we'd make a pic collage or a little movie, and then review what we found. Especially weather and seasons.

Lauren Richards, Teacher



Rangers and students followed tracks to Tjilkamarta ku ngurra (home of the Echidna). They set a motion sensor camera which recorded an image the next day.

Another teacher talked about how important Two-way Science is across the whole curriculum and for student learning outcomes.

I think Two-way Science is like the crux of engaging curriculum here. It's from that, literacy becomes engaging, history becomes engaging … particularly the bush trips and learning on Country, that makes everything more engaging … In terms of achievement, I think that because it's very hands on, it's building on the knowledge they already have. The depth of the learning is a lot more and so therefore it's almost like naturally a higher expectation because it's more achievable.

Sandy Chambers, Teacher

In 2018 Wiluna Remote Community School won the national Indigenous Science Technology Engineering and Maths (STEM) School Award for their work with engaging with the Martu Rangers and the Wiluna community to use traditional knowledge to teach science to students.

Want to know more?
Here are some useful links:

- Martu knowledge and western science coming together in learning at Wiluna Remote Community School, Western Australia
  https://www.australiancurriculum.edu.au/resources/aboriginal-and-torres-strait-islander-histories-and-cultures/illustrations-of-practice/learning-together-through-two-way-science-at-wiluna-remote-community-school/
- Teaching from Country, Charles Darwin University
  http://learnline.cdu.edu.au/inc/tfc/yolngu_resources.html
- Contested Knowledges, Charles Darwin University
  http://learnline.cdu.edu.au/units/contestedknowledges/
- Living Knowledge: Indigenous knowledge in science education
  http://livingknowledge.anu.edu.au/index.htm
- Indigenous STEM Education Project (CSIRO)
  https://www.csiro.au/en/Education/Programs/Indigenous-STEM
- Indigenous knowledge in the national science curriculum
  https://www.youtube.com/watch?time_continue=8&v=dPWd4wz5fGE
- The Orb, Tasmanian Government
  https://www.theorb.tas.gov.au/

2.10 WALKING OUR COUNTRY

Walking our Country resonates with aspects of our traditional life, and we are reviving walking as part of our caring for Country. A survey of *walks in Country* over the last twenty-five years in northern and central Australia showed lots of different motivations. We walk to foster connection to Country, for land and fire management, to hunt and gather bush foods, for reconciliation, health promotion, juvenile corrections, intergenerational teaching, for tourism business, and to protest[110]. The Wave Hill Walk-off by Gurindji in 1966 is one of the most famous protest walks, but there are many others – for example the Cummeragunja Walk-Off by mostly Yorta Yorta people in 1939. Walking is good for practical parts of caring for Country because it allow greater flexibility of movement, detailed observation, nuanced decision-making and highly-targeted actions[110].

Walking is part of the caring for Country work of a research collaboration that supports efforts to nurture Darug Ngurra, Darug Country in western Sydney, NSW. The collaboration comes together as Darug custodians, NSW National Parks and Wildlife Service, and university researchers and students develop, model and advocate greater environmental stewardship at Yellomundee/Yarramundi Regional Park. As senior Darug man Uncle Lex Dadd explains: "We're walking our Dreaming together now."

> *[If you fail to] walk on Country, to learn names of places: billabongs, creeks, hills, the history of that place, what happened there, names of all the plants and animals … [the ancestors will say to you] you're not welcome here any more because you haven't visited me. Something bad will happen to you if you come back. I won't give you any food, no fruit for you' … Country is their home. They'll turn their back on you, won't have anything to do with you.*
>
> Patricia Marrfurra McTaggart,
> senior Ngen'giwumirri Elder, 2018.

CASE STUDY 2-10

Yanama budyari gumada: walking with good spirit at Yarramundi, western Sydney

Authors: Darug Ngurra including Uncle Lex Dadd, Aunty Corina Norman-Dadd, Paul Glass, Paul Hodge, Sandie Suchet-Pearson, Marnie Graham, Rebecca Scott, Jessica Lemire and Harriet Narwal

- Yanama budyari gumada – walking with good spirit
- Culture camps at Yarramundi – practising patience, humility and respect
- Caring as Country through ceremonies, hand-painting, carving, weaving, weeding
- Commitments and responsibilities to care

Connecting with Darug Ngurra. Photo: Yanama budyari gumada

Yarning together. Photo: Yanama budyari gumada

Walking, listening carefully to Darug Ngurra, so that we might heal Country, is an important process of reconnecting with the ancestors, with Mother Earth, Father Sky, with each other, with ourselves, and with all the sentient beings which make up Country. Supported by a NSW Environmental Trust grant, and building on the important work that people involved with Yarramundi have been doing for decades, we are facilitating important connections between Darug custodians and other people who connect with Yarramundi, including other Aboriginal people, local communities, environmental experts, management authorities, and recreational users. We hold Darug culture camps to connect people with Darug Ngurra and culture, and initiate Caring-as-Country projects, like weed removal and maintaining cultural sites. Of fundamental importance, our grant covers appropriate payments to Darug custodians for their time, efforts, and knowledges to Care-as-Country.

Signing into Darug Ngurra

Ceremony is important within our collective. We regularly hold smoking ceremonies when we do our Caring-as-Country activities, and we also invite visitors to sign-in to Country. As Uncle Lex explains: "Our Old People would put their hand prints on Country when they were travelling to ceremony, indicative of upholding the LORE by following the LAW of how to behave, and obligations of responsibility to Country and each other. We put the LORE/LAW into practice by signing into Country at Yarramundi by crushing up white ochre, a neutral colour, and showing visitors how to blow the ochre out of their mouths and putting a hand print on the casuarina trees." The hand prints eventually wash off and we do new ones, and through this process we talk about how everyone belongs, everyone deserves to learn culture. Through Uncle Lex's ideals of Yanama budyari gumada – walking with good spirit – people are encouraged to show a commitment to Country and are reminded of their responsibility to care-as-Country, including caring for each other.

Making our stringy bark bracelets

Our Indigenous-led collaboration is guided by the vital lesson that Uncle Lex shares with camp participants and which is emergent from the making of stringybark rope. The fragile strands of the stringybark bark, when entwined, come together as a strong rope, and this lesson of strength through togetherness provides the framework for our collaboration. Even though we might have difficulties in working with each other, we use patience, humility and respect to come together and become strong, far stronger than we are when we work by ourselves.

To take action, make plans, make decisions and reflect, we take the time to sit and yarn together. As Uncle Lex says, "When we have our yarns we really come together with that respect. We never have any competition of egos, we come to each other as equals. We each have different expertise in different fields, in the framework of our old ways." We learn from and about each other and about Country by yarning. Yarning entails sitting and talking together – on, with and as Country – to check in, to understand, to sort out our differences. Yarning enables connection between us, but it also requires us to listen deeply and to have difficult conversations in order to move forwards.

We also follow a set of protocols that we iteratively developed, which guide how we relate to each other, to our project, and to Country. Our protocols include things like ensuring that visitors to Country are aware of their obligations and the processes we must follow to ensure we are being safe on Country.

As a research collective we are led by Darug custodians, and together we walk this good spirited walk with patience, humility and respect, always trying our best to listen deeply, walk softly, lead with love, and leave our egos behind. We know these research protocols are essential for the health of our collective, enabling us to learn from and with each other always.

We also invite many people to come and see what we do and to work with us – we invite them to be strands within our stringybark rope. This includes local Indigenous groups, individuals and cultural experts; university academics, researchers and students; school groups; local community groups and individuals; environmental and conservation groups; local and state government representatives; and recreational groups who use Yarramundi reserve. Sometimes we call on specific knowledges and expertise that we don't currently hold within our group. We therefore scope out, for example, ecologists, firestick specialists, water quality specialists, dance teachers and cultural leaders who may be able to help us.

Uncle Lex shows us how to weave stringy bark bracelets. Photos: Yanama budyari gumada

We nonetheless think carefully about who we invite to collaborate with us, how we might interact, and what knowledges we want to share. Together, we think and talk through whom might be good collaborators, and then we go from there and see if they fit with our ways of knowing and doing. In doing so, we have learnt that not all collaborations work out for us. We have learned we need to respectfully 'let go' of those partnerships with good grace. It is not their time.

We have come to learn that taking the time to know each other, to be together on Country is both necessary and generative. It is through taking the time, learning slowly together that we are able to create strong bonds, generate new knowledges, and produce beneficial outcomes in our Caring-as-Country work.

2.11 WALKING COUNTRY WITH WAANYI GARAWA

Authors: Peter Yates, Waanyi Garawa

2.11.1 NAILSMA and Waanyi Garawa research

Walking in Country offers a powerful way of drawing together some of the many threads of Aboriginal people's past, present and future. Waanyi Garawa and NAILSMA are undertaking research that shows that walking in Country can play a valuable role far beyond immediate land management objectives. Walking may not be the most efficient way to 'get the work done', but it is valuable work in itself.

Thoughtful physical engagement with the land is possible through walking in Country.

The walks in our research project explored the range of benefits – health, social, psychological and land management-related – that might derive from the type of slow, thoughtful physical engagement with the land that is only possible through walking in Country. A specific aim was to explore the benefits of walking in Country for showing and sharing knowledge for Country planning.

In northern Australia we are lucky that for most areas there are senior people who grew up on or near their estates and who have the knowledge, interest and commitment to see that land looked after. These senior people have been able to partner with government land management programs to develop Indigenous ranger groups and other programs such as Indigenous Protected Areas. These Indigenous land and sea management programs have generally sought to combine traditional and scientific knowledge to look after land and sea Country, and these partnerships continue to be highly effective and productive.

The Walking in Country project run by Waanyi Garawa and NAILSMA at Jilundari was a project where the focus was on emphasizing the more traditional values and experiences of being in, and connected to, Country (Figure 2.4). The project grew out of the realisation that the time-rich, visceral experiences of Country common in the past were being replaced by modern values such as efficiency. Government funding (and quite reasonable expectations of payment for work) brings with it objectives and metrics that favour one cultural way of being and doing in Country over another. Vehicles enable better access but restrict people to roads; helicopters make fire management possible over huge areas, but favour efficiency over subtlety; remote sensing stands in for actually visiting Country. The result, NAILSMA feared[110], has been a steady decline in the quality of engagement with Country from an Indigenous viewpoint, even as overall engagement has increased.

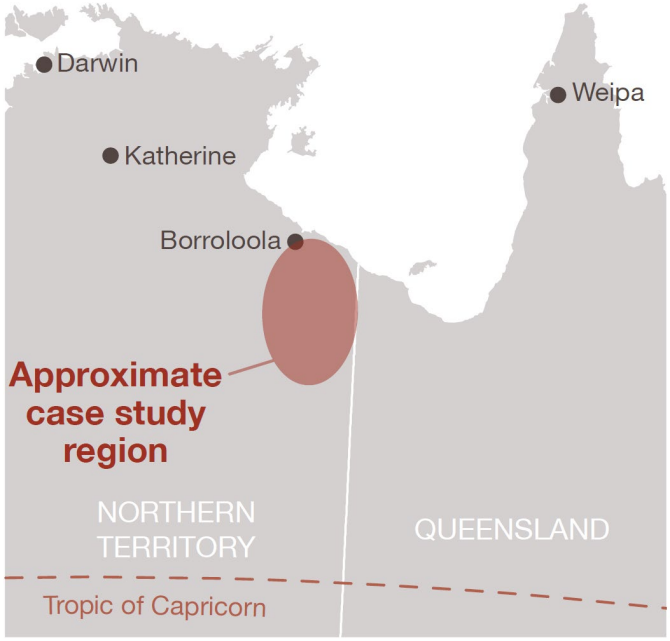


Figure 2.4. Approximate location of the Walking in Country project near Robinson River, Northern Territory.

2.11.2 Jilundarina walk

The Walking in Country project set out to create opportunities to be on Country and to walk to different places as chosen by the senior people – places perhaps remembered from childhood or those that are significant in Dreaming stories. For the Waanyi Garawa people of Jilundari, in the remote northern part of the Waanyi Garawa Aboriginal Land Trust in the Northern Territory, the opportunity to visit their homeland and surrounding lands was seized upon. The people connected to the area live scattered across a vast area, including the gulf townships of Borroloola, Doomadgee, Burketown and Normanton and Mornington Island, as well as the more distant cities of Mount Isa and Townsville. For most, the difficulty in getting there makes visits very rare indeed. Many children connected to the area – even teenagers – had never been there.

In July 2018, a camp was held at Jilundarina/Seigal Creek to explore with Traditional Owners the value of walking in Country for the purposes of land management and Country planning. Over the course of ten days in the bush, participants settled into a relaxed and thoughtful frame of mind, thinking about what they want from life and what their aspirations were for their Country. Young people were taken, on foot, to visit places that the older people had themselves visited on foot in their childhood (Figures 2.5 and 2.6).

A filmmaker was present throughout, capturing footage of Country and people's reflections on the Country and their lives, both good and bad. The result was a film *Getting back to Jilundarina* that gives a prominent place to Indigenous voices as they express their frustrations with community life and their wish for a better future that is more connected to their homeland and to the past.

Figure 2.5. Walking in the Northern Territory. Photo: NAILSMA.

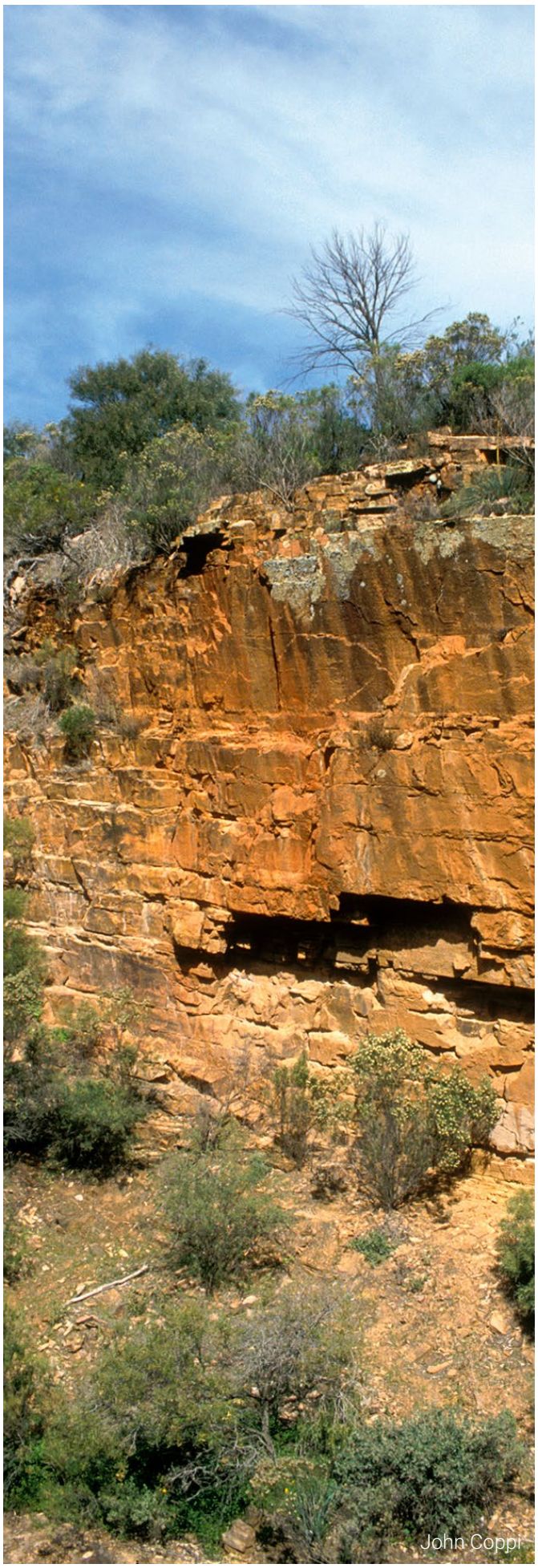
Figure 2.6. Walking in the Northern Territory. Photo: NAILSMA.

When Jilundari people talk of knowledge, and the sharing of knowledge, they are not particularly interested in sharing with outsiders. Their preoccupation is with sharing knowledge with their own young people.

The younger people are a generation who has grown up in town, away from Country: learning town skills, speaking English, driving around in cars, maybe hoping for, if not actually expecting, careers in a big, wide world. To the young, the special skills and knowledges of Country may seem distant and unattainable. This is a body of knowledge that is already fragmented and weakened, and which now can seem irrelevant to everyday life. Desirable, but not essential, to the lives the young know.

In the first instance, the Jilundarina walk was about bringing the young people 'home', which was about more than a physical visit. It was certainly about showing the waterfall and the swimming spots and the wrecked car by the track that their grandparents owned, but it was also about allowing the spirits to know the *smell* of those children, so that they would always know them as Countrymen and so they would be safe in that Country. The young people needed to drink the water of that place, to eat the fish of that place, to thus become in some way *of* that place. The young people needed to know the layout of the Country so that they would never stumble into dangerous places where special knowledge is required. They needed to begin the lifelong journey to knowledge that would enable them to be as one with the Country and to look after it. The songs, stories and dances that make that Country, and the various numerous beings that inhabit that place and can help or harm a person.

The senior people were acutely aware that a huge amount of knowledge has already been lost and continues to be lost, through the colonial past and present – to violence, to disease, to alcohol, to road trauma, to incarceration, to


John Coppi

depression. These senior people themselves feel that they have inherited only a fragment of the knowledge that was their birthright, and they know too well that their generation is not living as long as they should and that they have to make every effort to pass on what they can.

Throughout the visit, Traditional Owners strongly expressed the desire to return to their Country to live. Towards the end of the camp, a session was held to workshop the many reasons why people have been consistently unable to make the change from the community of Doomadgee to the Jilundari outstation. Many reasons were put forward, some of which were deemed 'under people's control', whilst others were 'things they would need help with'. This first workshop produced a significant list, and was valuable in itself, but there would be great value in returning to the task and considering a selection of 'reasons' in detail, with the objective of better understanding these obstacles. The process may also provide a means of 'resetting' the prevailing mindset, from a sense of powerlessness, to a way of thinking wherein a determined people acting in concert can forge their own future.

The Jilundari people are happy to work in partnerships with outsiders to look after the land. But they are in no doubt that it is their children and grandchildren that are the first priority.

Want to know more? Here are some useful links:

- Getting Back to Jilundarina (film) https://vimeo.com/298072798
- Waanyi Garawa Case Study https://www.nespnorthern.edu.au/wp-content/uploads/2018/05/Waanyi-Garawa-case-study-update-Apr-2018-1-1.pdf
- Walking in Country: A medium for protecting and transmitting culture and managing the land https://www.nespnorthern.edu.au/wp-content/uploads/2018/09/Walking-in-Country-research-essay.pdf

2.12 LESSONS TOWARDS BEST PRACTICE FROM THIS CHAPTER

Important ideas and guidance from Indigenous Peoples:

- Listening and talking with Country through songs, stories, songlines, dances and ceremonies, are vital ways we use our Indigenous knowledge to care for, navigate and connect with Country
- Language links us to Country and our people, and language revitalisation heals both Country and people
- Looking after our Indigenous heritage places and objects, and the stories, songs and histories that go with them, is part of caring for Country
- We hold massacre sites as heritage and seek healing of both people and Country in these places through smoking and other ceremonies
- Digital databases, seasonal calendars, and illustrated books, created with attention to our cultural protocols, are good ways to document and share our knowledge and keep it strong for the future
- Science is an important tool for us, for example it can provide accurate identification of shellfish, but it cannot tell us what they mean, the laws and stories of the shellfish
- Working with our school children to keep their knowledge of language and culture strong is vital
- Walking with good spirit on our Country – in cities, farms, rural and remote places – reconnects us with our ancestors, our cultures, with ourselves, and with all beings on Country.

Resources and guidance for partners:

- Support for cultural festivals and exhibitions enables strengthening of Indigenous song, dance, art and stories and increases understanding of how these shape caring for Country
- Language and cultural heritage programs, including repatriation, work well where community members are involved and committed and where there is access to adequate funding and resources
- Putting together an Indigenous knowledge resource according to cultural protocols – such as a book about shellfish – requires extensive involvement of knowledge holders, and enough time to work with community rhythms, customs and languages
- The shift required for non-Indigenous partners in cultural heritage management is moving from working with Indigenous Peoples to working for Indigenous Peoples.

Actions and issues for Indigenous people and partners in working towards best practice:

- Programs focused on keeping Indigenous knowledge strong, through diverse activities including dance, art, language and ceremony, are vital to support caring for Country
- Two-way science can bring the best of Indigenous and non-Indigenous knowledge and learning approaches into programs that link the school curriculum and community.

3

SHARING OUR KNOWLEDGE IN CARING FOR COUNTRY

Authors:
Graham Atkinson, Patricia Marrfurra McTaggart, Gerry Turpin, Rachel Buissereth, Bush Medijina®, Lisa McMurray, Rowan Foley, Nyangumarta Warrarn Aboriginal Corporation RNTBC, Yamatji Marlpa Aboriginal Corporation, Norman Graham, Delta Kay, Josie Carwardine, Cathy Robinson, Bundjalung of Byron Bay Aboriginal Corporation, Dr Aunty Patsy Cameron, Les Schultz, Cissy Gore-Birch, Emma Woodward, Dennis Chungalla, Heather Wungundin, Mary Aiken, Jean Malay, Bernadette Williams, Tim Cranbell, Josephine Forrest, Marmingee Hand, Ross James, Elizabeth Jingle, Olive Knight, Nathan Lennard, Valerie Lennard, Ileen Malay, Lindsay Malay, Wallace Midmee, Stuart Morton, Chloe Nulgit, Patricia Riley, Ina Shadforth, Jane Bieundurry, George Brooking, Sherika Brooking, Willy Brumby, Victor Bulmer, Virgil Cherel, Ashley Clifton, Sam Cox, Matt Dawson, Alistair Hobbs, Duran Hobbs, Camelia Juboy, Patricia Juboy, Annette Kogolo, Barry Lennard, Con Lennard, Deon Lennard, Nelita Malay, Zenneth Malay, David Marshall, Herbert Marshall, Lezeka Millindee, Diane Mowaljarlai, Andrea Myers, Thomas Nnarda, Joy Nuggett, Lloyd Nulgit, Pansy Nulgit, Anne Poelina, Daniel Poudrill, Joe Ross, Jimmy Shandley, Sandy Skeen, Gordon Smith, Mervyn Street, Pauline Thomas, Bronson Wongawol, Harry Yungabun, Fitzroy High School Students (Arosha Sunfly, Cyntala Cook, Kaunell Shaw, Taliesha Collard, Yvonne Collard), Rosemary Hill, Ilisapeci Lyons, Nat Raisbeck-Brown and Pia Harkness.

HIGHLIGHTS

- Overcoming the trust barrier between traditionally-driven world views and western scientific world views
- Intellectual property: who owns, controls and has the authority to share Indigenous knowledge with outsiders?
- Cultural protocols must be respected, to enhance trust in sharing of Indigenous knowledge
- Protecting against the misappropriation or misinterpretation of Indigenous knowledge is critical
- Mutually respectful engagement with researchers and other outsiders has the potential to provide opportunities for shared story-telling
- Opportunities are emerging for sharing knowledge and culture through Indigenous-led enterprises.

We document, record and share our knowledge of Country in many different forms, including: books and databases about plants and animals (ethnobotany[111], ethnozoology andbiocultural records[112]); via films and maps; by way of artworks and installations; through online collections; and via emerging digital technologies. Sharing knowledge in this way is never simple. In sharing knowledge for which we are custodians or owners, we are accountable to our ancestors, Elders and other members of the language group, and family. Some knowledge is only for the family line. If we share knowledge that is sacred or special there will be consequences – we or other people who record that knowledge or see it might fall sick or suffer in other ways.

3.1 BUILDING TRUST FOR KNOWLEDGE SHARING AND RECORDING

Patricia Marrfurra McTaggart, a senior Ngen'giwumirri Elder, linguist and custodian of extensive bio-cultural knowledge from the Daly River region of the Northern Territory, told us of her experiences in sharing knowledge (Case Study 3-1). Patricia is a highly skilled biological scientist, weaver, hunter, fisher and gatherer, and is knowledgeable in several Aboriginal languages and dialects. She has engaged with many academics and external research practitioners over the years to share and co-document her extensive biocultural knowledge[12,24,113-115], and likewise has supported Elders from other language groups to document their own plant and animal knowledge[116]. Patricia has further chosen to share her knowledge through: engaging with groups from the armed forces to teach them bush skills; teaching visiting university student groups about Indigenous knowledge systems; and running her Fi Tours, in which visitors learn about the complexities of Ngan'gi culture and life through the deceptively simple analogy of weaving Merrepen (pandanus grass), and making something from nothing.

Patricia's motivations for engaging with different researchers are clear. In describing her reasoning for working on her co-authored book Ngan'gi Plants and Animals, she said[115 (p.6)]:

> *I wanted to write down all of the Ngan'gi knowledge about plants and animals for the children to have in the future. I wanted to go deep into my culture and try to understand the plant and animal knowledge like my Elders. I wanted to preserve the Ngan'gi names and the whitefela names together in a book to keep it strong.*

CASE STUDY 3-1

Building trust to share our knowledge our way

Authors: Patricia Marrfurra McTaggart and Emma Woodward

- Custodians of knowledge feel an obligation and responsibility to the ancestors to treat knowledge the right way
- There is a process to sharing knowledge which may require complex negotiations
- It takes time for trust to build between knowledge holders and outsiders before knowledge might be shared

Engaging with researchers and other outsiders in place provides an opportunity for sharing of knowledge through story telling. However, the information and knowledge Patricia chooses to share is not owned by her. She is the custodian for that knowledge, a strong link in the continuing chain of Ngan'gi biocultural knowledge reaching from the Dreamtime and finding an everchanging path as it is renewed and reconfigured into the future. Patricia's role as a keeper of that strong and sometimes sacred knowledge is underpinned by a stong personal obligation to the Old People to treat it with care. This is a defined cultural responsibility for Patricia that has grown since she was formally handed the role at a meeting of senior Elders when she was a younger woman, and from which point began a more intense period of learning through the Elders.

Patricia recounting stories of fishing for prawns as a young girl: describing the knowledge she and select members of her family hold for finding the prawns; successful techniques for fishing; and containing the animals once caught. Photo: Emma Woodward

Patricia's responsibilities as a senior knowledge holder are all encompassing. She is in ongoing conversation with her ancestors, seeking permission to share knowledge, and in turn the ancestors hold her and other Ngan'gi people accountable to the care and maintenance of knowledge through their actions. The obligations and responsibilities individuals have to the ancestors, in terms of maintaining Ngan'gi connection to Country and ensuring it stays strong, extends to them enacting (and thereby nurturing) their knowledge of hunting, fishing, gathering, seasonal cycles, weather phenomena, and the complex relationships between people, plants, animals and places.

One of the first intense engagements with a researcher, who came from outside the community, was with a government ethnobotanist who expressed an interest in working with senior Ngan'gi knowledge experts to document their plant (and animal) knowledge. Over time the Elders who were involved in these discussions grew their trust in Patricia to play the role of the conduit between the Elders and the enthnobotanist.

They placed their trust in her to share Ngan'gi knowledge ('their' knowledge) with this outsider. Patricia believes that the Elders were watching her before and during this period to see if she demonstrated good judgement and decision-making through her selection of specific information to share with outsiders. This period of observation allowed them to build trust in Patricia. Now, most of those Elders have passed away; Patricia is recognised as an Elder, and researchers and others are directed to her by other community members. She feels the weight of expectation of the Elders recently passed, and the ancestors, when making decisions about sharing knowledge. Allowing the time for understanding to grow with outside research

partners, supports the possibility of Patricia building the trust that is required for her to feel confident that shared knowledge will be used the right way – according to her direction.

When asked what *Our Knowledge, Our Way* means to her, Patricia explained:

The first word that came into my head is trust. People will withhold, and listen and watch how someone acts. (We) sit back and watch and listen. It takes a while for people to understand why someone has come (to the community). You have to build trust … people slowly build trust.

Trust will not form and and no engagement will result if people do not attend to social and cultural protocols, for example sitting too close, or touching/bumping Elders. This process of testing someone may take a few visits:

Some of the Old People, I would hear them mumbling 'this man doesn't hear what we are saying. Doesn't believe us. Maybe he should go away and come back again, next time he might get it.'

Knowing what and how Indigenous knowledge documented in the research will be used is crucial. Patricia is concerned about others appropriating Ngan'gi knowledge, language and culture:

When we hear other people use our language and words it makes us cringe inside. How dare they use our language? You have to earn the privilege.

Patricia also enjoys delving deeper into her own knowledge system:

When people like Glenn Wightman (NT Government ethnobotanist) also wanted to talk about plants and animals, what are their names, what are they used for, this was very interesting. It made me wake up deep inside. It woke up old memories, old knowledge, things we did in the past. Things we wanted to keep strong.

Speargrass (*Sorghum intrans*) is a strong indicator species in Ngan'gi Country: many of the season names reflect the life-cycle stage of the grass. Photo: CSIRO

Patricia and her family harvesting Miwisamuy (*Flueggea virosa*): hunting and gathering activities on Country with researchers and other visitors provide a critical opportunity for learning Ngan'gi knowledge and culture.
Photos: Emma Woodward

Gerry Turpin is a Mbabaram Traditional Owner and Award-winning scientist who manages the Tropical Indigenous Ethnobotany Centre (TIEC) at the Australian Tropical Herbarium in Cairns, and spends his days learning from Aboriginal Elders. TIEC is an Indigenous-driven centre that aims to record and document the knowledge and store it for future generations (Case Study 3-2).

CSIRO

CASE STUDY 3-2

Medicinal plants of the Mbabaram people

Authors: Gerry Turpin and Rachel Buissereth

- Indigenous-driven ethnobotany centre led by Aboriginal ethnobotanist
- Bioactivity of medicinal plants project
- Validation of traditional medicinal uses
- Partnership with scientists

Mbabaram Country stretches west from Herberton to Almaden and south from Dimbulah down to Mount Garnett in far north Queensland, Australia. Mbabaram Aboriginal people were originally moved off our Country because of mining and pastoral leases. We have worked hard to get our Country back, and have successfully completed eight of nine native title claims. Today, there are only 300 words left in our language and only a small fraction of Mbabaram people remain on their land.

Mbabaram Land Managers surveying Mbabaram medicinal plants on Country. From left to right: Jordan Turpin, Jermaine Turpin, Valmai Turpin, Gary Congoo, and Cheryl Douras. Photo: Gerry Turpin

A day in the field

With the Tropical Indigenous Ethnobotany Centre acting as a cultural broker, a group of young Mbabaram men and women conducted a survey of plants previously identified by Mbabaram Elders as being traditional medicines. The group learned the skills necessary to identify plants, collect samples, and use Geographic Information Systems (GIS) to record the location, habitat, soil, and geology of the plants. After the collection of these data, plant samples were pressed, tagged and submitted for processing. Through these methodologies, young Mbabaram people learned new skills while spending time out on Country with members of their community.

Mbarabam Elders on our Country. Photo: Gerry Turpin

Working with scientists

Four Mbabaram representatives visited the National Institute of Complementary Medicine at Western Sydney University to observe the testing procedures and meet the participating researchers. Extracts of 18 plant samples were tested for their microbial and antioxidant activity against four different microorganisms. It was found that four samples were able to kill bacteria effectively at low and high concentrations and two samples showed higher levels of antioxidant activity than Vitamin C. Throughout the project, researchers agreed to keep the identity of the samples anonymous to protect Indigenous rights to the knowledge. Likewise, the results of the study were published under joint authorship with Mbabaram people. The co-research methods conducted throughout this study exemplify equitable collaboration between Indigenous people and researchers and provide a foundation for future partnerships.

Visiting the labs at the National Institute of Complementary Medicine, Gerry Turpin and Jordan Turpin. Photo: Tropical Indigenous Ethnobotany Centre

Building on our work with the National Institute of Complementary Medicine, we are exploring the potential of the bioactive materials for wound management together with the Australian Institute of Tropical Health and Medicine at James Cook University.

Want to know more?
Here are some useful links:

- The Living Knowledge Place
  http://www.livingknowledgeplace.com.au/ausmap.php
- Tropical Indigenous Ethnobotany Centre
  https://www.jcu.edu.au/australian-tropical-herbarium/research-and-programs/tropical-indigenous-ethnobotany-centre-tiec
- Books of Aboriginal knowledge of plants and animals, Northern Territory
  https://nt.gov.au/environment/native-plants/aboriginal-knowledge-plants-and-animals

3.2 OUR KNOWLEDGE FOR ENTERPRISE AND ECONOMIC DEVELOPMENT

There are extensive opportunities for sharing of knowledge and culture through the appropriate development and marketing of bush products and on-Country experiences based on our local knowledge.

3.2.1 Bush products

Many of us are pursuing enterprise development on Country, including seeking opportunities to build from our extensive knowledge of plants and animals to create new and innovative bush-derived products.

The Indigenous-led bush products sector is gaining momentum in Australia, with diverse enterprises adopting different business models to realise success according to their individual goals. The sector incorporates a wide range of enterprises including bush foods, native plant-derived industries (seed harvesting, nurseries, cut flowers etc.), and the development of botanicals-based products including bush medicines, essential oils, and health and beauty products.

The Australian bush foods industry is valued at $20 million annually; however, it's estimated that Aboriginal and Torres Strait Islander people make up only one to two percent of the market presence. The first Bush Foods Symposium was held in Sydney in November 2019, with the aim of increasing Indigenous participation in the growing bush foods industry[117]. Developing enterprises based on Indigenous ecological knowledge creates opportunity for being on Country; strengthens knowledge through sharing (including with youth); and facilitates community engagement. We know that building enterprises and products based on shared Indigenous knowledge requires us to make decisions about those plants and animals the right way, with our businesses often underpinned by a strong cultural ethic.

The Yiriman Women's group, working in the Kimberley region of Western Australia, are building Yiriman Women Bush Enterprises[ak] to realise social, cultural and economic goals. The group engages with Elders from four language groups across the Kimberley, and seeks to work with at-risk youth, taking them on Country to learn from their Elders through harvesting ingredients to be used in the on-Country development of their skincare range. They promote participation and being on Country, to heal on Country.

They have developed strong protocols for managing their knowledge about plants and bush products. They know there is a need to be strong in knowledge: sharing when there is a need to share; protecting when they need to protect; and extending, using scientific knowledge, when appropriate. These protocols include being in the right relationship with family and with Country.

Figure 3.1. Bush products created by the Yiriman Women's group. Photo: Emma Woodward.

ak https://www.yirimanwomen.org/

CASE STUDY 3-3

Bush Medijina®

Author: Bush Medijina®

- Indigenous-led and controlled sustainable, independent enterprise that supports women, culture and community
- Traditional preparation of skincare products supports preservation of traditions and knowledge for future generations
- The enterprise has a strong focus on governance and advocacy, specifically supporting women

We are an Aboriginal owned and run enterprise based in Groote Eylandt, Northern Territory and supported by the Anindilyakwa Services Aboriginal Corporation[118].

Our vision is to be a sustainable, independent enterprise that supports our women, our culture, our community and our future. We support Warningakalina women, to share our culture with others, and to preserve our traditions and knowledge for future generations.

We want to grow our business from a small seed to a giant tree, so it can stay strong, just like our culture

Gayangwa Lalara OAM

We harvest local plants including Merrika (Broad Leaved Wattle), Dumburumba (Native Sandalwood), Mawilyaburna (Liniment), Mamarra (Small Leaved Paperbark), and Mamaburra (Wild Peach Tree) and, using recipes passed down to us by our mothers, aunties and grandmothers, we hand-make our skincare products, which we sell online across the globe.

We are governed by an all-female board, and the entire team is made up of women: about eighty percent of us are Indigenous. The enterprise creates regular governance, leadership and women's advocacy opportunities for the team and the wider community throughout the year.

See more: https://bushmedijina.com.au/

Founding member of Bush Medijina®, Gayangwa Lalara, OAM. Photo: Bush Medijina®

Collecting Merrika (Broad Leaved Wattle) (left) and Mawilyaburna (Liniment) (right) to create skincare products. Photo: Bush Medijina®

A selection of Bush Medijina® skincare products and marketing material. Photo: Emma Woodward

3.2.2 Eco-cultural Tourism

Eco-cultural tourism offers opportunities for renewing, strengthening and sharing knowledge, whilst also obtaining economic benefit. There is a growing demand from international and domestic visitors to experience Indigenous culture, and also to visit remote and undeveloped places on Country, as these places are often seen by outsiders as being wild and untouched. Indigenous eco-cultural tourism enterprises incorporate a range of cultural elements into their visitor experience, including bush skills demonstrations; knowledge of plants for food, bush medicine, arts and craft; hunting, fishing and gathering techniques; and songs and stories of Country. Some tour operators also talk with their clients about experiences with colonisation including the Stolen Generation, and the importance of reconciliation. This adds to the education experience for visitors to Country.

Gooniyandi people run cultural tours in the Mimbi Caves of the Kimberley region, WA. They offer a cultural experience built upon a visit to the Mimbi caves, rich in Aboriginal rock art; sharing of Dreamtime stories and knowledge of local bush medicines; a visit (for women only) to the highly significant birthing cave site; and sampling of bush tucker including damper made with native seed.

Sampling bush tucker is a popular aspect of many Indigenous eco-cultural tours, with the subsequent selling of bush tucker-related products, sampled as part of the tour, a great way to increase engagement and build enterprise opportunity. Broome-based tourism operator and Nyul Nyul man Robert Dann has been able to expand his business, based on the success of the boab-nut based iced tea drinks he serves to his Kimberley tourism clients. He now uses Boab nuts to create unique products including iced tea, boab ginger beer, boab beer and cosmetic ointments. The business, Bindam Mie, employs local Indigenous people to pick, then process the nuts at a commercial kitchen in the WA regional town of Broome. Boab seeds are used to create oils for use in beauty products and the pulp is ground into a powder for food and beverages.

3.2.3 Indigenous Carbon Economy

There are many different approaches in terms of how Indigenous organisations are participating or aspiring to participate in different aspects of Australia's carbon economy. For example, Indigenous Peoples are building enterprises founded on their knowledge of traditional fire management and experience in burning Country the right way. In northern Australia Indigenous fire methodology, based upon a systematic mosaic approach to early dry season burns across Country[5], has demonstrated both greenhouse gas abatement (compared to uncontrolled wild fires) and carbon sequestration benefits. These two outcomes of traditional fire management practice have created a significant opportunity for engaging in the carbon market.

In northern and central Australia, after securing land tenure, many Indigenous organisations have established land and sea management units, through which carbon market opportunities can be pursued[65]. In other regions of Australia, particularly in the south, Indigenous organisations do not have secure tenure but are looking to secure payment for carbon offset management services through their land and sea management units[65]. In other more remote regions, Indigenous organisations have secured land tenure but lack necessary infrastructure, such as a ranger group and associated support, to develop the economic opportunities offered by carbon offset schemes[65]. A key challenge in the design and evaluation of programs to support enterprises founded upon traditional fire management is the inclusion of culturally-appropriate governance arrangements[65].

CASE STUDY 3-4

Indigenous-led verification and impact measurement of environment, social and cultural values of carbon farming

Authors: Lisa McMurray and Rowan Foley, Aboriginal Carbon Foundation

- For Indigenous-led approaches to be embraced, the narrative around who an expert is needs to be redefined
- Western research methodologies and evaluation practice can be decolonised by developing an evaluation approach that is *of, for, by and with us*
- When the space is created for Indigenous people to lead this work, opportunities for leadership are embraced and an Indigenous voice about the core benefits of carbon farming is amplified

Indigenous carbon farming is an emerging industry and opportunity for on-going 'untied'[al] income generation for Indigenous communities. Australian Carbon Credit Units (ACCUs) can be generated using the savanna burning methodology administered by the Clean Energy Regulator. The Australian Government through the Emissions Reduction Fund will buy ACCU for 'lowest cost abatement'. However, if carbon farming demonstrates environmental, social and cultural core benefits then the voluntary market will purchase the ACCU with core benefits for a premium price.

Up until now verification of core benefits has been largely anecdotal and observational. The Aboriginal Carbon Foundation (AbCF) secured funding through the Carbon Plus Fund of the Queensland Government's Department of Environment in 2016 to conduct research and development of a core benefits verification approach. AbCF however, saw an important opportunity in this funding to develop an unorthodox Indigenous-led methodology, where the narrative of an expert is redefined.

The development of this framework involved conversations, community workshops, stakeholder consultations, formal peer review, piloting in two Cape York communities (Mapoon and Kowanyama) and the creation of an industry reference group for the associated Australian Skills Quality Authority (ASQA) approved training course in the measurement of core benefits. The research and development of this Indigenous-led approach took two years.

As the Indigenous carbon industry grows and is recognised as a viable way for the private sector to offset its carbon emissions, the demand for rigorous and independent core benefits measurement will also grow, particularly if companies are claiming to meet UN Sustainable Development Goals (SDGs). Usually this verification

Ranger verifiers Sarah Barkley and Jason Jia interviewing Kowanyama Land and Sea Office Manager John Clark, AbCF staff member Lauren Bowyer documenting.
Photo: Aboriginal Carbon Fund

Kowanyama Traditional Owners using picture cards to identify the most significant core benefits from their carbon farming project.
Photo: Aboriginal Carbon Fund

Ranger verifier Jason Jia facilitates a conversation to determine the key questions the group wishes to know about their identified core benefit of 'their carbon project bringing together western and Indigenous sciences'.
Photo: Aboriginal Carbon Fund

al Income without any prescribed parameters as to its spending.

would be conducted by an external consultant, most probably a non-Indigenous person in a 'fly in, fly out' manner. AbCF, however, has used this opportunity to build Indigenous ownership and leadership of the verification process.

The verification process enables evaluation capacity development of the people closest to carbon farming. Without measurement skills and ability, the participants and affected communities will remain dependent on the involvement of external people who are not as well placed to collect, interpret or communicate accurate and meaningful information about any project's core benefits. Furthermore, First Nations researchers and evaluators have drawn specific attention to the need to decolonise western research methodologies and evaluation practice by developing an evaluation approach that is *of, for, by and with us*.

In practice, this Indigenous-to-Indigenous philosophy sees verification of core benefits conducted by a team of trained Indigenous experts including rangers, Traditional Owners and community members from across the region where savanna burning is implemented. This principle prevents the extraction of information by external agencies to be used and interpreted without the understanding of, or any required benefit to, the affected community. The approach safeguards Indigenous data sovereignty and ensures the people verifying have strong cultural and project-based knowledge.

Customised picture-based, text-light tools facilitate decision relating to:

- what core benefits will be verified
- what information do you wish to know about the core benefits
- who can you speak with (and in what ways) to attain this information
- what existing information is there to support the triangulation of the data collected.

We suggest that when Indigenous people voice that their carbon projects are working for them, achieving the outcomes that they value most, and when they have the relevant evidence to support their claims, then the environmental, social and cultural core benefits can be verified through this authentic and innovative approach.

3.3 WORKING WITH INDIGENOUS LAND AND SEA MANAGEMENT PROGRAMS AND INDIGENOUS PROTECTED AREAS

The national, state and territory governments have invested substantial resources to support our caring for Country through a range of initiatives referred to here as Indigenous Land and Sea Management Programs (ILSMPs). These programs have supported the employment of many Indigenous land and sea management rangers, with work plans (for example those contained in Healthy Country Plans) developed in consultation with government representatives[119,120]. In 2019, over 900 Indigenous land and sea management rangers were employed under Australian Government-funded programs. Recent research has shown that this investment in ILSMPs makes a significant contribution to regional economies, with the impacts of investment commonly exceeding that of other key regional industries such as agriculture and mining[71].

Rangers' work is diverse and involves many activities: managing fire; controlling weeds and feral animals; monitoring threatened species; removing ghost nets; picking up tons of rubbish washed up on beaches; looking after cultural sites; and more. Rangers do fee-for-service work and some of them run businesses[25,61,63]. Some rangers work on biosecurity and border protection, identifying the illegal movement of people and goods, including foreign fishing[121].

Indigenous Protected Areas (IPAs) are areas of Indigenous community owned and managed lands protected in Australia[am]. They form the second largest component of Australia's National Reserve System (NRS): nearly 45 percent of the NRS, covering approximately 67 million hectares, and over eight percent of Australia.

am Interactive spatial data and information about IPAs from the 2016 State of the Environment report is available from https://soe.environment.gov.au/theme/overview/land/topic/overview-state-and-trends-land#terrestrial-protected-areas-and-Indigenous-protected-areas-in-2011-and-additions-for-2016--80156

> The Indigenous Protected Area program was established in 1997 to support Aboriginal and Torres Strait Island Peoples to choose when, where and how they will manage their own Country, combining traditional knowledge with western science.

As of 2019 there were 75 IPAs, with most of them dedicated under International Union for Conservation of Nature (IUCN) Categories 5 and 6, which promote a balance between conservation and other sustainable uses to deliver social, cultural and economic benefits for local Indigenous communities.

Different Indigenous groups have different visions and values for their IPAs. For Yolŋu Traditional Owners and Custodians the overriding value of their IPA is:

> as a cultural space in which terrestrial and marine components, cultural beliefs, practices and obligations as well as animals, plants, ecosystems, and ecological services are integrated in a holistic world-view of "Country"[122].

For Dambimangari Traditional Owners and Custodians, they state their vision as:

- Dambimangari Country is managed by our rules and Dambimangari should have the last word over Dambimangari Country
- We keep our traditional knowledge alive and pass it on to our young people
- We look after animals, plants and cultural places on Dambimangari Country using our traditional knowledge and western research
- We return to Country to live on our Country, work on our Country and have access to our Country
- We control people accessing our Country and have our rangers guide them
- We give our young people education, training, employment and business opportunities on county to look after Country[123 (p.8)].


Gregory Heath

Indigenous knowledge is vital in IPA management and management plans[90,124]. For example, the Nyangumarta Warrarn IPA, dedicated by the Nyangumarta Traditional Owners and officially recognised by the Commonwealth of Australia on the 23rd of April 2015, is a large area of 28,420 km^2 located in north Western Australia. The biodiversity and cultural resources of the many habitats within the IPA are managed by the Nyangumarta Rangers, who have recently collaborated in the production of a booklet about traditional ecological knowledge (Case Study 3-5).

Indigenous knowledge features in many IPA and Healthy Country management plans and activities around Australia[125]. Some exciting examples include:

- Southern Tanami Indigenous Protected Area Storybook Plan of Management (Warlpiri and English)[an]
- Walalakoo Healthy Country Plan[ao]
- Links to Indigenous Sea Country management plans[ap].

an http://walyaku.org.au

ao https://maps.northwestatlas.org/files/montara/links_to_plans/WA/WA_3_Walalakoo_Healthy_Country_Plan_2017_2027_Nyikina%20Mangala%20IPA.pdf

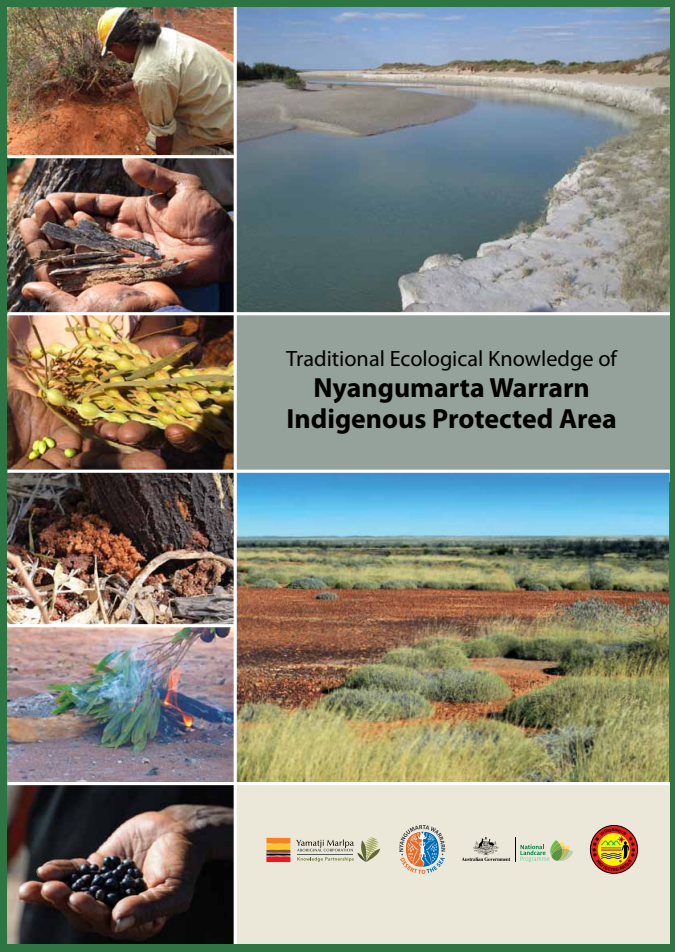
ap https://northwestatlas.org/nwa/indigenous/guide

CASE STUDY 3-5

Traditional ecological knowledge of Nyangumarta Warrarn IPA

Authors: Nyangumarta Warrarn Aboriginal Corporation RNTBC and Yamatji Marlpa Aboriginal Corporation

- Traditional ecological knowledge documented to support management of Country, and protect knowledge from being lost as Elders pass away
- Project provided a critically important opportunity for rangers and Elders to come together on Country and share knowledge about Country



The Traditional Ecological Knowledge of Nyangumarta Warrarn Indigenous Protected Area booklet, this project was funded by the Australian Government's National Landcare Program and Indigenous Protected Area Program.

With the support of Yamatji Marlpa Aboriginal Corporation (YMAC), the Australian Government's National Landcare Program, and the Indigenous Protected Areas Program, the Nyangumarta Warrarn Aboriginal Corporation has published a compilation of traditional ecological knowledge (TEK) of the Nyangumarta Warrarn Indigenous Protected Area (IPA).

The booklet is a collection of ethno-botanical information passed down through generations of Nyangumarta people. More than 80 plants were collected, and descriptions of 70 species appear in the book. The data was collected during two surveys of Nyangumarta Country in 2014 and 2015.

Driven by an increasing concern about the loss of knowledge held by Elders when they pass away, the Nyangumarta community worked with Elders to record their knowledge of plants (for foods, medicines, ceremony, artefacts and other purposes) within the IPA. The Yamatji Marlpa Aboriginal Corporation, who has provided support to the Nyangumarta land management program, including training of rangers, organised two ethno-botanical field surveys that involved both Elders and rangers. Given that no Traditional Owners remain living on Country, this was a critically important opportunity for rangers and Elders to come together on Country and share knowledge about Country.

Witchetty grubs in roots of Jimpirriny (Desert Poplar). Photo: Volker Mischker

3.4 WORKING IN CO-MANAGED PROTECTED AREAS

In recent decades, Indigenous Peoples have engaged in various forms of co-management with governments of national parks and other protected areas[126,127]. This has occurred as Indigenous Peoples have progressively demanded greater access to, and decision-making power over, their traditional lands[128]. Some governments have responded to this call by aligning their policy approaches to support co-management[127,128]. Numerous examples of Indigenous-led co-management found across Australia in World Heritage Areas[129], cultural heritage places[74], Traditional Use of Marine Resource Agreements[130], and other arrangements[131], are bringing Indigenous knowledge to the front.

In central Victoria, for example, the Dhelkunya Dja Land Management Board (DDLMB), established under the *Dja Dja Wurrung Recognition and Settlement Agreement 2013* between the state and the Dja Dja Wurrung Clans Aboriginal Corporation, has recently prepared a management plan for six parks and reserves that puts Dja Dja Wurrung knowledge at the forefront. In the words of Mr Graham Atkinson AM, Chairman of the DDLMB:

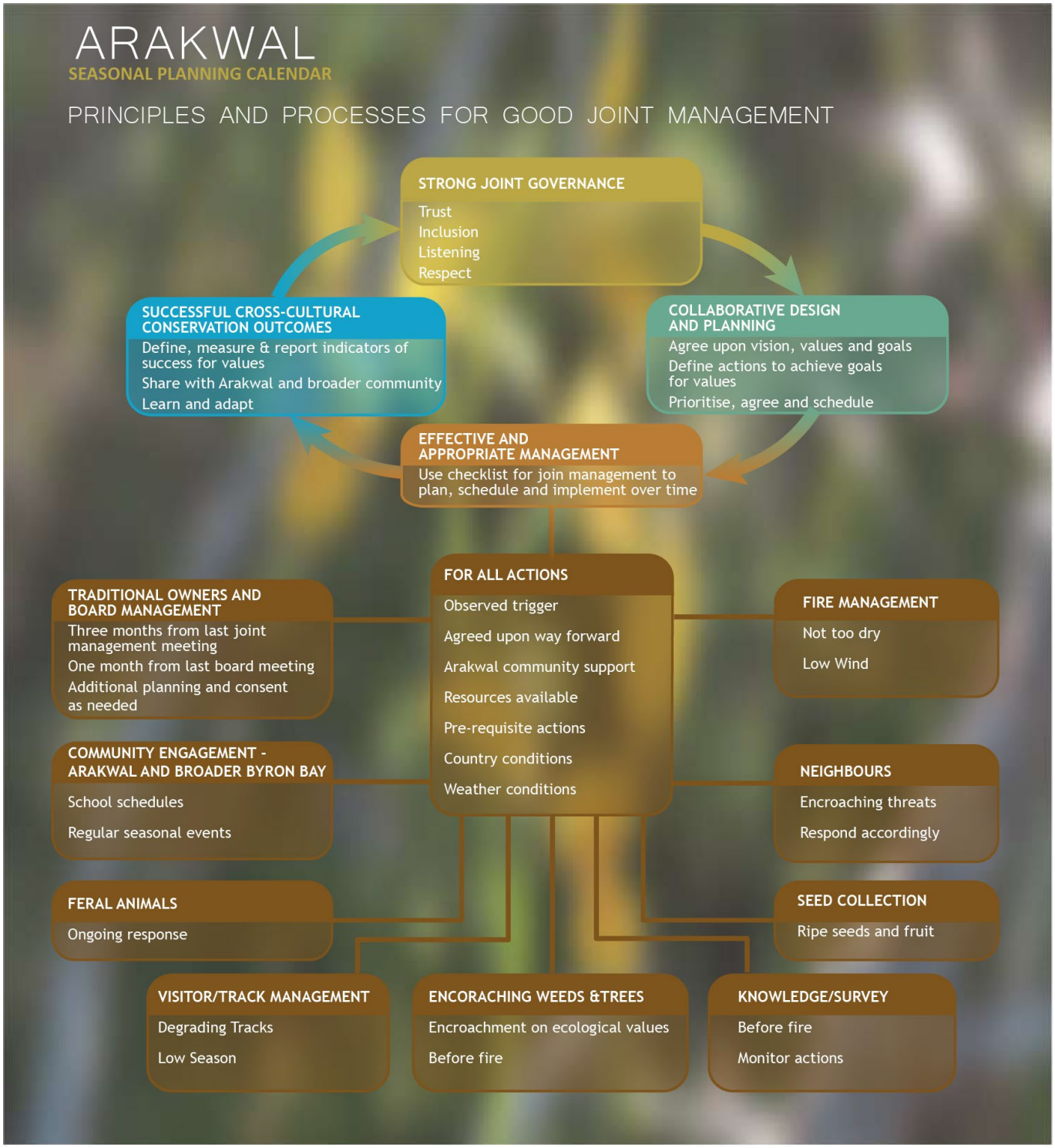
The notion of Joint Management here recognises that the Traditional Owners, the Dja Dja Wurrung people, have a significant connection to their Country, and in turn, have inherent rights and responsibilities to care for their Country … This is where new fire regimes, built on the knowledge of old fire regimes, can be trialled to reach a benchmark in biodiversity and utilise this important tool in reshaping the land for future generations. This is where traditional ecological knowledge and modern-day science can bridge ecological knowledge systems to reinvent a methodology to manage Country in a way that is inclusive, evolutionary, sustainable and holistic.

Graham Atkinson[54] (p.xi)

In New South Wales, Bundjalung of Byron Bay Aboriginal Corporation (Arakwal) have produced a four-stage cycle of principles and processes for good joint management, which uses multiple sources of knowledge to adapt the four pillars of good management from the IUCN's Green List of Protected Areas into a co-management setting. The approach highlights the importance of joint governance based on trust, inclusion, listening and respect. It includes a checklist and triggers for decision-making to guide when and how to implement high-priority management actions (Box 3-1)[132]. In the words of Norman Graham, (Ranger, NSW Parks and Wildlife Service and Bundjalung of Byron Bay Traditional Owner):

> It is great to appreciate the positives. This helps us to stay focused and bring our day to day work up to these frameworks and tie it back to what do on the ground. It brings the words to life. We can use these goals and past work to refresh and rejuvenate ourselves. We can follow this pathway that we set and still enjoy and be happy about our work and achievements on looking after Country. This work benefits you as an individual and the country: we are following those Healthy Lifestyle: Healthy Country ideals.

Box 3-1 Arakwal principles and processes for good joint management. Source: Bundjalung of Byron Bay Aboriginal Corporation (Arakwal), NSW National Parks and Wildlife Service & CSIRO. 2019. Seasonal Planning calendar to guide joint management of significant species - the Byron Bay Orchid (Diuris byronensis) and Dwarf Graminoid Clay Heath. Arakwal National Park[133].



Indigenous knowledge also features in many other management plans and activities through the different pathways to co-managed parks around Australia[128]. Some exciting examples include:

- Daintree National Park Management Plan[aq] (Qld)
- Yawuru Birragun Conservation Park[ar] (WA)
- Joint Management Plan for the Dja Dja Wurrung Parks[as] (Vic).

aq https://parks.des.qld.gov.au/managing/plans-strategies/pdf/daintree-national-park-management-plan-2019.pdf

ar https://www.dpaw.wa.gov.au/images/documents/parks/management-plans/ybcp_mangement_plan_web.pdf

as http://www.dhelkunyadja.org.au/the-plan/joint-management-plan

CASE STUDY 3-6

Joint management speaking through Tebrakunna Country, Tasmania

Author: Dr Aunty Patsy Cameron

This case study demonstrates a number of best practice principles:

- Establishing and maintaining strong partnerships through mutual respect and trust
- Following guidelines set by key stakeholders
- Ensuring Aboriginal cultural activities are community controlled
- Maintaining regular communications between business enterprise and local Aboriginal organisation
- Monitoring precious cultural heritage landmarks and places of significance
- Providing appropriate advice both ways
- Upholding strict cultural values of what is shared knowledge and what is secret/sacred

Tasmanian Aboriginal dancer Jason Thomas, Mannalargenna Day 2019. Photo: MJ Anders

To protect Aboriginal knowledges and to manage and promote cultural experiences on Country 'right way', this case study offers insights into the relationship between a private business enterprise and not-for-profit Aboriginal community-based organisation, Melythina Tiakana Warrana (Heart of Country) Aboriginal Corporation (MTWAC).

The area involved is extremely important to Tasmanian Aboriginal people, even though it is a private property and operating farm. A rim of sand dunes interspersed by a copse of coastal heathland embraces the remains of ancient campsites, hunting grounds and burial places of the First People who belonged to this Country for thousands of generations. This headland known as Tebrakunna (Cape Portland) is the homeland of the Pairrebenner/Trawlwoolway clanspeople, whose last great leader, Mannalargenna, was an important figure in colonial Tasmania. Many Tasmanian Aboriginal people today trace their heritage directly to Tebrakunna Country through the ancestry to Mannalargenna and his four daughters.

While coastal margins comprising wetlands, endangered species habitats, a wildlife sanctuary and culturally sensitive places are protected under appropriate Tasmanian Acts, a greater expanse of the Cape Portland farm property is not covered under a protected area status. Tebrakunna land is owned by the government-business enterprise of Hydro Tasmania, who in turn lease it to the Woolnorth Windfarm Group to operate 56 wind turbines, with a large portion of the property operating as a beef cattle farm.

The Tebrakunna Visitor Centre (TVC) is located on the property at Cape Portland farm. The small, semicircular building sits under a majestic wind turbine and overlooks Bass Strait. The TVC commands magnificent views over the Bass Strait islands that dominate the horizon from west to east. The TVC was designed, funded and built by the Woolnorth Windfarm Group in partnership with the regional Aboriginal community organisation Melythina Tiakana Warrana (Heart of Country) Aboriginal Corporation (MTWAC).

Tasmanian Songman Uncle Ronnie Summers, Mannalargenna Day 2016. Photo: MJ Anders

Musselroe Windfarm on Mannalargenna Day 2019. Photo: Hilary Burden

Women's Business Circle twining string on Mannalaregnna Day 2019. Photo: Hilary Burden

This partnership was established at the early development stage, before construction began on the windfarm some six years ago. There is no formal written agreement between the business enterprise and MTWAC, moreover, from its inception to the present day, co-management between the two entities is based on mutual understandings, trust and respect. This relationship has strengthened over time because of a commitment by management of the windfarm to acknowledge the cultural, social and spiritual importance of Tebrakunna to MTWAC, and the responsibility that goes with it.

It was of vital importance to MTWAC that the interpretation of the lifeworld of the ancestors, who lived at Tebrakunna for thousands of generations, be managed by Aboriginal custodians. It is also important that the story of Tebrakunna Country, from the deep past to the present day, acknowledges the continuity of cultural connections to the land. The trust relationship between MTWAC and the Windfarm Group is extended to visitors, where, perhaps the only type of its kind, the TVC is not staffed daily and relies on visitor honesty in experiencing our cultural heritage. In six years no damage, loss or vandalism has occurred at TVC because of the dignity and respect that Country engenders for all people who visit there.

The TVC, which is open every day throughout summer and four days a week during the winter months, offers a unique educational experience about the history and culture of the clan who lived, and continue to connect, here. It also tells the story of the windfarm operations. Woolnorth Windfarm engages a cleaner and groundsman to keep the TVC clean and the grassed areas mowed and weed free. MTWAC members visit the TVC regularly to help weed the surrounding culture gardens, plan new projects and offer guided information tours for visitors at the site. For easy access to the wider community, the grounds of the TVC are separated by an electric fence from the surrounding beef cattle lease.

On the first Saturday of December each year Mannalargenna Day Celebrations are offered to Aboriginal people and the wider community on the grounds of TVC. This event commemorates the lifeworld of a great ancestor who belonged here and who died in exile from his homeland in 1835. It is also a day to celebrate the survival of Tasmanian Aboriginal people. Mannalargenna Day is organised by MTWAC with financial and in-kind support from Woolnorth Windfarm management who coincide an Open Day with the event.

Tasmanian Aboriginal dancer Jarrod Hughes, Mannalargenna Day 2019. Photo: MJ Anders

Men's Business Circle on Mannalargenna Day 2019. Photo: MJ Anders

3.5 WORKING WITH FIRE

In Australia, biodiversity and landscapes that have adapted to Indigenous burning practices over the millennia, have not responded well to recent fire regimes introduced by Europeans[134]. Coordinated cross-ranger group customary burning practices in Australia's north are now recognised as delivering best practice savanna burning methodology[112,135].

Indigenous knowledge and practice of fire as a management tool is further informing broader Australian understanding of wildfire prevention (and protection of life and property); carbon sequestration; and reduction in greenhouse gas emissions. Indigenous understandings of fire as a management tool are providing an alternative to the (predominantly non-Indigenous) perspective of fire as only a destructive force within the landscape. Indigenous land and sea management practice is continuing to influence a shift towards the adoption of diverse knowledges, specifically Indigenous knowledge, in the formation of management options.

CASE STUDY 3-7

Ngadju fire knowledge

Authors: Les Schultz and Emma Woodward

Adapted from *Ngadju kala: Ngadju fire knowledge and contemporary fire management in the Great Western Woodlands*, by Suzanne M. Prober, Emma Yuen, Michael H. O'Connor and Les Schultz[134].

- New era of Ngadju leadership in contemporary management of Country based on traditional burning knowledge and practices
- Small-scale burning needed to protect old growth forests and important places
- Ngadju need to be included in decision-making for long-term, best practice approaches based on integration of Ngadju fire knowledge and western fire management

Buldania Rocks fire training day.
Photo: Suzanne Prober

Ngadju don't want:
Other knowledge + Ngadju knowledge > Fire Management Plan

Ngadju do want:
Other knowledge + Ngadju knowledge > Discussion at table > Go out bush to check > Fire Management Plan

As a land management tool, fire has a more select role in Ngadju Country than in other regions such as the tropical savannas. In 2012 senior Ngadju man Les Schultz initiated a research project to document Ngadju fire knowledge and explore the aspirations of Ngadju around fire management, as a foundation for moving toward a new era of Ngadju leadership in contemporary environment management of Country. Ngadju Country covers a significant part of the region known as the Great Western Woodlands in south-western Australia. Through discussion amongst Ngadju Elders, it was revealed that Ngadju historically burnt the Country at a very fine geographic scale, and on varying time scales, according to the natural vegetation mosaic of the landscape.

Ngadju Country is unique. Up north is different to here … if you burn the gimlets (joorderee) or salmon gums (marrlinja) it takes hundreds of thousands of years to come back. So Ngadju didn't burn much in the old growth woodlands. Some areas need to be burnt a lot, but not everything does. Ngadju just burn in specific places.

Ngadju Country was actively burnt, to maintain open hunting grounds and camping areas, encourage green pick, facilitate travel, and protect people, important places and resources from fire. While some areas, including the spinifiex and spear grass grasslands, required regular burning, 'only a small area needs to be burnt at any one time – perhaps the size of a football field'.

In those areas of Ngadju Country dominated by fire-resistant vegetation, selective small-scale burning together with active management of fuel loads through the plentiful use of timber for campfires and clearing the ground around important trees and other assets, helped ensure that very slow growing old growth trees were protected from uncontrolled fires. From the 1970s until recently, Ngadju people were frightened away from burning Country, as a result of Australian ('white man') laws becoming stricter. Following the success of the Ngadju native title claim to their Country, as well as amendments to the Conservation and Land Management Act 1984 (WA) enabling joint management and customary activities on state government managed estates, opportunity for re-engagement in fire management practices (including the lighting of campfires on Country which was previously prohibited) has emerged.

In developing a long-term approach to Ngadju involvement in managing fire on Country, Ngadju are clear that they need to be 'at the table' for Ngadju fire knowledge and western fire management approaches to be integrated for best practice outcomes. Small-scale burning was also used to protect other important places including rockholes, caves, sacred sites, and water trees from wild fire.

3.6 MANAGING AND MONITORING COUNTRY WITH DIGITAL TECHNOLOGIES

Many of our Indigenous communities, groups and organisations are collecting, storing and sharing their cultural knowledge in digital forms (section 2.6). These technologies are also transforming and diversifying the ways in which we keep our Indigenous land and sea management knowledge strong.

Ranger groups are using a range of hand-held digital devices (iPads, iTracker, tablets) to document change on Country. Some of this data collected on-Country is uploaded automatically (dependent on Internet access) to national data aggregators such as the Atlas of Living Australia (ALA). Collaboration with the ALA has led to development of a multilingual app (TracksApp[at]) that allows Indigenous rangers working with the Central Land Council to track threatened species, such as the bilby, in both English and Warlpiri. This type of App recognises and supports the tracking skills and knowledge developed, maintained and used by Indigenous Peoples to manage Country for many thousands of years, and links these observations with other managers' and scientists' data in real time.

Other digital technologies being employed by Indigenous rangers include sensor technology to track herds of feral pigs, cattle and buffalo. Aak Puul Ngangtam (APN) and Kalan Enterprises in Cape York Peninsula, Queensland, and Djelk Land and Sea Rangers in Arnhem Land, Northern Territory are currently working with partners to develop low-cost tracking devices and an environmental sensor network using the Internet of Things. This network is able to provide near real-time tracking of feral animals, and monitoring of the environment they're utilising to develop more effective management options.

Further, Aboriginal rangers and Traditional Owners working to manage the extensive Warddeken Indigenous Protected Area in the Northern Territory are using motion-sensor camera traps to build understanding of mammal biodiversity on Country. This information is guiding management practices, and providing the most comprehensive snapshot of biodiversity to date in their unique part of the world.

Drones and remote sensing technology[au] are also being increasingly adopted by Indigenous land and sea managers to check condition of more remote Country and sacred sites that would otherwise not receive regular monitoring due to limits to on-ground access.

at https://biocollect.ala.org.au/trackshub

au https://vimeo.com/374286893

3.7 PARTNERING TO SOLVE ENVIRONMENTAL ISSUES

Indigenous land and sea managers are working on a wide range of environmental issues including loss of biodiversity, threatened species, stressed aquatic ecosystems, invasive species, and climate change[112]. Understandably, western scientists, policy makers and planners are becoming increasingly interested in the contributions our knowledge can make to their work[114,137]. Both knowledge traditions are valued by Indigenous resource managers on Country, who are always at work in their implementation and integration[3 (p.88)].

In the Murray-Darling Basin for example, the Murray Lower Darling Aboriginal Nations and the Northern Basin Aboriginal Nations have developed partnership agreements with the Murray Darling Basin Authority. Together we partnered to establish the National Cultural Flows Research Project[av], which focused on the Murray-Darling but was developed to benefit Indigenous groups across Australia. This partnership was Aboriginal-driven, and based on key research principles[aw] that ensured our inherent rights as Traditional Owners were at the forefront of all work. The project established three approaches as the pathway to cultural flows in Australia:

- Water rights for First Nations
- Laws to increase First Nations' influence over water landscapes
- Effective inclusion of First Nations in water governance[138].

Good partnerships are underpinned by mutual trust, respect, listening and inclusion. We have worked in and partnered with many different environmental non-government organisations (ENGOs) to share our knowledge for caring for Country. Some of the ENGOs have caused problems for Aboriginal people – e.g. running campaigns for traditional territories to be protected as national parks without the consent or involvement of Traditional Owners. Others have really helped Traditional Owners achieve goals for their Country – e.g. preventing mines, like Jabiluka in the Northern Territory, from being established. Some of our partnerships with ENGOs have resulted in recognition of our rights and ownership over millions of acres of our Country[139]. Bush Heritage is an example of an ENGO really focused on working to develop Aboriginal partnerships that deliver positive outcomes for Aboriginal people (Case Study 3-8).

av http://culturalflows.com.au/index.php?option=com_content&view=article&id=16&Itemid=125

aw http://culturalflows.com.au/index.php?option=com_content&view=article&id=18&Itemid=127

CASE STUDY 3-8

Bush Heritage: working as National Aboriginal Engagement Manager

Author: Cissy Gore-Birch

- Bush Heritage partners with Aboriginal people for the long-term
- Aspires to be a culturally competent organisation
- Indigenous knowledge is really respected and highly valued
- Opportunities to leverage deep change across environmental organisations and Australian society more broadly
- Empowering, effective, strategic experiences working with Bush Heritage

Cissy Gore-Birch, National Aboriginal Engagement Officer, Bush Heritage. Photo: NAILSMA

My role is Senior Executive National Aboriginal Engagement, working within Bush Heritage Australia. We have 26 partnerships with Aboriginal people, 15 on conservation reserves and 11 on Aboriginal lands. Bush Heritage is committed to being a culturally competent organisation in all our dealings with Aboriginal people. That means improving our practices right across all sectors within the organisation. We have a cultural competency framework for the organisation and have rolled out cross-cultural training across Australia, developing tailored sessions for the different sectors within our organisation.

Bush Heritage sees the value of our Aboriginal partnerships, we are working closely with our partners on reserves and off reserves, at all levels within the organisation. We have Aboriginal employment targets and our Aboriginal staff have really been able to cut through and be a part of the strategic directions and make a huge difference in the direction of Aboriginal Partnerships nationally.

My knowledge and understanding, and Indigenous knowledge more broadly, is really respected. I feel confident, able to contribute, listened to and respected. Bush Heritage really values each staff member and their experience, their knowledge and understanding, dedication, contribution and commitment. I've become a lot more empowered, and more aware of systems, processes and procedures and decision-making that empower us, becoming more effective and strategic, while keeping my values and my integrity as an Aboriginal woman, a mother and a passionate driver of making a change for our people.

Bush Heritage is there as an ENGO partner for the long-term, it's not short term. We have resources in place to really partner with Aboriginal people to support their social, cultural and environmental values. We have great partnerships across Australia, for example working with Olkala, Wardekken, Bunuba, Karajarri, and many others.

Bush Heritage has learnt from our Aboriginal staff and our partnerships the importance of genuine relationships, building the trust and believing in the work we do. We were here 60,000 years ago. Aboriginal people have their own governance, cultural governance – to understand that is important. Each group has their own decision-making through skin, through

kinship, through the different ways we engage, get information, understand and respect those systems.

Being in this position with a leading national environmental non-government organisation has also given me wider opportunities to influence local, regional, state and national conversations. I've sat on many boards and committees in the past and have prioritised to only sit on the Threatened Species Scientific Committee, the Indigenous Reference Group for the Northern Australia Environmental Resources Hub, the Kimberley Development Commission Board, Kimberley Foundation Australia and my local Prescribed Body Corporate – Balanggarra Aboriginal Corporation – being an advocate for our people within conversations about conservation and land management, water, and governance.

One of my main passions is getting more young people and more women involved in conservation and land management leadership, decision-making and governance. For example, NAILSMA and WWF are working with Mimal, a Women Rangers' Forum. We need to make space for the younger generation of people wanting to come up, to show them what is happening behind the scenes. We are making decisions today that are really going to affect young people, they need to be part of these conversations and decisions. We need to show young people professions where they can really make a change – some might want social change, some want to engage in politics, others climate change, so many different options. It's about really investing in young people today so they can be really engaged in their future.

The current policies, legislations and the Constitution related to our people, land and sea, water, conservation and land management, and economic development doesn't allow us to really shine and take ownership of what's important for our people. Systemic racism is alive and kicking. Until we are serious about owning this issue as a nation, making a difference for our people and acknowledging our First Nations people, nothing will change – it's time for 'truth telling'. The current organisations working within the land, sea, conservation and environment sector need to work in collaboration and not in *competition*. We are working towards the same goals – let's reflect, rethink and re-adjust why we work in this field and to re-check what our Traditional Owners are saying and how we are really making changes within and influencing others. This industry should not be taken for granted, each and everyone of us have a responsibility to look after Country and speak the truth.

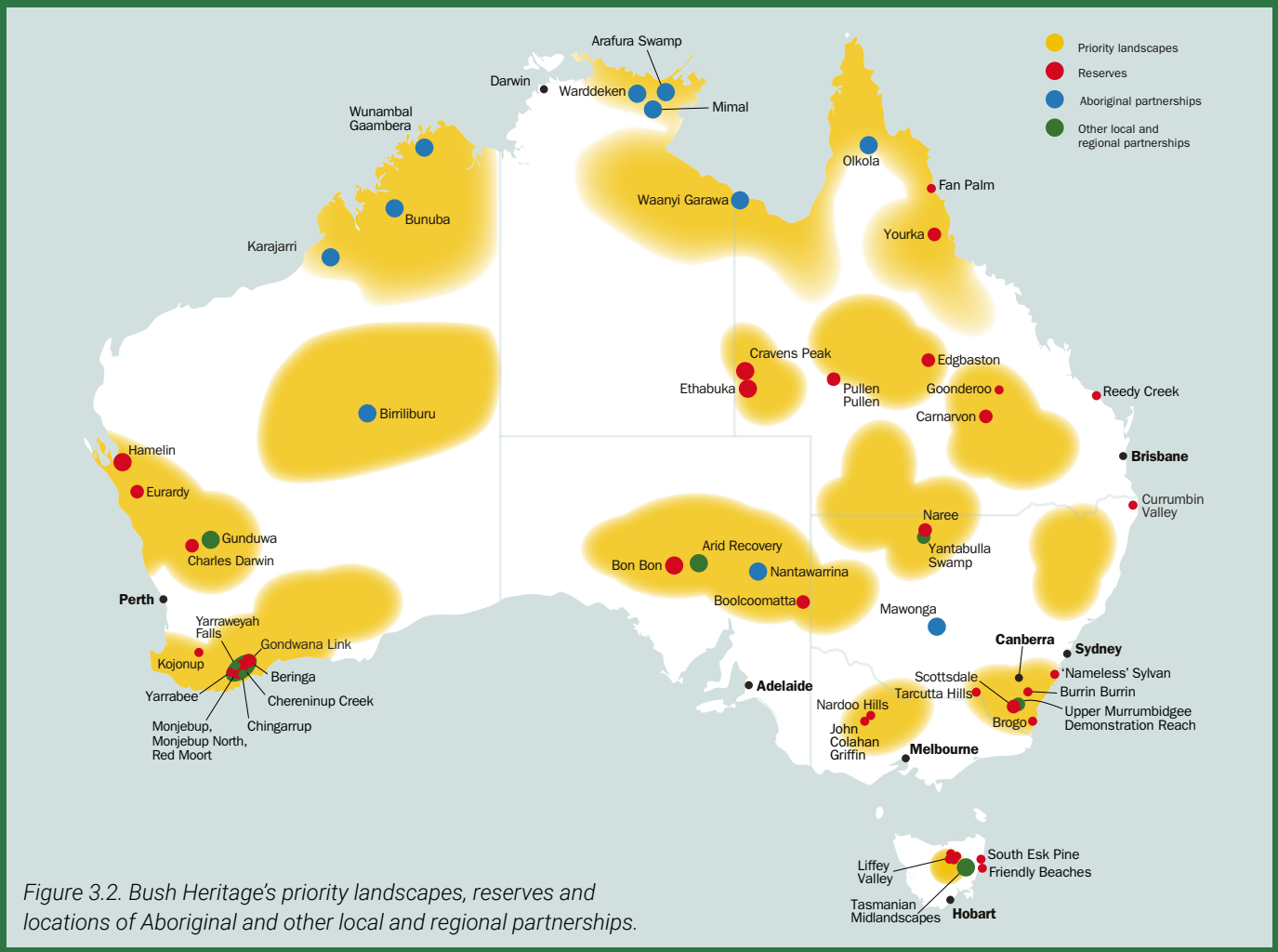


Figure 3.2. Bush Heritage's priority landscapes, reserves and locations of Aboriginal and other local and regional partnerships.

CASE STUDY 3-9

Weaving Indigenous knowledge and science: the KISSP approach

Authors: Gina Lincoln and Rachel Buissereth

- Tradtional owners led research on their Country
- Traditional Owners and researchers co-produced invaluable resources to guide future research co-operation in the Kimberley and elsewhere
- The project worked with an existing network of Indigenous saltwater managers – and researchers went above and beyond when visiting communities

The Kimberley Indigenous Saltwater Science Project (KISSP) was one of 25 research projects developed as part of the Kimberley Marine Research Program, through the Western Australian Marine Science Institution. At the outset of the planned body of research in the region, community-driven mechanisms/processes for researcher engagement with Traditional Owners in the Kimberley were lacking, and opportunities for Traditional Owners to direct research on their Country was absent. Traditional Owners wanted some control of research being undertaken on Indigenous owned and managed sea Country in the Kimberley region. Negotiations were held between representatives of the Traditional Owner groups and senior managers of WAMSI, to determine a body of work that would be led by Traditional Owner groups. Representatives from the Wunambal Gaambera, Balanggarra, Dambimangari, Bardi Jawi, Nyul Nyul, Yawuru and Karajarri people came together to develop a regional research project, steer the Indigenous-led project (the Kimberley Indigenous Saltwater Science Project), and to create a strong and united voice.

Countrymen from the Kimberley talking about the regional turtle and dugong plan. February, 2019.
Photo: Kimberley Land Council

KISSP produced invaluable resources that will help the work of weaving Indigenous and scientific knowledge across Kimberley saltwater Country, with relevance in other areas:

- **Module 1:** Understanding How to Bring Knowledge Streams Together[ax]
- **Module 2:** Guidelines for Collaborative Knowledge Work in Kimberley Saltwater Country[ay]
- **Module 3:** Guide for Researchers[az]
  Links to Kimberley Saltwater Country Research Proposal form:
  - > www.klc.org.au/research-facilitation
  - > www.wunambalgaambera.org.au/research-protocol-and-permits
- **Module 4:** Regional Framework for Traditional Owners Monitoring Kimberley Saltwater Country[ba]
- **Module 5:** Toolbox for Saltwater Monitoring in the Kimberley (Toolbox database)[bb]
- **Module 6:** Pilot training package for Kimberley Indigenous rangers: Monitoring for Management[bc].

ax https://www.wamsi.org.au/sites/wamsi.org.au/files/files/Indigenous%20Knowledge_Mobilising%20Indigenous%20Knowledge%20Report_WAMSI%20KMRP%20Project%201_5_1%20_Austin%20et%20al%202018_FINAL.pdf

ay https://www.wamsi.org.au/sites/wamsi.org.au/files/files/Indigenous%20Knowledge_Guidelines%20for%20working%20with%20multiple%20knowledges%20report_%20WAMSI%20KMRP%20Project%201_5_2_Austin%20et%20al%202017%20FINAL.pdf

az https://www.wamsi.org.au/sites/wamsi.org.au/files/files/Guide%20to%20Collaborative%20Science%20on%20Kimberley%20Saltwater%20Country%20V17_3_2.pdf

ba https://www.wamsi.org.au/sites/wamsi.org.au/files/files/Indigenous%20Knowledge_Regional%20Framework%20Report_WAMSI%20KMRP%20Project%201_5_4%20Dobbs%20et%20al%202017_FINAL.pdf

bb https://drive.google.com/drive/folders/1P4kBubuX3X9PzwvH4DrYxZSrPHiwAhea?usp=sharing

bc https://drive.google.com/open?id=1WFXG29DA3fA0GZgbpW10SrSqep0bQ1WQ

Module 3, the Guide for Researchers, includes a step-wise protocol for researchers[138], based on six stages (Figure 3.3).

To achieve these outcomes, community champions from each of seven Kimberley saltwater communities led the development of a participatory meeting in their home community. Supported by their hand-picked KISSP research team, all agendas were driven by Indigenous community members. In addition to these community meetings, knowledge was shared through dozens of interviews with Indigenous community members, rangers, Traditional Owners and western scientists, as well as online surveys and community-based interviews by Indigenous rangers. The project working group closely steered the project and oversaw their research team, where members were updated on each other's activities and kept outcomes on target. The project was limited by time and resources.

Figure 3.3. Simplified collaborative research cycle, Kimberley Indigenous Saltwater Science Project.

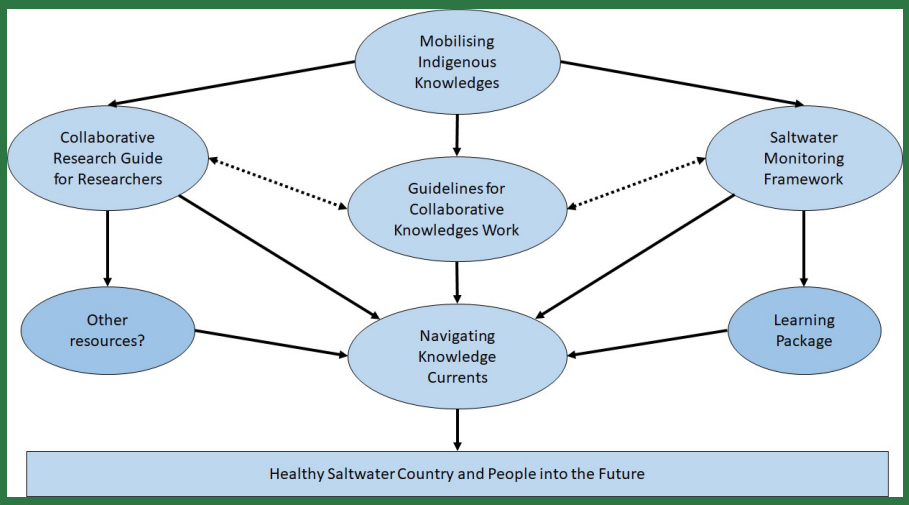


Figure 3.4. How the KISSP products fit together. Credit: KISSP Working Group.

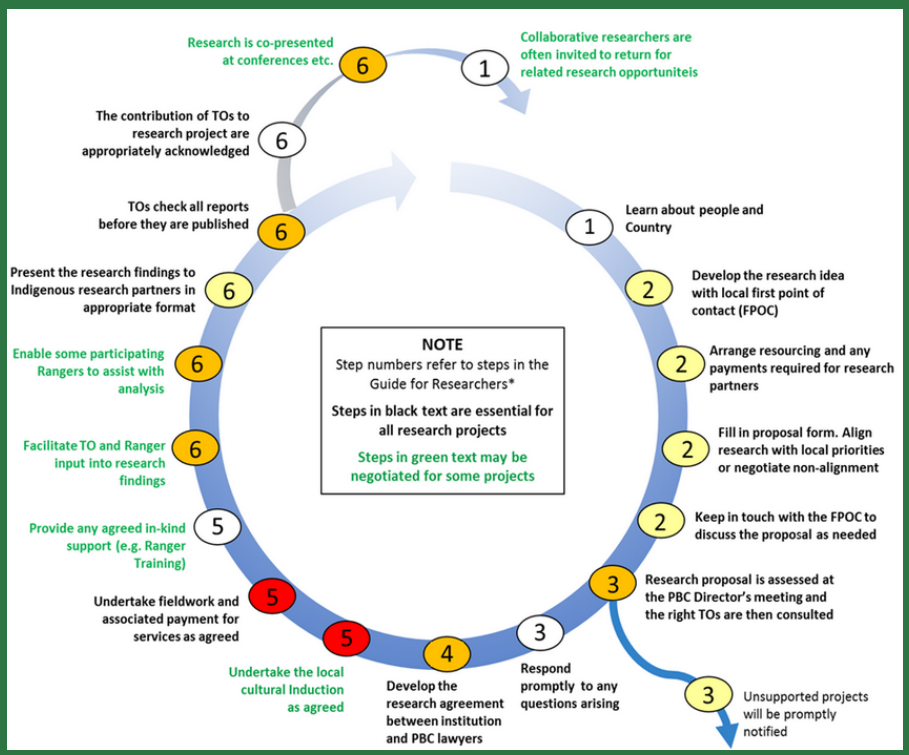


Figure 3.5. Detailed collaborative research cycle from the Kimberley Indigenous Saltwater Science Project.

Researchers went above and beyond when visiting communities, and although funding was allocated to host the meetings, community members agreed to conserve project resources by forgoing payment. Most community champions were also PBC chairs or community leaders and thus were limited for time. However, their multidisciplinary skill sets, community standing and cross-communication skills worked strongly in favour of the project.

The KISSP project worked within an existing network of Indigenous saltwater managers to drive the project outcomes[141]. The modules were only able to emerge through the region's Indigenous governance and the willingness of trusted researchers and local people to work collaboratively with each other. Each of the seven native title groups working with the project maintained a strong engagement and control over the project deliverables, making the KISSP project a strong example of collaboration between Indigenous Peoples and researchers, and the process of weaving Indigenous and western knowledge systems[142,143]. The legacy of the KISSP deliverables continues to provide benefit for Kimberley people and Country. In recognition of the tangible benefits to saltwater Country management of having a regular, supported forum and open communications between geographically distant communities, the seven KISSP groups have grown to nine native title holders with representation on the Kimberley Indigenous Saltwater Advisory Group. 'People got a lot closer after the project', finding strength in their support network.

KISSP working group and partners Broome. November, 2017.
Photo: Kimberley Land Council

3.8 KISSP AND THE MULTIPLE EVIDENCE BASE APPROACH

- Multiple Evidence Base approach trialled to co-generate mutual learning and knowledge production across knowledge systems
- Key outcome: development of a new saltwater monitoring framework founded on Indigenous as well western science views of healthy saltwater Country
- Key learning: the creation of knowledge partnerships can mobilise Indigenous knowledge and support co-production of new knowledge.

The Kimberley Indigenous Saltwater Science Project (KISSP) sees benefits from voluntary adoption of the Multiple Evidence Base (MEB) approach for knowledge sharing. The overarching aim of KISSP was to facilitate best practice knowledge production to look after Kimberley Saltwater Country. A MEB approach to collaboratively mobilising Indigenous knowledges (IK) and western scientific knowledge was trialled through KISSP, as one approach available to Indigenous people and their partners to share, use and co-produce the best available knowledge-base for decision-making, management and monitoring of Kimberley saltwater Country. MEB recognises that different knowledge systems have their own histories, contexts and methods for validating what it known to be true[143]. Bringing knowledge together is often best approached and thought about as a process of weaving, rather than integrating (Figure 3.4)[142].

One key outcome of bringing multiple knowledges and disciplines together was the development of a new saltwater monitoring framework that attended to the Indigenous values underpinning Indigenous understanding of Healthy Country, and not purely a western science view of what constitutes healthy saltwater Country.

A key learning that occurred through the engagement was that the creation of knowledge partnerships, through working in the intercultural space, can mobilise IK and support the co-production of new knowledge. This creation of a third space, which all partners step into to form new knowledge together, avoids pitching knowledge holders and producers against each other. The *weaving knowledge systems* graphic (right) was adopted as a tool for building understanding between the multiple Indigenous and non-Indigenous partners in the project about bringing multiple knowledges together to manage Kimberley saltwater Country.

The tool depicts graphically the notion of science and other knowledges being woven together to build a more comprehensive knowledge base than could be achieved by any one knowledge system alone. At an early workshop involving all partners in the collaboration, the various strands of knowledge that are depicted as being mobilised in the figure were described as being like a tree – each of the roots of knowledge growing together to support each other to produce fruit on the branches.

As the purpose of the research engagement was to mobilise diverse and disparate knowledges to co-generate mutual learning across knowledge systems, the graphic was deemed to be a great representation of what the group was trying to achieve. It was reported by one participant that the graphical tool was subsequently used by Indigenous partners to explain to new partners entering into the project the aim of the group – to draw on multiple knowledge systems to find the best way of managing Kimberley saltwater Country.

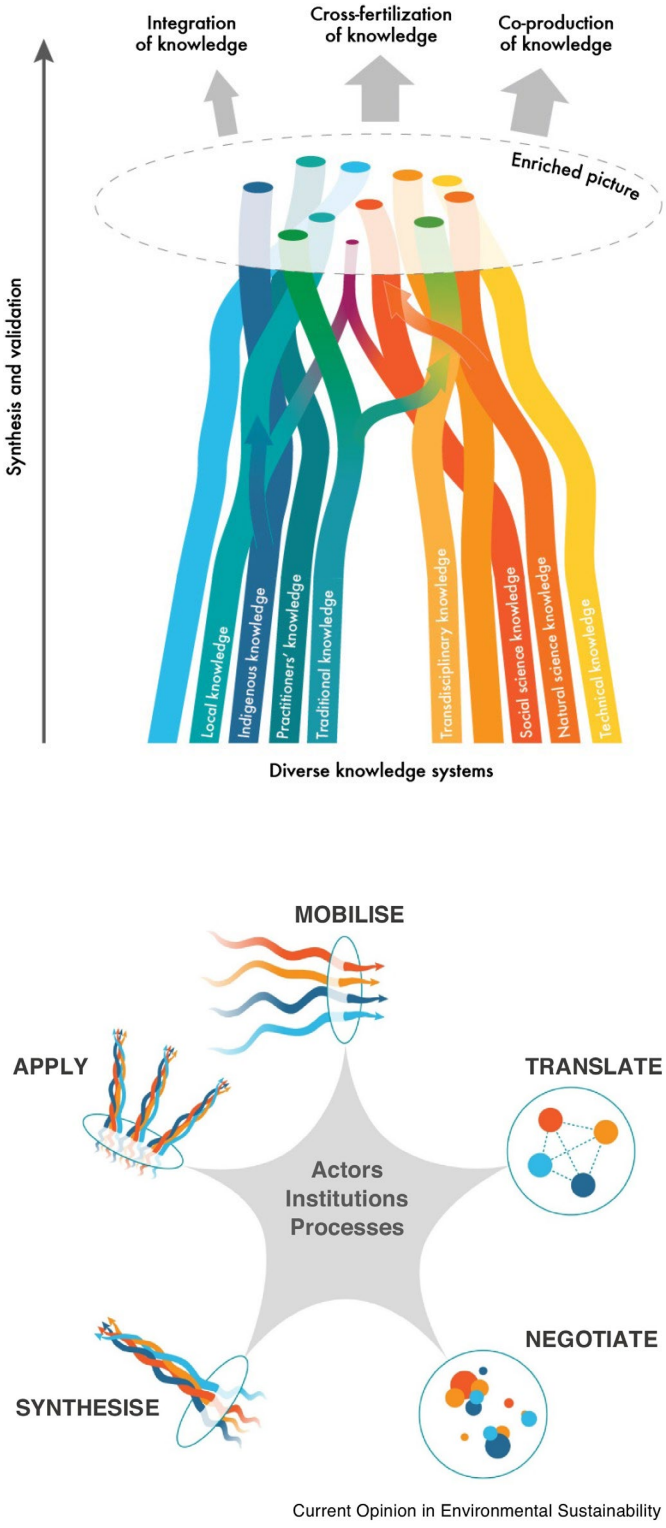


Figure 3.6. The concept of weaving knowledge systems (above) and the Multiple Evidence Base approach (below)[142,143].

3.9 SHOWING AND SHARING KNOWLEDGE IN THE FITZROY RIVER CATCHMENT – CO-DEVELOPED CASE STUDY

Authors: Dennis Chungalla, Heather Wungundin, Mary Aiken, Jean Malay, Bernadette Williams, Tim Cranbell, Josephine Forrest, Marmingee Hand, Ross James, Elizabeth Jingle, Olive Knight, Nathan Lennard, Valerie Lennard, Ileen Malay, Lindsay Malay, Wallace Midmee, Stuart Morton, Chloe Nulgit, Patricia Riley, Ina Shadforth, Jane Bieundurry, George Brooking, Sherika Brooking, Willy Brumby, Victor Bulmer, Virgil Cherel, Ashley Clifton, Sam Cox, Matt Dawson, Cissy Gore-Birch, Alistair Hobbs, Duran Hobbs, Camelia Juboy, Patricia Juboy, Annette Kogolo, Barry Lennard, Con Lennard, Deon Lennard, Nelita Malay, Zenneth Malay, David Marshall, Herbert Marshall, Lezeka Millindee, Diane Mowaljarlai, Andrea Myers, Thomas Nnarda, Joy Nuggett, Lloyd Nulgit, Pansy Nulgit, Anne Poelina, Daniel Poudrill, Joe Ross, Jimmy Shandley, Sandy Skeen, Gordon Smith, Mervyn Street, Pauline Thomas, Bronson Wongawol, Harry Yungabun, Fitzroy High School Students (Arosha Sunfly, Cyntala Cook, Kaunell Shaw, Taliesha Collard, Yvonne Collard), Ro Hill, Ilisapeci Lyons, Nat Raisbeck-Brown, Rachel Buissereth and Pia Harkness

- Traditional Owners and scientists sought ways of bringing together scientific and Indigenous knowledge for making decisions on Country
- Participatory mapping methods were used for showing and sharing scientific and cultural knowledge, and provided a space for Traditional Owners from different parts of the catchment to share their stories and speak for Country
- The project provided an important opportunity for Traditional Owners from throughout the Fitzroy River catchment to come together, strengthen their relationships and build trust
- By sharing traditional knowledge and learning western and political knowledge together, Traditional Owners reported feeling empowered to use these knowledges to inform management and development decisions on Country in the future.

In the Kimberley's Fitzroy River region, Traditional Owners and scientists have been working together on a project supported by the National Environmental Science Program (NESP) to help Indigenous land managers find better ways to use both scientific and Indigenous knowledge (IK) for making decisions for Country. Traditional Owners and scientists learned together and co-developed different ways of showing and sharing knowledge. The project was supported through collaborative research agreements with 10 different Traditional Owner Groups through their relevant organisations.

Traditional Owner Partners

Bunuba Dawangarri Aboriginal Corporation

Gooniyandi Aboriginal Corporation

Jaru Claimant Group

Kija Native Title Group (Ngarrawanji and Yurriyangem Taam sub-groups)

Tiya-Tiya Aboriginal Corporation

Walalakoo Aboriginal Corporation

Warrwa Claimant Group

Wilinggin Aboriginal Corporation

Yanunijarra Aboriginal Corporation

Yungngora Aboriginal Corporation

Together we developed three different types of participatory mapping methods. First, adults and children from these groups came together to build a huge 3D model of the Fitzroy River catchment and to discuss the future of the river. Second, we used an interactive projector on a table to look at spatial data in more detail than the 3D model allowed. Finally, we worked together to make influence maps, to think about the ways different groups of people are connected along the River. Based on those maps we considered ways that we can create more power for ourselves, as building blocks to a future where we have more say on what happens on our Country.

Learning together

[the research is] … very valuable. Since starting with the project, made me aware of a lot of things. Learning about the river from scientists, I'm learning from Elders, learning from other groups, they've given me a lot of insight about my Country

Traditional Owner Workshop Participant, 2018

The 3D model was good for involving youth and adults, and showing and discussing where important places are in the catchment, and what's happening where. Different information layers were projected onto the map, and pins, beads and stickers were used to mark locations and explain stories (importantly these can be removed to protect knowledge). We used these tools to explore concepts around water flow, water rights, the importance of flood and fire, and the various types of conservation and development areas that exist or are proposed along the river (Figures 3.7 and 3.8).

- Traditional Owners and Researchers begin the 3D Map Project[bd]
- Showing and Sharing Knowledge in the Fitzroy River Catchment[be]

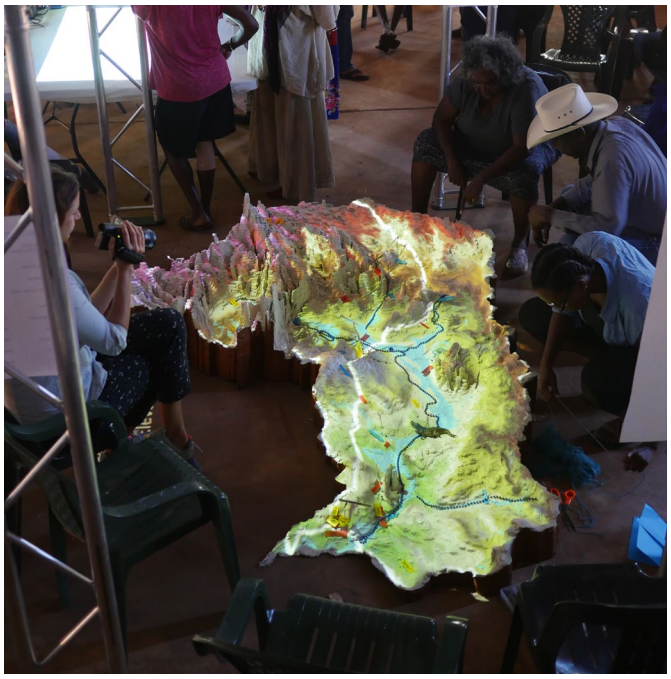


Figure 3.7. The 3D model being tested by Traditional Owners in the Fitzroy River catchment, WA. Photo: Roly Skender.

The NESP team from CSIRO took the 3D map on a road trip around the Kimberley in 2018 and reached nearly a hundred local adults and over a hundred children. Adults and children both greatly enjoyed the presentations.

- 3D Map Road Trip[bf]
- Children Working with the Fitzroy River 3D Map[bg]

Figure 3.8. Traditional Owners from different groups sharing stories about their Country. Photo: Pia Harkness.

The interactive projector enabled closer inspection of some of the data. Traditional Owners found it was useful because we could zoom in to explore the locations of plants, animals and other features that are important to us. We used the interactive projector to think about how we could make a buffer zone for protecting important places from inappropriate development, like the one mentioned in the Fitzroy River Declaration (Figure 3.9).

Figure 3.9. Workshop participants examining spatial data on the interactive projector. Photo: Pia Harkness.

The influence mapping exercise showed the ways different groups use their power along the river: across time and spatial scales, based on western and traditional law; through connections and relationships; by making money from natural resources; and through different tenure types (Figure 3.9). The Martuwarra Fitzroy River Council is an important organisation because it brings people together from the mouth to the hill Country – when we stand together, we are stronger than if there are just a few strong voices.

bd https://vimeo.com/278597521
be https://vimeo.com/288676761
bf https://vimeo.com/324906077
bg https://vimeo.com/296330850

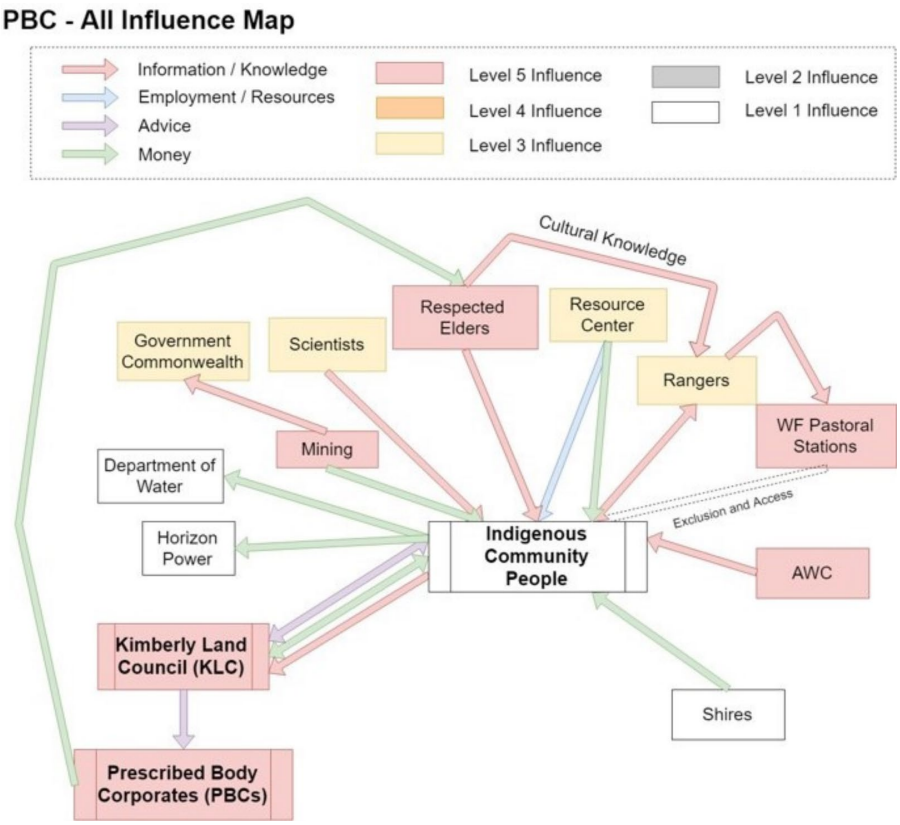


Figure 3.10. Above: doing the power mapping with the NESP CSIRO team. Photo: Ro Hill.
Right: One of the resulting influence maps.

We used the influence maps to think about building blocks towards having more influence in the future. We found that rules and stories from both first law and western law were important tools of power. Participants said that Traditional Owners need to be strong in their first law, culture and language before coming strong in western law, rules and education. This means respecting Elders, and young people and Elders spending more time together on Country.

We identified that to be stronger and create power, Traditional Owners must be better at working together. PBCs and rangers need to put more effort into working with and listening to Elders. Traditional Owners also need to work better with others, including government, researchers, land councils and other land users. Some groups could benefit from increasing trust. We need to find where there is trust, identify common ground and keep building the trust from that basis.

Many Traditional Owners want economic development opportunities from our Country, but mostly the suggestions and proposals are focused on established pastoral and mining industries. We are also interested in pursuing new and emerging sustainable industries, with less pressure on natural systems. When we discussed options for new industries, we also considered that we need to be careful when we don't know what the impacts might be. Our people need support and training to be able to benefit from economic development in our region, whether from new or established industries.

Learning together

I feel a lot more confident because of the relationships and learning together with other Traditional Owners. In future meetings, if people who have been part of this project are together then we will feel more confident in making decisions together

Traditional Owner Workshop Participant, 2019

This project has helped us build stronger relationships and trust between Traditional Owners from different groups along the river, from top to bottom. The 3D model has enabled people with rights to talk for different parts of Country to come together in one place and talk about different options for the future. Using the map and other tools, we have shared traditional knowledge, scientists have shared western knowledge and together we have created new ways of building knowledge. Sharing and learning together gives us confidence to make more informed decisions about development or looking after Country in the future.

3.10 LESSONS TOWARDS BEST PRACTICE FROM THIS CHAPTER

Important ideas and guidance from Indigenous Peoples:

- Our Indigenous knowledge is both unique and complementary to western science approaches to managing Country: weaving the two knowledge systems can deliver good outcomes for Country
- The documentation and recording of our knowledge in different forms supports engagement, learning and sharing in diverse ways
- Individuals and groups follow different protocols for both the holding and sharing of knowledge, which may include obligations to ancestors, Elders and family
- Before knowledge is shared, there must be trust that the receiver of the knowledge will treat the knowledge the right way – some knowledge must be treated with special attention and care
- Our knowledge of bush medicine, bush foods, Country and culture underpins a growing number of our sustainable enterprises and services
- Indigenous fire management knowledge has led to better biodiversity outcomes, improved health and well-being and informed the development of carbon economies.

Resources and guidance for partners:

- Indigenous Protected Areas make up almost half of Australia's total National Reserve System, and Indigenous knowledge is the foundation for their management
- Relationships and trust-building between people creates a positive foundation for knowledge sharing: strong partnerships are underpinned by mutual respect, trust, transparency and inclusion
- Indigenous-driven partnerships, that place Indigenous Peoples' inherent rights at the forefront of all activities, are effective for supporting Indigenous knowledge in caring for Country
- Co-research methods that support equitable collaboration between Indigenous people and researchers provide a strong foundation for knowledge-related partnerships.

Actions and issues for Indigenous people and partners in working towards best practice:

- Science and research partnerships can support Indigenous-led exploration of Indigenous knowledge for enterprise development
- Partnerships are supporting Indigenous knowledge to lead through joint governance and management of threatened species, water, wetlands, parks and protected areas, invasive species and other environmental issues
- Co-management will thrive in an environment of mutual respect and trust
- New and tailored digital technologies and applications hold significant opportunities for the successful management of extensive Indigenous lands
- Scientific knowledge systems and Indigenous knowledge systems each have their own methods, histories, and ways of validating what is true
- Co-design tools can support weaving multiple knowledge systems – scientific and Indigenous – to provide a richer picture for management.

4

HOW IS OUR KNOWLEDGE OUR WAY BEING RECOGNISED GLOBALLY?

Authors:
Bradley Moggridge, Robin Dann, Emma Woodward, Prasert Trakansuphakon, Chaiprasert Phokha, Nutdani Trakansuphakon, Pernilla Malmer, Maria Tengö, Rosemary Hill and Pia Harkness

HIGHLIGHTS

- At an international level, Indigenous knowledge systems are gaining momentum as sophisticated ways of understanding that can contribute to efforts to fix the world's issues, and which are becoming normal for researchers to embed in a project
- Australian Indigenous Peoples are well-placed to use their knowledge, gained from their long association of knowing and caring for Country, to lead solutions to international issues.
- Many Australian Indigenous Peoples are engaging internationally and linking their insights to global Indigenous knowledge movements
- The many international initiatives, agreements, protocols, statements and articles now available for the Australian Government are promoted through this chapter for Traditional Owners to know and understand.

4.1 LINKING UP WITH INDIGENOUS PEOPLES GLOBALLY

We are linking up with Indigenous Peoples all over the world who bring their own knowledge systems to look after their traditional territories. In 2013, the Australian Government and the World Indigenous Network National Advisory Group organised the very first World Indigenous Network (WIN) Conference in Darwin. WIN was first announced at the United Nations Conference on Sustainable Development (Rio +20) in Brazil in June 2012 by the then Prime Minster of Australia, Julia Gillard, with the support of Brazil, New Zealand and Norway. Gigari George, Wulgurukaba Tradtional Owner said:

This was a proud moment. As I stood and listened to the Prime Minister's words, I felt the enormity and the possibilities of WIN across the world, and I knew I had to be a part of it.

Gigari George, Co-chair of WIN National Advisory Group and Chair of the Australian Government Environment Minister's Indigenous Advisory Committee, June 2012[144]

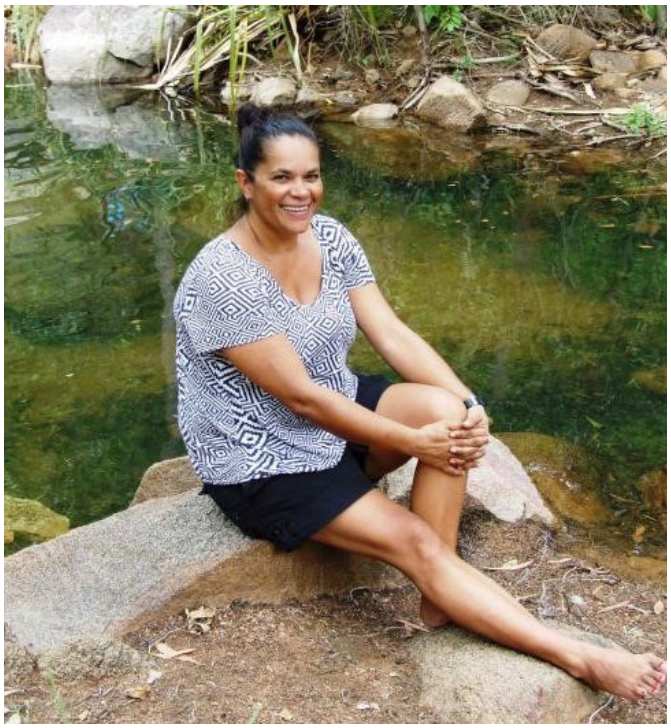


Figure 4.1. Gigari George, World Indigenous Network National Advisory Group Co-chair, 2013.

All the peoples of the world share a responsibility to join with the world's Indigenous peoples to protect and nourish the land and sea in the future. Protecting our shared environment is a shared task, and so we must come together. That is the purpose of the Network.

Prime Minister of Australia, Julia Gillard, June 2012[144]

World Indigenous Network

I've had such an amazing time at WIN. The opportunity to meet and share stories with Indigenous peoples coming from 50 nations is incredible and I wouldn't change a thing! I was also honoured to be able to talk before the delegates, talking about my journey as a young Aboriginal man, my connection to land and sea and hopes for the future. Thank you to all involved for making this experience truly special.

Conference delegate, Australia, 2013[144]

The WIN knowledge sharing network was fostered through an International Reference Group with representatives from Africa, Asia, North and South America and partner countries Brazil, Norway and New Zealand. The group includes representatives from the Convention of Biological Diversity (CBD), the United Nations University and the International Union for Conservation of Nature (IUCN). Indigenous Peoples from more than 50 countries across the world attended the conference[144].

WIN aims to bring together Indigenous Peoples and local communities' land and sea managers to share stories, knowledge and ideas to better manage ecosystems, protect the environment, share cultural experiences, and to support sustainable livelihoods.

In 2014, WIN was part of another international event bringing together Indigenous land and sea managers in Australia just prior to the World Park's Congress. Together with The Traditional Owners of The Gully Aboriginal Place in Katoomba (the Blue Mountains), the Darug and Gundungurra Nations, the Girringun Aboriginal Corporation, the Kimberley Land Council, the New South Wales National Parks and Wildlife Service, the Blue Mountains City Council, the ICCA Consortium, United Nations Development Programme Global Environmental Fund's Small Grants Programme, the PAPR programme of Vancouver Island University, Macquarie University and CSIRO, WIN co-hosted:

> Communities conserving nature and culture – A gathering among Indigenous Peoples and local communities from five continents, 9-11 November 2014.

This community dialogue brought together 150 Indigenous people from across the world and 150 Australian Indigenous people to meet, exchange experiences and ideas and strengthen each other's understanding and determination.

Figure 4.2. Yousria Rahman, Egyptian delegate to the World Indigenous Network Conference. Photo: Glenn Campbell © Sydney Morning Herald.

Figure 4.3. Patrice Sagbo of Benin, delegate to the World Indigenous Network Conference. Photo: Glenn Campbell © Sydney Morning Herald.

Figure 4.4. Small group discussions at 'Communities conserving nature and culture – A gathering among Indigenous Peoples and local communities from five continents. 9-11 November 2014'. Photo: Ro Hill.

Figure 4.5. Plenary discussions at 'Communities conserving nature and culture – A gathering among Indigenous Peoples and local communities from five continents. 9-11 November 2014'. Photo: Ro Hill.

The collective made a number of important declarations about protecting their traditional homes and lifeways, that were subsequently taken forward into the World Parks Congress 2014, and helped shape The Promise of Sydney[bh].

Our ideas about the links between nature-culture and culture-nature are getting more attention internationally. IUCN started a Nature-Culture Journey[bi] at their 2016 World Conservation Congress and ICOMOS continued it with a Nature-Culture Journey at their General Assembley in 2017. The focus on understanding how relationships between people and the natural environment shape both our physical environment and belief systems is welcome, given the history in international intergovernmental arenas of treating nature and culture separately.

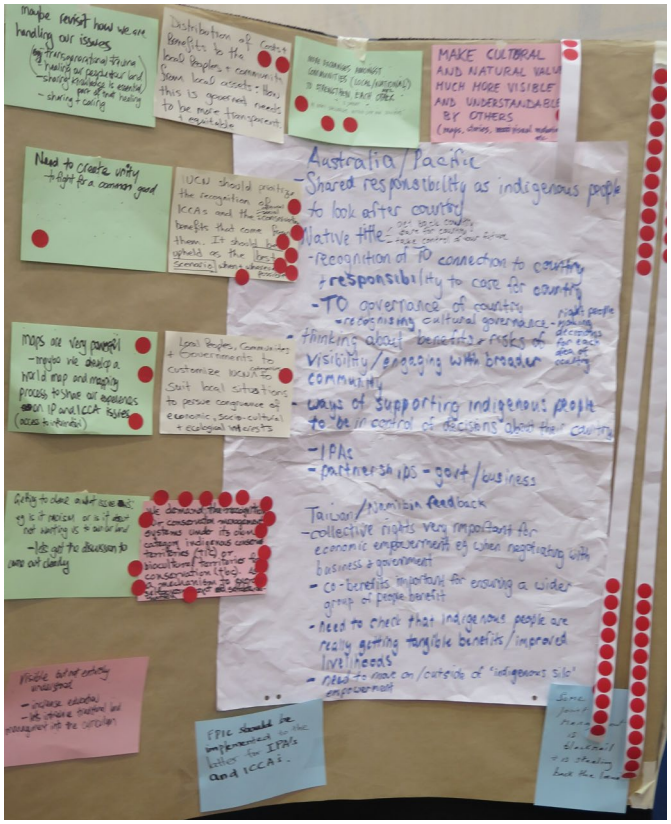


Figure 4.6. Drafting a collective statement at 'Communities conserving nature and culture – A gathering among Indigenous Peoples and local communities from five continents. 9-11 November 2014'. Photo: R. Hill.

As well as hosting many Indigenous Peoples to Australia, we have travelled overseas to share our ideas and practices, such as our savanna burning (Case Study 4-1). A recent global assessment highlighted our savanna burning as best practice, delivering benefits to people through avoiding land degradation and conducting restoration[96].

bh https://www.iucn.org/theme/protected-areas/about/promise-sydney

bi https://www.iucn.org/news/world-heritage/201712/hawai%E2%80%98i-delhi-iucn-congress-nature-culture-journey-continues-icomos-general-assembly

CASE STUDY 4-1

Aboriginal fire knowledge informing international burning regimes

Authors: Robin Dann and Emma Woodward

- Australia's Indigenous fire management methodology exported to the world
- Wunggurr Rangers assisting a global community approach committed to action on wildfire and the reduction of greenhouse gas emissions

International Savanna Fire Management initiative team, northern Australian rangers and international collaborators meet in Botswana to talk about adapting the northern Australian savanna fire method for southern Africa. Photo: Ariadne Gorring

Visiting the /Oabatsha community within the Tsodilo Hills Enclave to learn more about traditional fire management used historically by local hunter-gatherer Ju/hoansi San (Basarwa) communities within this important World Heritage Site. Photo: Ariadne Gorring

The Wunggurr Rangers come from the Wanjina Wunggurr Wilinggin Native Title Group. Their strong law and culture assists them to keep their Country alive, and they draw on their traditional knowledge to undertake conservation and land management activities: looking after cultural sites and waterways; controlling feral animals; and working to protect flora and fauna. They are based along the world-renowned Gibb River Road and are responsible for looking after 60,150km^2 of land – an area the size of Tasmania – in the heart of the Kimberley. This includes the Wilinggin Indigenous Protected Area, declared on June 11, 2013.

Managing fire on Country the right way is central to their land management activities.

Burning at the right time of year, the right way, is one of the most important tools Ngarinyin people use to look after Country. Each year Wilinggin Traditional Owners and rangers undertake fire planning and operations. This helps Ngarinyin people to build skills in planning and looking after their Country. Traditional Owners are encouraged to participate in both aerial and ground burning operations, while agencies are directed by the Traditional Owners on when to burn, where to burn and who should participate.

Combining ancient knowledge with modern science and technology, Indigenous rangers burn early, keep fuel loads down and reduce destructive wildfires. This leads to a decrease in greenhouse gas emissions and provides carbon market opportunities. It also delivers valuable jobs for poor and remote communities, while at the same time reinvigorating traditional culture

Kimberley Land Council

The Wunggurr Rangers, together with other Top End ranger groups, are now gaining international recognition for their successful fire management programs. Projects based on Australian Indigenous savanna fire management are being

piloted in Brazil's Cerrado; and the Tsilhqot'in Nation of British Columbia, Canada, is adapting the Australian model to develop a carbon accounting methodology appropriate to the forest ecosystems of the Dasiqox Tribal Park as a means to fund early-season fire management.

Wunggurr Rangers are also part of a ground-breaking project that has seen Indigenous fire experts travel to Botswana for a two-week period to work with Botswana Government Rangers, facilitated by the *International Savanna Fire Management Initiative*[bj]. The purpose of the trip was to introduce a new way of managing and thinking about fire, and reduce the incidence of wildfire, which is impacting on wildlife, tourism and other economic opportunities.

Wunggurr ranger Robin Dann, from Gibb River Station, says the Botswanans were blown away by the Australian rangers' skills:

I feel really good knowing that I passed on something.

When they were trying to put out a fire, they'd be running around, lots of people and fire trucks, not much leadership and not much knowledge of fire, and it ended up a real big hot fire.

But for us, we used the wind, and ours was less intense, less heat, hardly any smoke.

We're different cultures, but for both of us, fire is so important, and once upon a time the fire regime in Australia was the best in the world I reckon.

With funding of $3.87 million over four years, the project is also facilitating Indigenous knowledge exchange between Kimberley Aboriginal people and communities in Botswana.

Following on from the successful visit to Botswana in May 2019, a Botswanan delegation participated in the 2019 *Kimberley Land Council Healthy Country Forum*[bk] in the north west corner of Australia.

bj www.isfmi.org

bk https://www.klc.org.au/international-partnerships?rq=Botswana

4.2 BRINGING OUR VOICE TO THE UNITED NATIONS

We have also been very active in bringing our voice to the United Nations (UN) through the UN Permanent Forum on Indigenous Issues (UNPFII) [bl]. Les Malezer from the Gubby Gubby Batchula language group of the K'gari (Fraser Island) region was a member of the UNPFII from 2017 to 2019. He brought attention to climate change, highlighting that:

> *We believe that we have to be interacting with the environment in order for the environment to be healthy and strong and similarly in order for us to be healthy and strong … a big part of it is in fact for governments to recognize the knowledge, the expertise, the skills that Indigenous peoples have in terms of being able to read the climate and understand the situation of the flora and fauna and how they're best managed*[145].

We have long sought international support in our efforts to retain our rights to our identities, ways of life, traditional territories and natural resources. For example, between 1923 and 1925 Haduenonsuanee Chief Deskaweh and Maori religious leader T.W. Ratana travelled at different times to the headquarters of the League of Nations to make submissions on their rights. Both were denied access to speak.

Many key events since then mark the increasing efforts to strengthen the visibility of Indigenous issues on the international stage and within UN forums (Box 4-1).

The UNPFII was established as a high-level advisory body to the UN Economic and Social Council in 2000, and is now the most important annual global meeting of Indigenous Peoples. The UNPFII recognises seven socio-cultural regions for Indigenous Peoples: Africa; Arctic; Central Asia and Transcaucasia; Central and South America and the Caribbean; North America; Central and Eastern Europe; and the Pacific, of which Australia is a part. It provides regular reports on the State of the World's Indigenous Peoples[146]. The Forum usually meets for 10 days each year. The 18th Session of the UNPFII held from 22 April – 3 May 2019 focussed on the theme *Traditional knowledge: Generation, transmission and protection*.

bl https://www.un.org/development/desa/indigenouspeoples/unpfii-sessions-2.html

Box 5-1 Timeline of the recognition of Indigenous rights in international arenas. Source: https://www.un.org/development/desa/Indigenouspeoples/about-us.html.

1923-25: First international involvement

1981: UN Special Rapporteur Martínez Cobo's study into Discrimination against Indigenous populations

1982: Working Group on Indigenous Populations

1989: International Labour Organization Indigenous and Tribal Peoples Convention (No. 169)

1993: International Year of the World's Indigenous People

1994: International Decade of the World's Indigenous People

1994: International Day of the World's Indigenous Peoples, 9th August

2000: UN Permanent Forum on Indigenous Issues

2001: UNHCR Rapporteur on the Rights on Indigenous Peoples

2005: Second International Decade of the World's Indigenous Peoples

2007: UNHCR Mechanism on the Rights of Indigenous Peoples (EMRIP)

2007: UN Declaration on the Rights of Indigenous Peoples (UNDRIP)

2014: World Conference on Indigenous Peoples

2019: International Year of Indigenous Languages (IYIL)

2020: International Decade of Indigenous Languages

In 2001, The UN Human Rights Council (UNHRC) established the Special Rapporteur on the Rights of Indigenous Peoples, who prepares both annual and special reports, such as the 2017 Report on impacts of climate change and climate finance on Indigenous Peoples' rights[bm].

Ms. Victoria Tauli Corpuz[bn], an Indigenous leader from the Kankana-ey Igorot people of the Cordillera Region in the Philippines, has been the Special Rapporteur since 2014.

In 2007, the UNHRC also established an Expert Mechanism on the Rights of Indigenous Peoples (EMRIP)[bo], comprised of seven independent experts. Professor Megan Davis[bp], an Australian Aboriginal woman , is currently one of the seven independent experts, with her term extending until 2022.The EMRIP holds an annual session and prepares many reports and studies, which underpin statements such as the Statement on the International Year of Indigenous Languages (IYIL) 2019[bq].

The IYIL was created to draw attention to the importance of the estimated 7,000 Indigenous languages spoken around the world. Forty percent of these languages are considered to be in danger of disappearing, placing the cultures and knowledge systems to which they belong at risk[147].

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) was prepared in 2004 by the UN Permanent Forum on Indigenous Issues. It recognises Indigenous ownership of Indigenous cultural expression, and in 2007 was voted on and accepted by the UN. Australia, along with three other countries, originally did not accept UNDRIP. However, in 2009 Australia reversed its position and accepted it as a non-legally binding document.

bm https://www.refworld.org/pdfid/59c2720c4.pdf

bn https://www.ohchr.org/EN/Issues/IPeoples/SRIndigenousPeoples/Pages/VictoriaTauliCorpuz.aspx

bo https://www.ohchr.org/EN/Issues/IPeoples/EMRIP/Pages/EMRIPIndex.aspx

bp https://www.law.unsw.edu.au/staff/megan-davis

bq https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=24122&LangID=E

4.3 SPEAKING UP FOR COUNTRY THROUGH THE CONVENTIONS ON BIOLOGICAL DIVERSITY AND WORLD HERITAGE

We have also linked up our caring for Country with international efforts through the Convention on Biological Diversity (CBD)[br] and the Convention Concerning the Protection of World Cultural and Natural Heritage[bs]. Chrissy Grant, a Kuku-Yalanji Traditional Owner on her mother's side and a Mualgal Traditional Owner in the Torres Strait on her father's side, is a member of the International Indigenous Forum on Biodiversity and Ecosystem Services (IIFBES)[bt] and frequently speaks up on Indigenous issues at meetings of the CBD (Fig 4.7). Chrissy also chaired the recent meeting of the International Indigenous People's Forum on World Heritage where Budj Bim Cultural Landscape[bu], created by the Gunditjmara People, was added to the World Heritage List. Gunditjmara stories and oral histories show how their extensive and complex aquaculture network, with modified channels and diverted water, channels kooyang (short-finned eel) into holding ponds. Their oral histories record the eruption of the Budj Bim volcano 30,000 years ago, where the Ancestral Being, Budj Bim (Big Head) transformed himself into part of the landscape.

Figure 4.7. Chrissy Grant, member of the International Indigenous Forum on Biodiversity (IIFB) at a Convention on Biological Diversity meeting, 4 July 2018, Montreal Canada. Photo by IISD/ENB | Francis Dejon.

The IIFBES links Indigenous Peoples interested in involvement in the CBD, and more recently the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). IPBES was established by the UN in 2012, with an overall goal to strengthen the biodiversity and ecosystem services science-policy interface, for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development. IPBES has committed to promote effective engagement with Indigenous and local knowledge (ILK) holders in all relevant aspects of its work, including through ensuring that ILK is recognised in its assessments. The IPBES Pollinators, Pollination and Food Production Assessment, released in 2016, was the first global environmental assessment to include Indigenous and local knowledge, and the 2018 comprehensive global biodiversity assessment highlighted the importance of Indigenous Peoples in caring for the natural world across our planet[148].

The Assessment highlighted many pollinator-friendly practices of Indigenous Peoples and local communities, such as totems, sacred places, home gardens, rotational cropping and fallows. The Assessment highlighted that Indigenous Peoples and local communities have many unique practices to keep bees – by far the most important food pollinator – and collect honey, like the Gurung people of Nepal whose innovative rope ladder technology allows them to harvest honey from wild honey bee colonies, rather than moving them to hives (Figure 4.8).

*Figure 4.8. Gurung man collecting the wild honey bee (*Apis dorsata laboriosa*) honeycombs on cliffs in Nepal. Photo: Andrew Newey.*

br https://www.cbd.int/

bs https://whc.unesco.org/en/conventiontext/

bt https://iifb-fiib.org/

bu https://www.environment.gov.au/heritage/places/world/budj-bim

CASE STUDY 4-2

Karen people host sharing across knowledge systems for pollinator conservation in Hin Lad Nai, Thailand

Authors: Prasert Trakansuphakon, Chaiprasert Phokha, Nutdanai Trakansuphakon, Pernilla Malmer, Maria Tengö and Rosemary Hill

- Karen Indigenous community hosted and co-organised a dialogue across knowledge systems about pollinators in January 2019
- The walking workshop approach excited participants
- Karen Peoples' cultural protocols and rituals provided a safe space for sharing for all

Pollinators such as bees are an integral part of traditional farming of the Karen people of Hin Lad Nai in the Chiang Rai province of Thailand. There is even a local Karen saying: *We should walk like the bees*. As community leader Chaiprasert Phokha says:

When the bees fly, they fly better together and look after each other and the interest of the whole community of bees. They live in harmony together and increase the biodiversity in the forest with their actions, like we do. Our community has been revitalizing our forest since it was heavily damaged by the logging concession in the 80s. We are requesting the government to recognize the rights of the Karen people to continue our customary and sustainable use of biodiversity.

Experts sharing information walking through the landscape talking together in Thai, English and Karen, with ongoing translation. Photo: Jitirapa Bumroongchai

In 2010, the Thai Government declared the Hin Lad Nai territory a Special Cultural Zone, to recognise Karen cultural rights and ancestral territories, including practices to sustain pollinators and produce valuable products such as forest honey and tea, while protecting the rich forest biodiversity.

Experts from Indigenous, local, and scientific knowledge systems who visited the Karen community of Hin Lad Nai in January 2019 agreed that the community provided an excellent example of how rotational farming systems nurture biodiversity. The experts were hosted by the community for a *Dialogue across Indigenous, local and scientific knowledge systems reflecting on the IPBES Assessment on Pollinators, Pollination and Food Production*[bv]. The Dialogue was co-convened and jointly designed among the Hin Lad Nai community, the Inter Mountain Peoples Education and Culture in Thailand Association and Pgakenyaw Association for Sustainable Development, together with SwedBio at the Stockholm

bv https://swed.bio/wp-content/uploads/2019/04/7017-0033-SRC-Report-Pollinators-dialouge_WEB.pdf

Resilience Centre, UNESCO Natural Science Sector and CSIRO Land and Water.

The Dialogue brought together 52 participants from 19 countries, including Indigenous and local knowledge (ILK) holders, ILK experts and scientists engaged in the IPBES Pollination Assessment, with local Indigenous pollinator experts, and representatives from local, national, regional and global institutions and UN agencies.

Shaman Hpa tij Poonoo Papa led rituals on the arrival and departure of the visitors to ensure their safety and well-being. The welcoming session ended with traditional music played on the 'kwae', a musical instrument made from buffalo horn and wood, played by the Karen Elder Jorni Odochao. Local leaders Preecha Siri and Chaiprasert Phokha, together with the shaman Hpa tij Poonoo Papa, then gave some glimpses into the local history of the community. In the evenings, many stories, songs and practices were shared, and Karen Elder Jorni Odochao and others showed traditional weaving. Many participants commented on how the Karen cultural protocols uplifted their spirits and created a safe space for sharing and learning.

Karen people led the workshop by walking participants through their traditional territories and explaining how they protect pollinators and pollination. Being in the Karen community allowed participants many opportunities to link the findings of the Assessment with the local contexts and identify similarities with their own community's work – back in places like Mexico, Africa and South America.

Key messages from the Assessment were displayed on posters at the Hin Lad Nai walking workshop. Participants sat together in the forest to talk about the scientific messages displayed on the posters, and how they linked with their own knowledge systems. Following requests, the *posters have been made available online*[bw] so they can be translated into other languages and used in workshops all over the world, empowering further community action on handing back the messages from the Assessment.

At the end of the workshop, all the co-organisers reflected that the dialogue method created excitement for everyone through:

- Respecting and recognising multiple knowledge systems
- Karen cultural protocols and rituals that gave cultural safety to everyone
- The 'walking workshop' approach
- The use of mobile posters, which made key scientific messages easy to discuss
- Being in the Karen People's biocultural landscape made key messages about community forest management and rotational farming easy to discuss.

Discussing the key scientific messages summarised in posters while learning about Indigenous and local knowledge from the Karen community and biocultural landscape. Photo: Ro Hill © CSIRO

bw https://research.csiro.au/multipleknowledges/category/posters/

4.4 THE CBD AND THE NAGOYA PROTOCOL

The CBD has been involved in supporting and recognising the contributions of Indigenous knowledge to biodiversity since its establishment, particularly through Articles 8j and 10c, which commit governments (who are members) to:

> 8 (j) Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of Indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices;
>
> 10 (c) Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.

The CBD has developed many resources and activities aimed at supporting delivery of these commitments, including:

- The Traditional Knowledge Portal[bx], a web-site to promote awareness and enhance access to relevant information
- The adoption of four indicators on traditional knowledge[by], and support for a self-organised Community Based Monitoring and Information Systems[149] network to implement these indicators
- Several guidelines on aspects of working with Indigenous knowledge including the Mo'Otz Kuxtal Voluntary Guideline[bz] (regarding free, prior and informed consent, adopted 2016); the Tkarihwaié:ri Code of Ethical Conduct[ca] (to ensure respect for cultural and intellectual heritage when working with Indigenous knowledge); and the Akwe:Kon Guidelines[cb] (about assessment of impacts on traditional cultural and social values)
- Hosting many events and workshops, including the Nature and Culture Summit[cc] just prior to the Conference of Parties to the CBD in November 2018
- A Plan of Action on Customary Sustainable Use of Biological Diversity[cd], based on case studies conducted with Indigenous Peoples and local communities from Bangladesh, Cameroon, Guyana, Suriname and Thailand
- Support for the World Intellectual Property Organisation[150], to produce a Toolkit on Documenting Traditional Knowledge[ce].

Within the CBD's Strategic Plan 2011–2020, the Aichi Targets[cf] highlight the relevance of Indigenous knowledge, particularly Target 18:

> By 2020, the traditional knowledge, innovations and practices of Indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of Indigenous and local communities, at all relevant levels.

The Nagoya Protocol[cg] under the CBD places obligations on governments to work fairly with Indigenous knowledge under Article 7:

> In accordance with domestic law, each Party shall take measures, as appropriate, with the aim of ensuring that traditional knowledge associated with genetic resources that is held by Indigenous and local communities is accessed with the prior and informed consent or approval and involvement of these Indigenous and local communities, and that mutually agreed terms have been established.

bx https://www.cbd.int/tk/
by https://swed.bio/focal-areas/themes/biocultural-diversity/cbmis/
bz https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-18-en.pdf
ca https://www.cbd.int/traditional/code.shtml
cb https://www.cbd.int/traditional/guidelines.shtml
cc https://www.cbd.int/tk/nature.shtml
cd https://www.cbd.int/doc/publications/cbd-csu-en.pdf
ce https://www.wipo.int/publications/en/details.jsp?id=4235
cf https://www.cbd.int/sp/targets/
cg https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf

Some benefit-sharing agreements that relate to traditional knowledge have now been made, including for the San people and the villages of Nourivier and Paulshoek (South Africa) to receive royalties from the market release of Elev8, a product for stress release that incorporates *Sceletium tortuosum*[151]. This agreement has been identified as good for balancing risks and benefits[152].

Australia, as a member of the CBD, is now bound by the Nagoya Protocol, and legislative change is underway to ensure we follow it. For example, the Queensland Government has established a Traditional Knowledge Roundtable, bringing together key Indigenous leaders (including Gerry Turpin, Aboriginal ethnobotanist highlighted in Case Study 3-2) to advise on changes to the *Biodiscovery Act 2004* to comply with the Nagoya Protocol[ch].

Colin Saltmere, a member of the Traditional Knowledge Roundtable, is Chief Executive Officer of Dugalunji Aboriginal Corporation (based in Camooweal) that recently entered into partnerships with the University of Queensland to engage in biodiscovery. An overarching commercial agreement with four sub-agreements underpins collaboration on a process that turns native spinifex grass into diverse commercial applications, from super-strong roads and tyres to super-thin condoms and surgical gloves. The Traditional Owners lead on the local activities, including fire and other management of spinifex, harvesting spinifex and the initial processing of the nanofibres, and are constructing a bio-processing plant at Camooweal in north Queensland[153].

4.5 INDIGENOUS AND LOCAL KNOWLEDGE CENTRES OF DISTINCTION

In 2016, the International Indigenous Forum on Biodiversity and Ecosystem Services (IIFBES)[ci] established a network of Indigenous and Local Knowledge (ILK) Centres of Distinction, which now includes:

- Center for Support of Indigenous Peoples of the North (CSIPN) ILK Centre, Russia
- The Tulalip Tribes ILK Centre, USA
- SOTZ'IL Centre, Guatemala
- Fundacion para la Promocion del Conocimiento Indigena (Foundation for the Promotion of Indigenous Knowledge), Panama
- MELCA ILK Centre, Ethiopia
- Indigenous Information Network (IIN)
- African Biodiversity Network
- Pgaz K' Nyau Association for Sustainable Development, Thailand
- Institute for Culture and Ecology, Kenya
- Indigenous Peoples and Biodiversity Program, Tebtebba Foundation, Philippines
- Te Kopu – Pacific Indigenous and Local Knowledge Centre of Distinction, based in New Zealand
- Indigenous Earth Wisdom Working Group on Indigenous knowledge
- Forest Peoples Programme (global).

In 2017, the Te Kopu Centre hosted a Dialogue for IPBES which brought together Indigenous people from across the Pacific to contribute important information to the Asia-Pacific Regional Assessment[152]. The ILK Centres of Distinction also work alongside the Community Based Monitoring and Information Systems network. This is a self-organised global alliance of Indigenous Peoples and local communities working on monitoring trends in the health of their lands and seas. One of the members, Tebtedda, have produced a Training Kit for CBMIS[cj]. The IIFBES, with support from the Convention on Biological Diversity (CBD), produced Local Biodiversity Outlooks[ck], which complements the Fourth Global Biodiversity Outlook[153] by presenting Indigenous Peoples' and Local Communities' contributions to realising the goals and targets of the Strategic Plan for Biodiversity 2011–2020.

ch https://environment.des.qld.gov.au/licences-permits/plants-animals/biodiscovery/biodiscovery-act-reform

ci https://iifb-fiib.org/

cj http://www.tebtebba.org/index.php/content/358-basic-course-on-community-based-monitoring-a-information-systems-cbmis-for-community-trainers-a-organizers

ck https://beta.localbiodiversityoutlooks.net/

4.6 INDIGENOUS PEOPLES ORGANISATIONS IN THE IUCN

The International Union for Conservation of Nature (IUCN) recognises the vital role that Indigenous Peoples play in conserving[cl] the Earth's lands, seas and natural resources, and as a source of valuable traditional knowledge to inform biodiversity conservation. During a landmark decision at the 2016 IUCN World Conservation Congress, a new category of member, Indigenous Peoples' Organisations (IPOs), was established to strengthen the recognition of the rights, participation, voice and role of IPOs. IPO members have since developed a self-determined strategy[cm] identifying joint priorities for advancing Indigenous rights and issues in conservation and engaging with each other and the IUCN.

NAILSMA was the first IPO to join the IUCN under the new category. Ricky Archer, NAILSMA CEO and Djungan man from the Western Tablelands region of north Queensland, is playing a leading role in establishing the IPO program of work within the IUCN.

4.7 STRENGTHENING INDIGENOUS KNOWLEDGE OF CLIMATE CHANGE GLOBALLY

In 2016, the Conference of Parties (COP) to the UN Framework Convention on Climate Change agreed to, and have since established, a Local Communities and Indigenous Peoples Platform (LCIPP), which aims to:

> strengthen the knowledge, technologies, practices, and efforts of local communities and Indigenous Peoples related to addressing and responding to climate change, to facilitate the exchange of experience and the sharing of best practices and lessons learned on mitigation and adaptation in a holistic and integrated manner and to enhance the engagement of local communities and Indigenous Peoples in the UNFCCC process.

In 2018, the COP established the LCIPP Facilitative Working Group[cn], including seven representatives of Indigenous Peoples and local communities and seven representatives of governments, which will guide implementation of the Platform. The International Indigenous Peoples Forum on Climate Change[co], established in 2008 as the caucus for Indigenous Peoples participating in the United Nations Framework Convention of Climate Change (UNFCCC)[cp] processes, is closely following the establishment of the LCIPP.

The Pacific will be afforded a section in the upcoming Sixth Intergovernmental Panel on Climate Change[cq] Assessment Report, due out in 2022. Indigenous Peoples from both Australia and New Zealand will prepare evidence and knowledge on the advances of climate change impacts and what mitigation strategies can assist into the future.

Australian Indigenous Peoples have been very active on climate change. At the National Indigenous Climate Change Dialogue[cr] held on the Country of the Yorta Yorta Nation in 2018, 50 Traditional Owners from across Australia shared their climate knowledge and adaptation practices, explored the opportunities to build capacity through two-way learning and led, and continue to lead, the Dialogue. The Kimberley Land Council spoke about their roles in negotiating at the 2015 United Nations Climate Change Conference in Paris and other summits. As part of the Dialogue, Traditional Owners prepared a statement about the threats of climate change for their people, culture and Country, and called on governments to listen and learn with them to meet the challenges.

cl https://www.iucn.org/theme/governance-and-rights/about/indigenous-peoples

cm https://www.iucn.org/sites/dev/files/iucn_esms_standard_indigenous_peoples-2.1.pdf

cn https://unfccc.int/process-and-meetings/bodies/constituted-bodies/facilitative-working-group-of-the-lcipp/modalities-and-procedures-of-the-lcipp-facilitative-working-group

co http://www.iipfcc.org/

cp http://unfccc.int/2860.php

cq https://www.ipcc.ch/

cr http://nespclimate.com.au/wp-content/uploads/2019/05/191209-NICCD-report-final.pdf

4.8 LESSONS TOWARDS BEST PRACTICE FROM THIS CHAPTER

Important ideas and guidance from and for Indigenous Peoples:

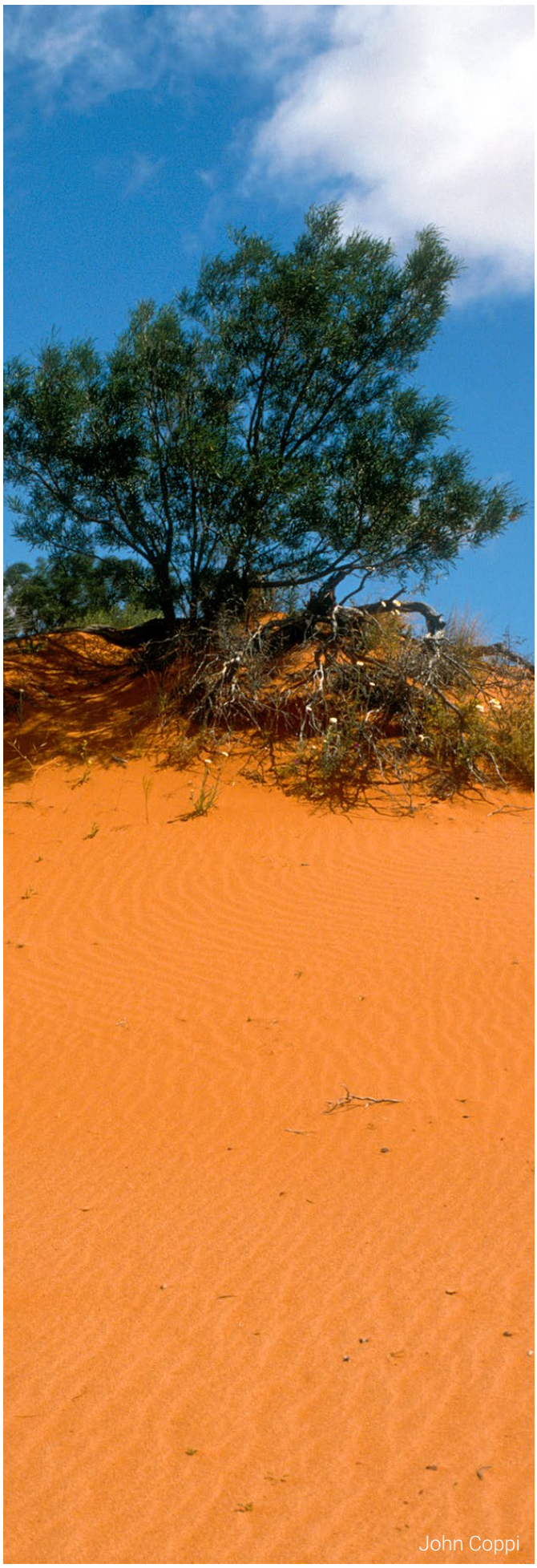
- Australian Indigenous Peoples are contributing to global networks of Indigenous Peoples bringing forward their knowledge and practices to solve international environmental challenges
- We are part of several international forums for building knowledge sharing between Indigenous groups, including the World Indigenous Network and the International Indigenous Forum on Biodiversity and Ecosystem Services
- The Indigenous and Local Knowledge Centres of Distinction are promoting Indigenous-led knowledge practices globally.

Resources and guidance for Partners:

- As a signatory to the Nagoya Protocol, Australia has committed to working with Indigenous knowledge holders to preserve and maintain Indigenous knowledge and practices related to the sustainable use and conservation of biodiversity
- Many resources are available to guide good practice
- The United Nations Declaration on the Rights of Indigenous Peoples, to which Australia is a signatory, recognises Indigenous Peoples rights to their knowledge, and requires free, prior and informed consent (FPIC) before implementing any legislative or administrative measures that may affect them.

Guidance for Indigenous people and partners in working towards best practice:

- Key tools under the Convention on Biological Diversity such as the Nagoya Protocol and Aichi Biodiversity Targets can be used as a framework for fair and equitable negotiations about the use of Indigenous knowledge, FPIC and benefit-sharing
- There are many resources available that can help Indigenous Peoples and their partners pursue best practice for working with, strengthening, and preserving Indigenous knowledge and knowledge systems (see p.120).



John Coppi

5

ACTIONS TOWARDS BEST PRACTICE TO SUPPORT OUR KNOWLEDGE OUR WAY

Authors:
Linda Ford, Emma Woodward, Rosemary Hill, Maria Tengö and Pia Harkness

Our Indigenous knowledge connects us to our Country and our cultures. Our knowledge is owned by us as Traditional Owners and is diverse across Australia. Each of our knowledge systems has its own history, context and approaches to validation (knowing what is true). Traditional Owners have strong responsibilities to follow customary laws and protocols to keep our knowledge, Country and culture strong. These protocols are different across groups, and they govern who holds and shares knowledge, when and with whom.

Our vision of looking after Country our way, using our Indigenous knowledge, depends most of all on us continuing our cultural practices. Colonisation eroded our social, political, spiritual and economic well-being. Continuing to practise our knowledge, following our knowledge protocols, helps us build strength and heal. We face complex challenges to keep our cultural practices strong. We have highly varied access to cultural sites and Country, which is vital for maintaining ceremonies, songs, walking and dancing our songlines. We recognise and value other knowledge systems, such as biology and other scientific knowledge, pastoralists' knowledge, and technical knowledge. These knowledge systems also have their own history, context and approaches to validation. They can be woven together to give a richer picture of our world (Figure 5.1).

The options for action presented here focus first on options for strengthening Indigenous knowledge. We then consider options for creating strong and respectful partnerships. We follow with an overview of options for steps and tools that can support sharing and weaving knowledge in ways that are beneficial for all involved. Finally, we discuss how Indigenous knowledge networks can strengthen all our work through learning together.

Each of the previous chapters concluded with detailed summaries of options for action by Indigenous people, by partners, and by Indigenous people and partners working together. These summaries should be considered together with the more strategic-level options provided here.

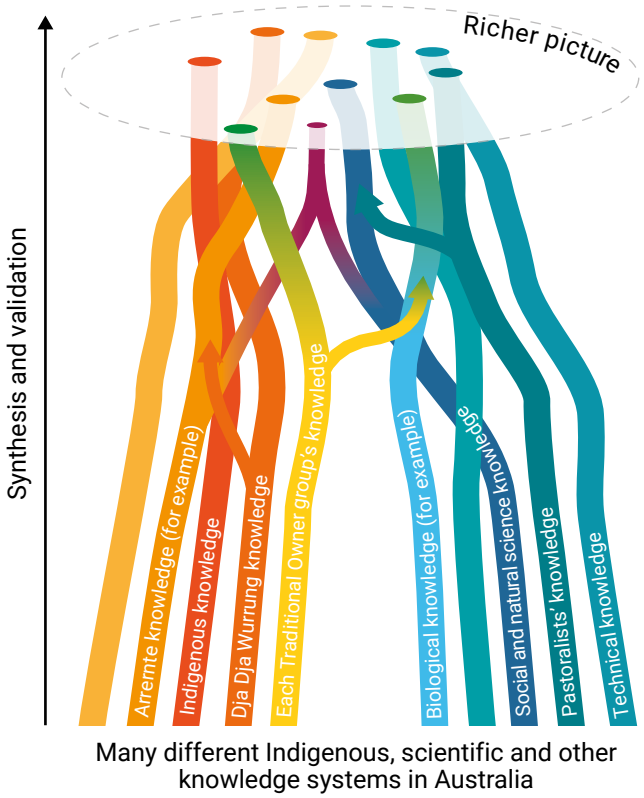


Figure 5.1. Many different knowledge systems exist in Australia (adapted with permission from Tengö et al. 2014[142]).

5.1 STRENGTHENING INDIGENOUS KNOWLEDGE

5.1.1 Keeping knowledge strong through access to Country

- Colonisation has severely impacted the ability of many Traditional Owners to continue to maintain their customary obligations to use their knowledge to manage Country
- The rights of Indigenous Australians to continue to access their Country are impacted by different Acts and land tenure arrangements of the states and territories (e.g. *NT Land Rights Act*, *Native Title Act* and other public lands, state and territory land rights and national parks legislation)
- The experiences of each Traditional Owner group, as a result of colonisation, is unique
- We are using many different strategies and partnerships to keep engaged with our Country.

Access to our land and sea Country is the foundation of keeping our Indigenous knowledge (IK) strong. The many case studies in these Guidelines demonstrate many different options for actions that keep our knowledge strong. They highlight how we need to be on our Country to sing, dance, tell stories, collect bush tucker, to practise art, and to speak our language to the plants, animals and ancestral beings in our landscapes and seascapes. It is important to remember that as Aboriginal and Torres Strait Islander Peoples, we have been creative in exploring a diversity of ways to keep our knowledge strong, some of which are not covered to any degree in the Guidelines. These include:

- Indigenous radio stations, media channels, and promotion of Indigenous culture through contemporary Indigenous music
- Running youth groups, men's groups, women's groups
- Multi-media, tourism, fishing and many other businesses.

Colonisation has severely affected many of us seeking to continue to practise and maintain our customary obligations to Country. We are often locked out of our Country as a result of colonial constructs, including a complex system of land tenure, while access to, and interpretation of, land rights varies across the states and territories[156].

Each of our language and cultural groups have different experiences in keeping knowledge strong for Country. We have gained access and control of Country through various legal and agreement-making approaches including:

- Aboriginal land rights legislation in some states and territories
- Recognition of native title
- Purchasing of land
- Agreements to establish Indigenous Protected Areas
- Co-management of parks and protected areas
- Indigenous Land Use Agreements
- Traditional Use of Marine Resources Agreements
- Partnerships with local governments and natural resource management agencies
- Partnerships with state and territory natural resource agencies
- Partnerships with private sector and philanthropic organisations.

All of these are important ways to be able to access our Country.

Actions towards best practice

We, and our partners and allies, can **strengthen our access to and control of our Country:**

Partners can acknowledge and support our existing customary decision-making and natural resource management approaches through equitable agreements and sharing of resources.

Indigenous people can reposition and rebuild power as Indigenous societies with our own knowledge and futures through strategic agreement-making as well as using existing land rights and native title laws.

Together, Indigenous people and partners can promote new laws, agreements and treaties to give us greater access to our Country to keep knowledge strong.

Colonial oppression occurred in many and diverse ways, including through the historical narrative of *discovery* of our Country by explorers, of stories of wild places, and of parks being places that are only for the protection of biodiversity devoid of people[157]. The dominant views of development and enterprise in Australia[158] can also serve to marginalise or undermine our diverse interests in development of Country.

Aboriginal Land Councils and other statutory bodies, including Prescribed Bodies Corporate (in the case of native title), seek instruction from Traditional Owners and represent their interests in some partnership arrangements. We continue to engage in other ways (including via agreements) and promote our knowledge in environmental decision-making through our networks and alliances. Our case studies show: how we are building networks and alliances to promote our different stories about climate change; sustainable models of enterprise development; and our unique ways of communicating and teaching our knowledge.

Actions towards best practice

We, and our partners and allies, can **strengthen public understanding about our connections to our Country:**

Partners can recognise the diversity of our knowledge systems, and acknowledge and promote Australia's history of peopled landscapes and seascapes and our connections to Country over millennia as the way forward for sustainability.

Indigenous people can tell our stories of connection to Country through our cultural practices including art, story, song, dance and language.

Together, Indigenous people and partners can promote a new story of environmental management and enterprise development that recognises our connections with and caring for our Country over millennia.

5.1.2 Knowledge governance: keeping our laws and customs

- Decision-making about knowledge is determined by our customary governance: Traditional Owner groups follow their own cultural protocols which usually require collective decision-making by the appropriate people
- New institutional arrangements and associated governance structures that have resulted from government policies and other post-colonial processes, can weaken cultural norms of knowledge governance unless appropriate resources are available to support customary governance
- Indigenous cultural and intellectual property (ICIP) are based on customary laws that are not properly recognised in Australian or international legal systems
- Agreement-making between Traditional Owners and partners, based on Indigenous knowledge protocols, can provide for both customary law and Australian nation-state legal protection
- New laws are needed to provide protection for ICIP

Our knowledge is handed down from the Old People and embedded within diverse governance arrangements. It requires collective decision-making processes that follow each group's cultural protocols. Senior knowledge holders feel the significant responsibility of being a custodian of secret and sacred knowledge. Partners need to understand that sometimes knowledge is shared with you that cannot in turn be shared with others, or only with certain people.

Sometimes it is not evident or clear to outsiders who are the culturally appropriate people within the community to approach for discussion about forming a partnership or working together on a knowledge project. For example, it is the Traditional Owners who hold the primary rights for decision-making about significant projects or engagements related to Country and culture.

Many Traditional Owner groups are now establishing their own procedures or protocols that support potential partners to engage with the right Traditional Owners, to ensure culturally competent decisions are made (e.g. Box 1-3).

New institutional arrangements and associated governance structures which have resulted from government policies and other post-colonial processes, can also threaten cultural norms of knowledge governance, for example Prescribed Bodies Corporate (PBCs) as a result of native title. PBCs need to be adequately funded to seek out and bring together the appropriate people to make decisions according to our cultural protocols. We need strong cultural governance, as well as strong organisational governance (e.g. good governance in our PBCs) to keep our knowledge strong for caring for Country[159,160].

Actions towards best practice

We, and our partners and allies, can **strengthen our knowledge governance:**

Partners can recognise the need for cultural governance of knowledge and support collective decision-making with resources.

Indigenous people can work to ensure we have both strong cultural governance to make our decisions about our knowledge, and good organisational governance, e.g. of PBCs to support native title.

Together, Indigenous people and partners can support and promote strong cultural governance, to strengthen *Our Knowledge Our Way*.

5.1.3 Keep and revitalise knowledge, language and culture

- Colonisation has devastated the connection to culture for many Indigenous people, and inter-generational trauma continues to impact individuals' ability to engage with their culture and language. Where opportunity exists, our knowledge is being kept and is passed on through language, song, dance, art, story, through being on our Country, through hunting and harvesting, and through many other cultural practices
- Access to documented knowledge, including archival material, and the ability to continue cultural practices is essential for the survival of our culture
- We can create the space and tools to continue transmitting our knowledge in diverse ways, including via emerging digital communication tools. IK and related historical information is increasingly being accessed and disseminated online
- We are educating our youth through Indigenous-led bilingual education, learning on Country, and two-way science programs
- New and emerging digital technologies can facilitate engagement of youth, and assist in recording and revitalising knowledge, provided knowledge protocols are followed
- More Indigenous people should be supported to engage in archival research, data collection and dissemination, to enable re-engagement with language and culture.

We have kept our knowledge of Country alive through being taught by the Old People. This knowledge has been embedded in our songs, dance performances and rituals from time immemorial. Our biocultural knowledge of plants, animals, climate, astronomy and navigation has been passed on through song and dance across generations. Our songlines cross Australia, telling creation stories, handing down law and connecting people to Country and one another. Opportunities to continue practising and celebrating our traditions, music, song and dance, like the Garma Festival in the Northern Territory, and the Laura Dance Festival in Far North Queensland, are important events that bring clan and language groups together to keep our culture and knowledge strong.

We tell our stories of Country through paintings and artwork, whether through weaving, in the sand, on rock, modern canvases or other surfaces. Only people with the right connection to Country under our customary law can paint their stories. Painting and artwork can be particularly important ways of expressing knowledge and culture for groups who have had their language stolen from them, as their parents and grandparents were subjected to the insufferable pain and trauma of being forcibly removed from their mothers, families and Country.

We are the custodians of our languages. Language is our birthright inherited from our parents and grandparents: it is integral to our culture and the connection between us and our lands. We are leading diverse initiatives to both revitalise and keep language strong. The work of our language centres is as diverse as our communities and languages; they are important hubs supporting language protection and revival.

Clan and language groups have created cultural hubs on Country which enable immersion of children, their family, friends and others in learning through language. Other Indigenous communities have set up independent schools, language schools, radio stations, television shows and various other channels for their cultures and languages to be strengthened. There are many further organisations, language centres, communities and individuals working to maintain and preserve Indigenous languages, culture and knowledge.

Working with our school children to keep their knowledge of language and cultures strong is vital, and two-way science programs can bring the best of Indigenous and non-Indigenous knowledge and cultures into schools, linking curriculum and community. Indigenous-led bilingual education and learning-on-Country programs are important ways of passing knowledge on to future generations (see Case Study 2-8).

In some cases digital technologies, including language apps, are keeping language strong through their use as education tools. It is also important that our languages are included in national digital infrastructures and their workflows and metadata, to give them prominence alongside English. For instance, the Atlas of Living Australia is now including Indigenous language names alongside scientific names for species, and using the AIATSIS Austlang codes for languages[cs].

cs https://collection.aiatsis.gov.au/austlang/search

Digital databases can be used to record song, dance and other knowledge forms. Digital databases, seasonal calendars and illustrated books, created with attention to our cultural protocols, are some good ways to document and share our knowledge and keep it strong for the future.

We see opportunities to partner with agencies that can offer training and skills development that support our goals for revitalising knowledge. For example, the Tropical Indigenous Ethnobotany Centre acted as a cultural broker in bringing Mbabaram men and women together to conduct a survey of plants previously identified by Mbabaram Elders as being traditional medicines. Through this exchange, the group learned the skills necessary to identify plants, collect samples, and use Geographic Information Systems (GIS) to record plants of significance on Country (Case Study 3-2).

Other considerations:

- While language and culture are inherently linked, groups who have been denied their language through colonising processes continue to keep their knowledge and culture alive
- Language is a tool to support Stolen Generations and displaced individuals to reconnect with their families, ceremonies and Country
- It is important that language is used in culturally appropriate ways – knowledge appropriation can occur if words or language are used out of context and without the permission of the Elders
- It is important to consider who has the authority to make decisions about language and knowledge and what responsibilities come with this
- It is important to be mindful of who is capable of and/or entitled to teach Indigenous languages and which languages may be taught in which locations and settings.

Actions towards best practice

We, and our partners and allies, can **strengthen Indigenous languages:**

Partners can make sure that their work fosters activities that keep language strong, for example by providing opportunity for multiple generations to go out on Country together.

Indigenous people can continue efforts to keep language alive by supporting the work of language centres and identifying opportunities for teaching younger generations, for example through engaging with digital language applications. We can inform external partners when interpreters should be used.

Together, Indigenous people and partners can help to strengthen and revive languages by ensuring Indigenous people have access to Country and digital language technologies for engaging youth, and promoting language names for plants, animals and land and sea management techniques alongside English terms.

Keeping our Indigenous knowledge strong and vibrant requires:

- Access to our Country
- Strong cultural governance of our knowledge
- Continued practice by Traditional Owners of their knowledge, and engagement of Indigenous families who have experienced intergenerational cycles of trauma, and who want to reconnect and learn about their heritage
- Following our cultural protocols.

Practice and revitalise our knowledge and culture

Access to Country

Cultural governance and protocols

Traditional Owners

Figure 5.2. Foundations for strengthening Indigenous knowledge.

5.2 BUILDING STRONG PARTNERSHIPS

- Partnerships that enable the building of respect and appreciation for Indigenous knowledge (IK) are desired – particularly where they support an Indigenous voice in decision-making processes that affect us
- Many of us are seeking partnerships that can support alternative funding models that reduce reliance on government funding
- Respect for Indigenous knowledge, culture and Country are critical for the development of trust and relationship-building, which underpin strong partnerships.

Indigenous Peoples' voices are growing louder in decision-making processes, and we are seeking roles in governance that are meaningful and that create outcomes that reflect local, traditional, cultural and spiritual values. Strong partnerships can support us in raising the profile of our knowledge, and our contributions, beyond our communities.

We see the strengths in having knowledge and we need to be mindful of how we share this knowledge. When we make agreements with our partners there must be strong attention to our Indigenous cultural and intellectual property and benefit-sharing arrangements for Traditional Owners. There are risks in sharing knowledge – as not all knowledge is equal or should be treated the same way. Increasingly, there is outside interest in the potential of Indigenous knowledge to generate commercial opportunities, including enterprises derived from plant and animal knowledge. In the past Elders have been approached by companies offering incentives to obtain quick approvals for the use of our IK, in lieu of appropriate protocols of engagement. We should be the beneficiaries of the use of our knowledge.

5.2.1 Principles for strong partnerships

The development of strong respectable partnerships requires prior recognition and understanding of the huge diversity that exists within Indigenous Australia. This requires that the Indigenous partner takes the lead, because the arrangements for working together will be unique to that individual, community, corporation, Land Council or other entity.

Co-design methods that support equitable collaboration between Indigenous people and partners provide a strong foundation for knowledge-related partnerships. Such partnerships can support our exploration of Indigenous knowledge for enterprise development.

We are increasingly taking a lead in determining the kinds of research of most importance and use to our people and our communities. Where we feel collaborative research is the preferred approach to doing knowledge work, we can lead a discussion with our partners and ask: What is a good path forward? What might the different research governance arrangements look like? Is it a collaborative research partnership and/or should it be Indigenous-driven or led?

Further, to engage meaningfully requires effective communication between partners, which can be complex in cross cultural contexts. Where partners don't speak the same mother tongue, the complexity increases, and the potential for miscommunication and misunderstanding shouldn't be underestimated.

Figure 5.3. Key elements of good partnerships.

Actions towards best practice

We, our partners and allies, can **strengthen our partnerships**:

Indigenous people can support strong corporate and cultural governance arrangements as a foundation for protocols and agreements that enable transparency, ensure mutual benefit and protect ICIP.

Partners can commit to ethical research protocols and agreements to create transparency, ensure mutual benefit, and protect ICIP.

Together, Indigenous people and partners can support and promote strong cultural governance, to strengthen *Our Knowledge Our Way*.

5.2.2 The role of trust and relationships in knowledge work

Our culture and our knowledge define us and connect us with our kin and with all other Indigenous people. We hold our culture and our knowledge close.

As we have discussed in these Guidelines, we see the benefit of partnerships to promote and keep knowledge strong. However, partners need to understand that there is a risk to knowledge sharing – for example, of knowledge being appropriated or inappropriately used including for financial benefit outside of our control.

We seek engagements and partnerships where we think our knowledge that we share with you will be treated the right way. For some groups, this means taking a very slow approach to building a partnership, and testing partners to see if they are respectful and trustworthy, before knowledge is shared.

Taking the time and interest to build relationships between people will underpin positive experiences in knowledge sharing. Relationship-building demands that all partners recognise and respect multiple cultural backgrounds and knowledges in creating a safe space for sharing. This includes demonstrating respect for Country and for different world views.

At the same time we look to our Indigenous leaders to use their knowledge to represent the majority of Traditional Owners in decision-making for the group, so the group may move forward as a whole.

On a practical level, interpretation may be required, including for land and sea decision-making processes, to ensure Traditional Owners accurately understand the information being presented, and the impact of any decisions that are made and potential outcomes from them.

Respectfully working together with knowledge can foster reconciliation. Not working respectfully re-enforces the legacies of colonisation and can leave us feeling disappointed, angry and distrustful of future knowledge partnerships.

As well as acting ethically and morally, creating tools together that build transparency and support open communication in the engagement can build trust and a foundation for a good relationship. Protocols for how partners work together (MOUs, research agreements, etc.) are critical to starting the conversation. These documents can outline: the range of mutual benefits from the engagement; financial and other resource commitments to the partnership; ICIP considerations including benefit-sharing arrangements; and legacy discussion in terms of who owns the data that will come from the partnership and how will it be managed after the formal engagement stops. Some of these tools and process are discussed in the next sections.

Actions towards best practice

We, and our partners and allies, can **build trust and strong relationships through:**

Indigenous people can choose to engage in partnerships that allow sufficient time and resources for knowledge work.

Partners can understand the importance of time to enable proper decision-making and the building of trust as foundations for respectful working relationships.

Together Indigenous people and partners can invest in building trust and respect as a foundation for positive partnerships that assure mutual benefits.

5.2.3 Protocols

Protocols can be negotiated between Indigenous and non-Indigenous partners to facilitate sharing of knowledge the right way, and these can operate at many levels, including at the community or individual-scale.

Good collaborative partners should negotiate protocols to precede and underpin the engagement. Such protocols should include agreement on the activities and responsibilities of each partner; an open discussion about the budget; acknowledgement and consideration of background intellectual property (IP) – the unique knowledge each research party is bringing to the table – and how the IP will be shared. Formalised agreements between institutions offer a higher level of protection to IP, as the agreements are binding.

Community-based agreements can focus on the operational details of engagement on the ground: where partners can and can't go on Country, and when they must be accompanied; how the group will communicate throughout the life of the project; and what flexible arrangements are built into the project plan if cultural responsibilities take Indigenous partners away from the

project etc. Protocols also need to consider not only how knowledge is shared during the process of undertaking a project, but what happens once the project is finished, especially when the knowledge may be embedded in reports, publications and databases and then shared digitally.

Attention to protocols might be really important in some cases. Acting inappropriately, for example not seeking correct permissions for visiting or travelling through Country can cause significant distress to Traditional Owners, who are responsible for your safety and well-being while you are on their land and sea.

This ethical approach to knowledge partnerships is also important to avoid Indigenous knowledge being disconnected from the local context from which it has come, and where it belongs.

Consent for sharing knowledge

Critical to the sharing of knowledge is free, prior and informed consent (FPIC). The UN Declaration on the Rights of Indigenous Peoples, and many other international and national laws and policies, recognise FPIC as the best practice approach to engaging with Indigenous knowledge. This includes land and sea management, research projects, knowledge partnerships and engagement in decision-making around conservation and development proposals. The FPIC process requires that individuals and groups are provided with sufficient, accessible information, including full consideration of risks and benefits of the proposal, for them to make an informed decision about whether to consent to the proposal. Partners should ensure that their project budgets accommodate payment of interpreters where appropriate, to ensure that Indigenous partners are adequately informed when giving consent.

Unlike consultative processes, the requirement for consent entitles Indigenous Peoples to determine the outcome of decision-making that affects them. Knowledge brokers can ascertain consensus on behalf of Traditional Owners – these models of knowledge brokering are diverse. Sometimes this might involve one individual (for example a senior Traditional Owner), an extended family group, multiple family groups, or the entire language group (a meeting of which might be facilitated by a Land Council or a Prescribed Body Corporate).

The particular cultural protocols of each situation underpin FPIC, and need space to evolve and play out. For instance, we can add our own clauses to the FPIC processes that are presented to us to ensure that the right individuals (including Elders and/or decision-making authorities) are part of the consent process, and therefore the FPIC process has legitimacy at the local level.

Our knowledge will stay strong if we adhere to our internal protocols and develop new outward-facing protocols that give us a strong say about how our knowledge can be used, and by whom.

Actions towards best practice

We, and our partners and allies, can **strengthen our knowledge sharing through following free, prior and informed consent (FPIC):**

Partners can make sure enough time and resources are available for decision-making according to the particular cultural protocols.

Indigenous people can ensure that their own cultural protocols are included to ensure that the right individuals (including Elders and/or decision-making authorities) are part of the consent process and that it has legitimacy at the local level.

Together, Indigenous people and partners can promote correct processes for FPIC and require that all research, conservation and development proposals on Country adhere to FPIC.

5.3 SHARING AND WEAVING KNOWLEDGE

We will share knowledge when it benefits Traditional Owners. Where sharing our knowledge and weaving it together with other knowledge systems provides benefits we can learn together, and see a richer picture of our world. Our case studies show that sharing and weaving knowledge is challenging and requires great care to deliver mutual benefits.

In this section we draw on modified versions of the diagrams used in the Kimberley Indigenous Saltwater Science Project to present options related to:

- Steps and stages in sharing and weaving knowledge
- Tools and processes for sharing and weaving knowledge.

5.3.1 Steps for sharing and weaving knowledge

Sharing and weaving Indigenous knowledge with western science has been accelerating in recent years for several reasons[159]. Indigenous land and sea managers often weave knowledge to manage new and complex land and sea management issues. Externally funded Indigenous land and sea management ranger programs sometimes draw on western science to build ecological monitoring and evaluation programs into their work plans. Sometimes scientific rigour lends support to the development of land and sea management-based enterprises. For example, in developing a methodology for traditional burning regimes to offset carbon emissions.

All effective projects for sharing and weaving knowledge are based on Traditional Owners and partners coming together to form strong agreements, based on trust, respect and adherence to protocols, and support for cultural governance – ensuring that time and resources are available for the decision-making processes about knowledge to be properly followed (Figure 5.4, centre).

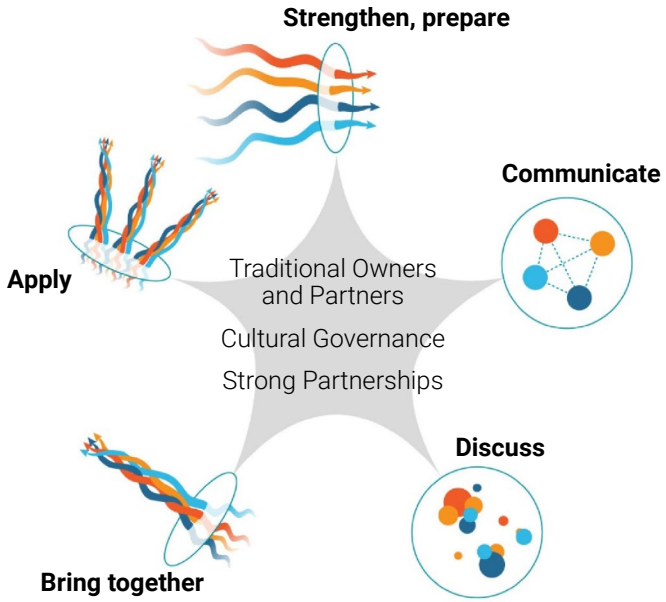


Figure 5.4. Key steps that can help Traditional Owners and partners in sharing and weaving knowledge.

Once these central relationships and processes are in place, key steps that can help Traditional Owners and partners in sharing and weaving knowledge are: strengthen, prepare; communicate; discuss; bring together; and apply.

Strengthen, prepare: involves ensuring people are able to practise and maintain their Indigenous knowledge in a culturally safe place, and that relevant western scientific knowledge is available. This is necessary to inform ethical decision-making. All our case studies highlight the importance of song, dance, story, language and the vital activities needed to support these, such as language and culture hubs. Preparing this knowledge for sharing may involve checking with the key knowledge holders to ensure that the sharing and weaving knowledge is about to begin. For the scientific knowledge holders, it may involve reviewing and identifying the key scientific resources. This should be undertaken in consideration of, and in consultation with, Traditional Owners.

Communicate: involves presenting knowledge from a knowledge system into a format that can be understood by people with a different knowledge system. Our case studies show many examples of different ways to communicate. Indigenous knowledge of seasonal cycles has been communicated as seasonal calendars with English words and photographs. However, translating between Indigenous languages and English is very important. Indigenous language interpreter services provide critical cross-cultural translation services for working across knowledge systems. A skilled interpreter and/or translator can translate knowledge concepts, expressed verbally or in sign-language, across world views, helping to ensure that knowledge protocols aren't breached through miscommunication. Interpretation removes pressure from Indigenous people to express their ideas clearly in English, which may be our second, third or fourth language. External partners should seek advice from Indigenous partners as to whether an interpreter is required when seeking engagement. Interpreter services are available in Western Australia, the Northern Territory, Queensland and South Australia. Some also provide training in cross-cultural communication – a useful skill when working with Indigenous people.

Discuss: requires us to talk together and interact around our different knowledges. Our work on fire management has shown how we need to negotiate, through discussions around a table, to bring together our Indigenous and scientific knowledge to create burning methodologies that support carbon-offset enterprises. The Hin Lad Nai case study showed how discussions around a poster of scientific knowledge about pollinators can lead to identification of key points of agreement across knowledge systems.

Bring together: involves producing a document, video, plan or workshop that weaves our Indigenous and scientific knowledge systems. Indigenous Protected Area management plans often show how Indigenous and scientific knowledge can be woven together.

Apply: requires us to apply the new, (partly) woven knowledge, which has been shown to deliver co-benefits as outlined in the partnership agreement. For example, we have brought western science approaches and Indigenous knowledge together to create a rigorous methodology for evaluating the core benefits of carbon abatement projects, led and implemented by Indigenous practitioners (Case Study 3-4).

5.3.2 Communication tools for sharing and weaving knowledge

- Indigenous-led and co-developed tools are most appropriate for sharing and weaving knowledge
- Tools that promote the intergenerational transfer of knowledge are highly valued

The case studies demonstrate that co-created tools can facilitate the communication of specific messages or can be used amongst Indigenous participants, government staff and scientists towards facilitating relationship building and promoting discussion. Co-produced communication tools can also promote learning about culture and language, as well as assist understanding across knowledge systems. For example:

- Indigenous researchers, co-researchers and participants created a 3D map (Section 3.9) to express their values and aspirations with members of the wider community, to develop a common understanding and highlight different perspectives.
- The Mobile Language Team promoted intergenerational learning through their Arabana on-Country language camps (Case Study 2-3).
- The Kimberley Indigenous Saltwater Science Project (Case Study 3-9) developed a set of resources for weaving Indigenous and scientific knowledge together to support future Kimberley saltwater science projects, with relevance more broadly.
- Seasonal calendars have been created as tools for communicating cross-cultural and intergenerational values within and across Indigenous communities; and to communicate environmental governance interests and aspirations with decision-makers as in the case of the Ngan'gi Seasons calendar (Section 2.7).

Actions towards best practice

We, and our partners and allies, can **strengthen our knowledge by co-creating knowledge sharing tools:**

Partners can create opportunities for Indigenous partners to co-create tools that promote, and support inclusion of, Indigenous knowledge in environmental decision-making.

Indigenous people can continue to realise opportunities for building understanding and respect for Indigenous knowledge systems – through sharing of knowledge in diverse forms and styles.

Together, Indigenous people and partners can push the boundaries of co-learning through co-creation of innovative tools that draw on multiple knowledges and understandings and create new avenues for intergenerational learning.

5.3.3 Data management tools for sharing and weaving knowledge

- Indigenous Peoples seek control over data that are collected about us, our knowledge, or our land and sea Country
- Data collected needs to be returned to us in a useable and accessible form, and we require access to digital platforms so we can manage this data
- Agreements are essential for ensuring that data are collected, analysed, stored and shared in accordance with cultural protocols and the wishes of Indigenous partners, and it is important that funding agreements also align with these arrangements
- Data needs to be appropriately managed within digital platforms to ensure that principles around Indigenous data sovereignty are respected
- Project budgets and timelines must account for appropriate data sharing and dissemination – this includes meetings and events to report back, share data, and provide training where appropriate.

Partners need to ensure that their head agreements with funding agencies (especially government funding) includes provisions that allow for the different types of data ownership or sharing (or not sharing) that Indigenous partners may want – noting that some Indigenous knowledge may not be covered by copyright, which is increasingly the way research outputs are protected. There is also a tension as government policies are requiring greater open access (e.g. via Creative Commons) to publicly funded data. This may not be appropriate in all cases where ICIP is included.

We expect that data collected by industry representatives, government, researchers, land and sea rangers, or any other individuals or groups working with our people or on our land is returned to us in a useable and accessible form. This may mean that the data collectors need to ensure local Indigenous partners have the capacity to access and use the data, via appropriate tools and technologies, i.e. data is collected and handed over in a form we can understand and use.

Indigenous partners can experience challenges and lack of power if knowledge sharing agreements are not adhered to. We should engage as far as possible in determining the rules of engagement with partners early on. This might include the close development of agreements for knowledge and data sharing, ensuring that these are sufficiently funded and accommodate post-activity/project engagement: trips to report back, share data, and provide training where appropriate, and access to data management systems or platforms.

Actions towards best practice

We, and our partners and allies, can **strengthen our control over data and its use:**

Partners can make sure to negotiate a research agreement with local Indigenous groups, and that project planning allocates time and budget for appropriate data sharing and dissemination – this includes trips to report back, share findings and data, and provide training where appropriate.

Indigenous people can make sure that an appropriate research agreement is in place to ensure that data is collected, analysed, stored and shared in accordance with cultural protocols and their wishes.

Together, Indigenous people and partners can promote data management practices that keep knowledge strong and ensure that Indigenous people have access to data for their own needs.

5.4 INDIGENOUS NETWORKS FOR SHARING KNOWLEDGE

We are engaging strongly with global networks that support Indigenous Peoples to bring forward their knowledge and practices to solve international environmental challenges. These include the World Indigenous Network, the International Indigenous Forum on Biodiversity and Ecosystem Services and the Indigenous and Local Knowledge Centres of Distinction. These networks are important as they promote Indigenous-led knowledge practices globally and offer peer-to-peer learning opportunities for Indigenous land and sea management practice.

Such networks are also important in supporting:

- Learning about good partners, projects and approaches to keeping knowledge strong, our way
- Learning from others about best practice protocols and processes for managing partnerships
- Building strength and inspiration through solidarity.

In recent years we've created some great opportunities at the national level to come together to build strength in knowledge through peer-to-peer learning. Over the past three years (2017–2019) Indigenous Ranger Forums have been held in northern Australia to promote knowledge sharing between rangers and land and sea management-related partners (government agencies, research organisations, industry, NGOs and philanthropics) from across the north. At the most recent Forum (2019), held on Kenbi Country near Darwin, rangers discussed the importance of the Guidelines in the context of building knowledge between ranger groups. Rangers felt there was a lot of similar trial and error occurring within each

Robert Kerton

ranger group and in isolation to other groups' learning: the opportunity for greatly shared learning between ranger groups was obvious. The idea of a national Indigenous land and sea network has previously been discussed and deserves further exploration.

Actions towards best practice

We, and our partners and allies, can **strengthen our knowledge through land and sea networks:**

Partners can support pan-regional, pan-national and international sharing of land and sea knowledge for enhanced environmental management.

Indigenous people can strengthen existing networks for knowledge sharing, to identify best practice methods and tools for bringing Indigenous knowledge into land and sea management and enterprise development. This might take the form of a national Indigenous land and sea management network.

Together, Indigenous people and partners can raise the profile of Indigenous land and sea management knowledge through national and international forums.

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APPENDIX 1: *OUR KNOWLEDGE OUR WAY* CALL FOR CASE STUDIES

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Northern Australia Environmental Resources Hub

National Environmental Science Programme

Call for case studies to develop *Our Knowledge, Our Way Guidelines*

A new set of guidelines, *Our Knowledge, Our Way Guidelines*, are being developed as a resource for Indigenous land managers to learn from others about issues and options for bringing Indigenous knowledge into environmental management and economic development. A secondary audience for the guidelines is the partners of Indigenous land managers, including those in co-management arrangements.

The development of the guidelines is Indigenous-driven. The North Australian Indigenous Land and Sea Management Alliance (NAILSMA) and CSIRO have received funding from the Australian Government's National Environmental Science Program and the project team is being guided by an Indigenous-majority Steering Group. The Australian Committee of the International Union for the Conservation of Nature (ACIUCN) is supporting the project through the engagement of its national networks and facilitating international exposure when completed.

Rangers across Northern Australia gathered at the Kimberley Ranger Forum in 2017 explained how cultural connections through dance, language and family are vital to their sense of comfort and ability to grow and learn from peer-to-peer exchanges and one-on-one interactions at such gatherings.

This research was supported through funding from the Australian Government's National Environmental Research Program.

Why are these guidelines important?

Indigenous peoples have responsibility for management of large areas of land and sea across Australia. They also hold an enormous stake in ensuring a sustainable future for their communities and natural and cultural environments. Indigenous land managers draw on their knowledge to make management decisions on a daily basis, including running businesses and enterprises based on natural resources. There is also increasing interest from non-Indigenous people in Indigenous knowledge as a management tool. The way in which knowledges are shared is therefore important.

We seek your help in understanding what 'our knowledge, our way' means

To inform these guidelines, the project team is seeking case studies from across the country. These case studies will be used to help highlight what Indigenous groups believe have worked for them. The guidelines will be created by combining the case studies with background information on the importance of 'our knowledge, our way', how knowledge is being recognised and used in Australia and internationally, and potential policy that can support 'our knowledge, our way'. It is expected that draft guidelines will be available in 2019.

Dja Dja Wurrung People of central Victoria are bringing back Wi (cultural fires) onto their Djandak (Country), and have established a monitoring point to record changes using both Indigenous and scientific knowledge.

As part of this learning we are seeking your involvement to identify case studies where:

- Indigenous people are using their Indigenous and traditional knowledge to care for their country, including in the development of business opportunities and enterprises
- Indigenous people have experienced positive engagement and good outcomes when their Indigenous knowledge has been brought into co-management or research projects
- Indigenous people and their knowledge have been treated the right way when engaging with others (government, NGOs, researchers, industry, etc)
- Indigenous land managers share lessons learned about knowledge-sharing
- Indigenous land managers identify the conditions under which good knowledge sharing can occur.

Developing the guidelines will initially involve a 2-step process

First step: We want to hear from people who are happy to share their ideas and experience, no matter how small. Many Indigenous land managers will have an experience that can contribute to this project – the more people that are involved, the more useful we can make the guidelines to land managers. We also want to hear from non-Indigenous partners (NGOs, government agencies, etc) who'd like to co-develop a case study with one or more of their Indigenous partners.

Second step: Once you send us an email we will get in contact with you and find the best way for you to tell your story or provide your ideas and experiences.

To be part of this important project please send an email to one of the project partners:

Dr Rosemary Hill
CSIRO Land and Water
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Indigenous-led publications about Indigenous knowledge.

Background to *Our Knowledge, Our Way Guidelines*

The project 'Knowledge brokering for Indigenous land management' seeks to support improved Indigenous land management and decision-making. The project is co-led between CSIRO and NAILSMA. Together, these organisations design and test culturally tailored knowledge brokering methods and tools, and facilitate the sharing of these through a pan-northern Indigenous knowledge network.

The project is governed through a Steering Committee made up of representatives from Indigenous organisations across northern Australia. The Steering Committee decided that the development of knowledge brokering guidelines, developed by and for Indigenous land managers, could be a useful tool for supporting Indigenous knowledge to be applied in land and sea management, alongside science and other knowledge. The ACIUCN was approached, and together the decision was made to create a set of guidelines, Our Knowledge Our Way, that aligned with an ongoing series of other ACIUCN guidelines (see www.iucn.org/theme/species/publications/guidelines).

Dja Dja Wurrung People of central Victoria are bringing back Wi (cultural fires) onto their Djandak (Country), and have established a monitoring point to record changes using both Indigenous and scientific knowledge.

CSIRO NAILSMA Australian Government National Environmental Science Programme