Incorporating Indigenous Biocultural Knowledge into the ALA

Presenters: Dr Petina Pert and Dr Pethie Lyons
CSIRO – Cairns

Ro Hill, Jocelyn Davies, Emilie Ens, Philip Clarke, John Locke, Joanne Packer, Gerry Turpin

Overview of our presentation

Part 1: Petina – Indigenous Biocultural Knowledge

- Incorporating data from ACEAS IBK working group into ALA
- Incorporating national ILSM data into ALA

Part 2: Pethie – Mandingalbay Yidingi (MY) regional pilot project

- The 2nd study is a recently-commenced pilot with the Mandigalbay Yidinji group of traditional owners and land/sea managers in Far North Queensland.
- Explore the benefits and opportunities of developing a two-way knowledge interface between the ALA and Indigenous ecological knowledge through a process driven by Indigenous people and their needs for knowledge access and management.
- Also aims to understand Indigenous collaborators' perceptions of risks associated with sharing knowledge on a global platform.

What is Indigenous Biocultural Knowledge?

We adopt the term **Indigenous biocultural knowledge** (IBK) as a modified version of the widely known terms *Indigenous Ecological knowledge (IEK)* and *Traditional Ecological Knowledge (TEK)* (see ICSU 2002), with an emphasis on the importance of cultural connections.

Gerry Turpin, *Mbabaram* Traditional Owner and co-author of this paper, describes IBK as '*knowledge that encompasses people, language and culture and their relationship to the environment*'.

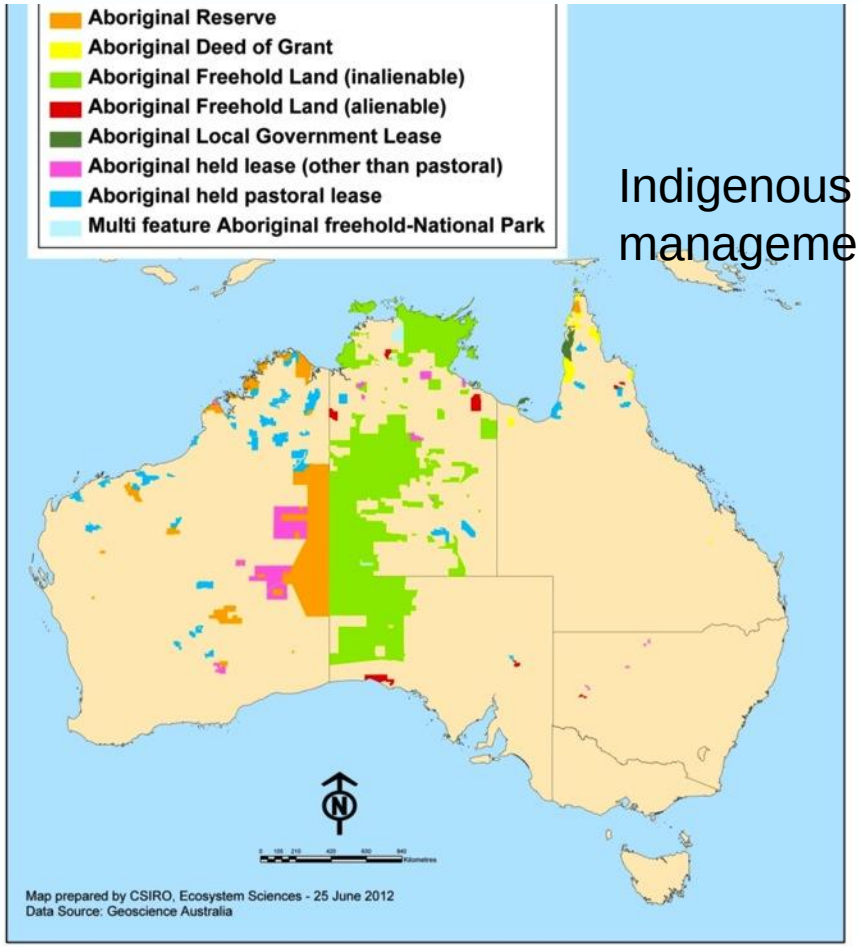
Why is it important?

Informing and supporting Australian First People's rights and interests in protecting, conserving and managing their biocultural resources. Inclusion of Australian First People's cultural and intellectual property as a core component in all related scientific processes.

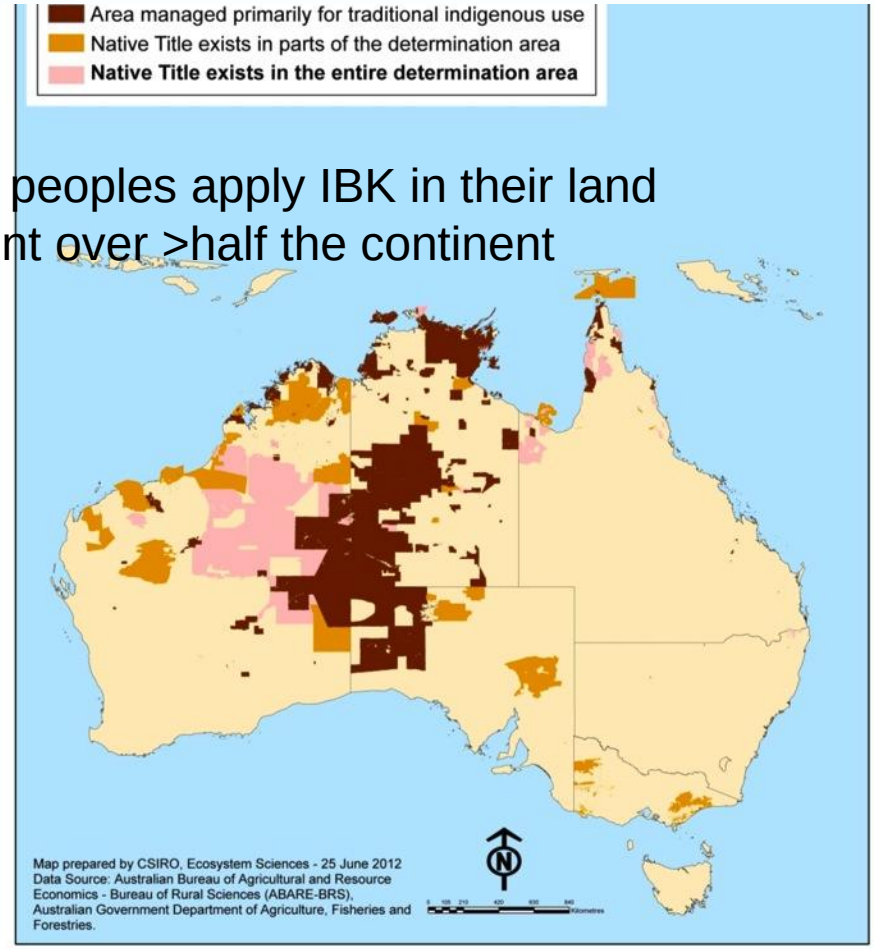
Maintenance of Indigenous knowledge and cultural practice is becoming urgent, arguably an even more important *National Emergency* (as opposed to the “The Intervention”), as elders pass away with limited transfer of knowledge and skills, such as animal tracking, to younger generations.

- The ALA website could offer an indicative map of where IBK projects have been documented and provide examples of current leading practice, review material, related resources and case studies of “living” knowledge and projects that have not been already documented and are at risk of losing.

- At least 16% of Australia is now held by Indigenous peoples in a range of tenure (Altman et al. 2007)
- 8.1% of Australia also now has Native Title determinations held over the entire area, and a further 6.1% in which Native Title has been determined as held over part of the area.



Indigenous peoples apply IBK in their land management over >half the continent



Instruments and drivers

UNDRIP Article #31
1. 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 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.

UNESCO Universal Declaration on Cultural Diversity
14. Respecting and protecting traditional knowledge, in particular that of indigenous peoples; recognising the contribution of traditional knowledge, particularly with regard to environmental protection and the management of natural resources, and fostering synergies between modern science and local knowledge

Many Aboriginal people and their non-Indigenous colleagues have and are working on a range of projects to manage and understand Country using Indigenous Biocultural knowledge and western science.

AIBK Databases

- The databases were collaboratively developed by a group of Australian Indigenous and non-Indigenous researchers

Extensive (systematic and narrative) Literature Review

- Searchable bibliographic database
- 1325 public available sources
- 245 – Method papers, 255 – Review papers
- 267 related resources

*Documents needed to directly address the relationship between Indigenous people and the environment, and have explicitly involved Indigenous people.

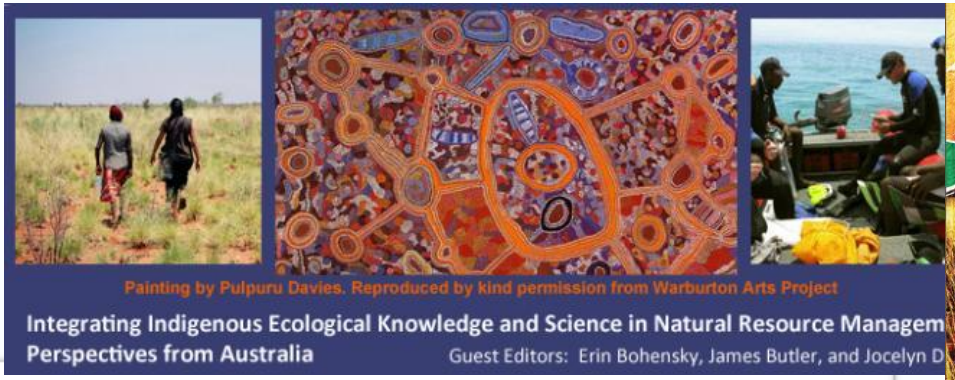
Identification of projects with locational data

- Exported Endnote refs into excel
- 568 references were geocoded with x,y locations
- Save as *.csv

Import .csv into ArcMap

- Maps
- Overlay with Protected Areas/Indigenous estate
- Overlay with Bioregions
- Overlay with Remote areas

Examples of published IBK references



[1]**Hill R., Pert P., Davies J., Walsh F., Robinson C**. & Falco-Mammone F. (2013
Australia. Diversity, scope, extent, success factors and barriers. CSIRO Ecosyst
http://www.daff.gov.au/__data/assets/pdf_file/0010/2297116/ilm-report.pdf
[2]**Hill R., Walsh F., Davies J.** & Sandford, M. (2011) Our Country Our Way: Guid
Protected Area Management Plans. Australian Government & CSIRO Ecosysten
http://www.environment.gov.au/indigenous/ipa/toolkit/management.html

Research publications

Hill, R., C. Grant, M. George, C. Robinson, S. Jackson, and N. Abel. 2012. A typology of indigenous engagement in Australian environmental management: implications for knowledge integration and social-ecological system sustainability. *Ecology and Society* 17(1): 23.
http://dx.doi.org/10.5751/ES-04587-170123

Research, part of a Special Feature on Integrating Indigenous Ecological Knowledge and Science in Natural Resource Management: Perspectives from Australia

A Typology of Indigenous Engagement in Australian Environmental Management: Implications for Knowledge Integration and Social-ecological System Sustainability

Rosemary Hill [1,2], *Chrissy Grant* [3], *Melissa George* [4], *Catherine J. Robinson* [1], *Sue Jackson* [1], and *Nick Abel* [1]

Bohensky, E. L., and Y. Maru. 2011. Indigenous knowledge, science, and resilience: what have we learned from a decade of international literature on "integration"? *Ecology and Society* 16(4): 6.
http://dx.doi.org/10.5751/ES-04342-160406

Synthesis, part of a Special Feature on Integrating Indigenous Ecological Knowledge and Science in Natural Resource Management: Perspectives from Australia

Indigenous Knowledge, Science, and Resilience: What Have We Learned from a Decade of International Literature on "Integration"?

Erin L. Bohensky [1] and *Yiheyis Maru* [1]

CSIRO PUBLISHING

SYNTHESIS ARTICLE

doi: 10.1111/j.1442-8903.2011.00634.x

Australian approaches for managing 'country' using Indigenous and non-Indigenous knowledge

By Emilie J. Ens, Max Finlayson, Karissa Preuss, Sue Jackson and Sarah Holcombe

Jocelyn Davies[A,H], David Campbell[H], Matthew Campbell[H], Josie Douglas[H], Hannah Hueneke[A], Michael LaFlamme[A], Diane Pearson[E], Karissa Preuss[F,G], Jane Walker[D,G] and Fiona Walsh[A]

Geographical Research

Towards Equity in Indigenous Co-Management of Protected Areas: Cultural Planning by Miriuwung-Gajerrong People in the Kimberley, Western Australia

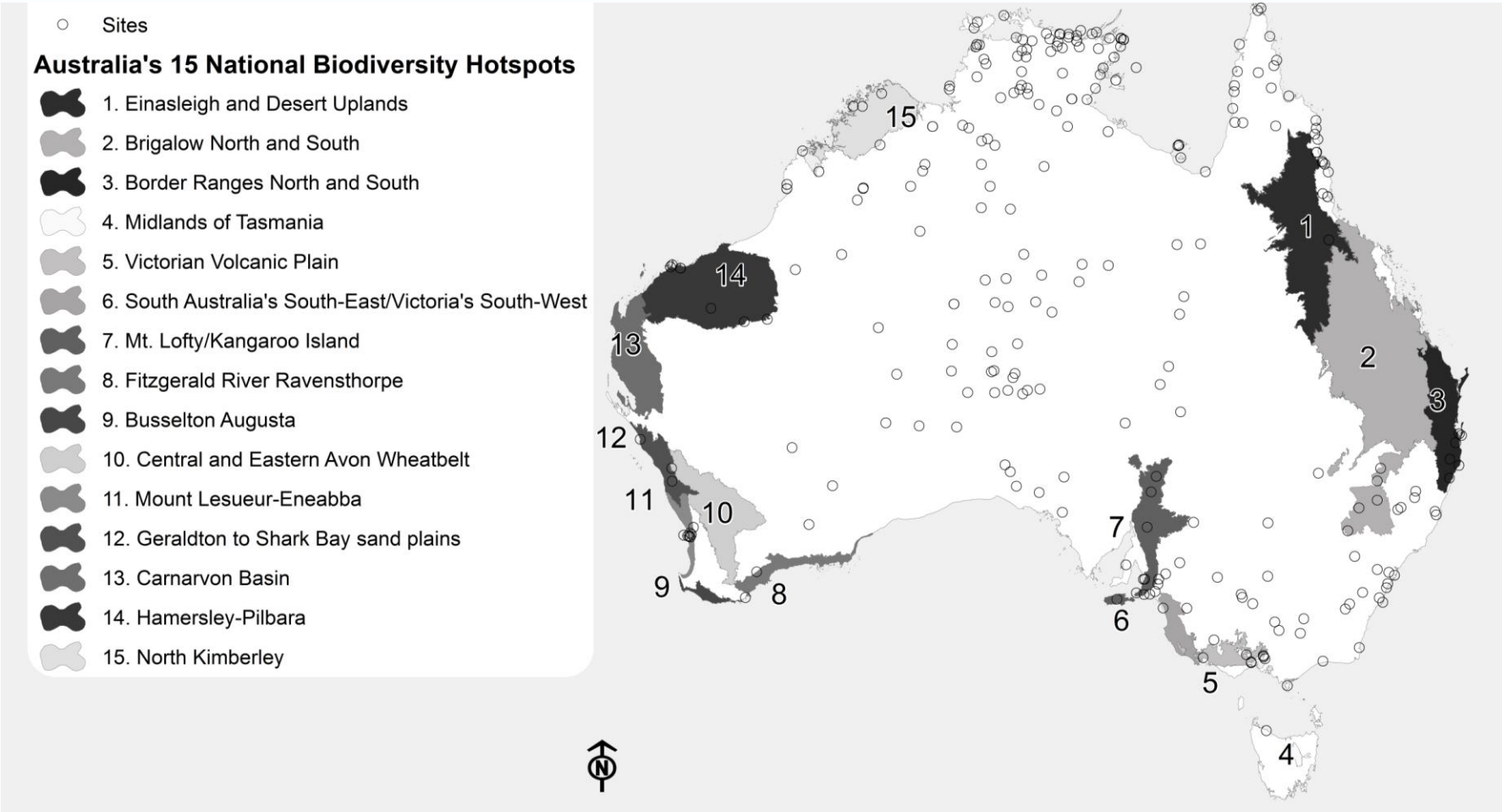
ROSEMARY HILL

CSIRO PUBLISHING
The Rangeland Journal, 2011, 33, 395–416
http://dx.doi.org/10.1071/RJ11028

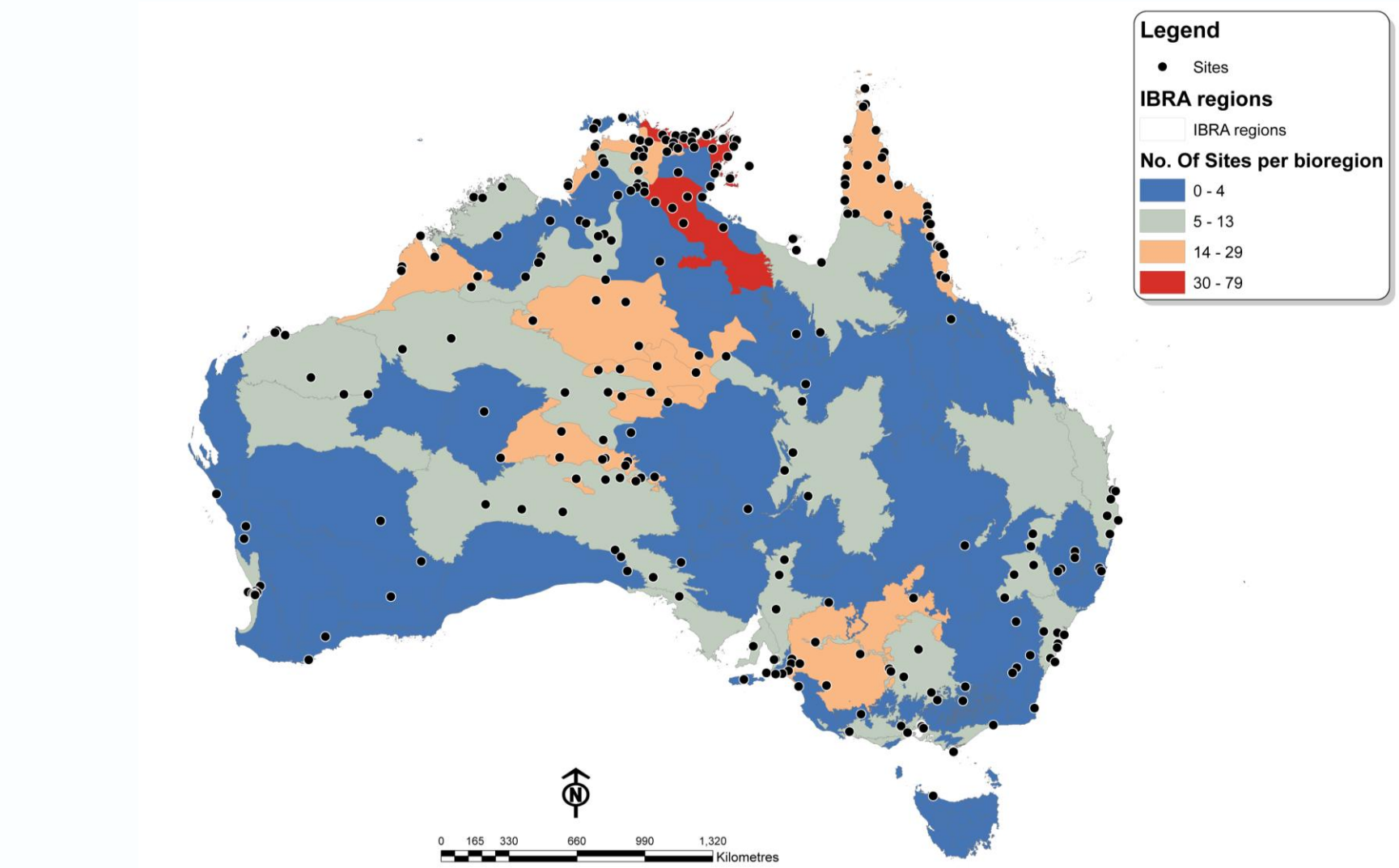
No bush foods without people: the essential human dimension to the sustainability of trade in native plant products from desert Australia

Fiona Walsh[A,B] *and Josie Douglas*[A]

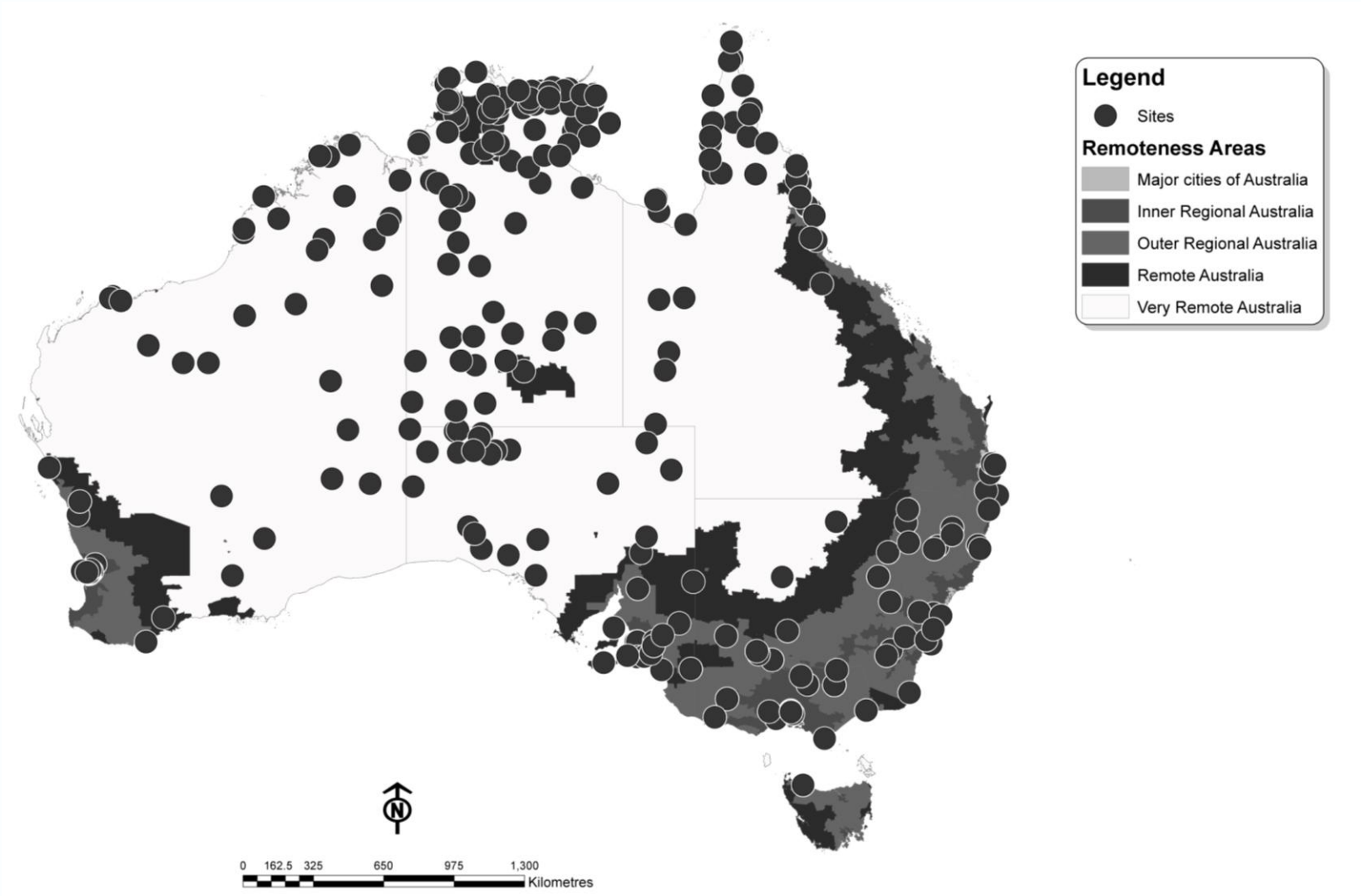
National biodiversity hotspots with IBK



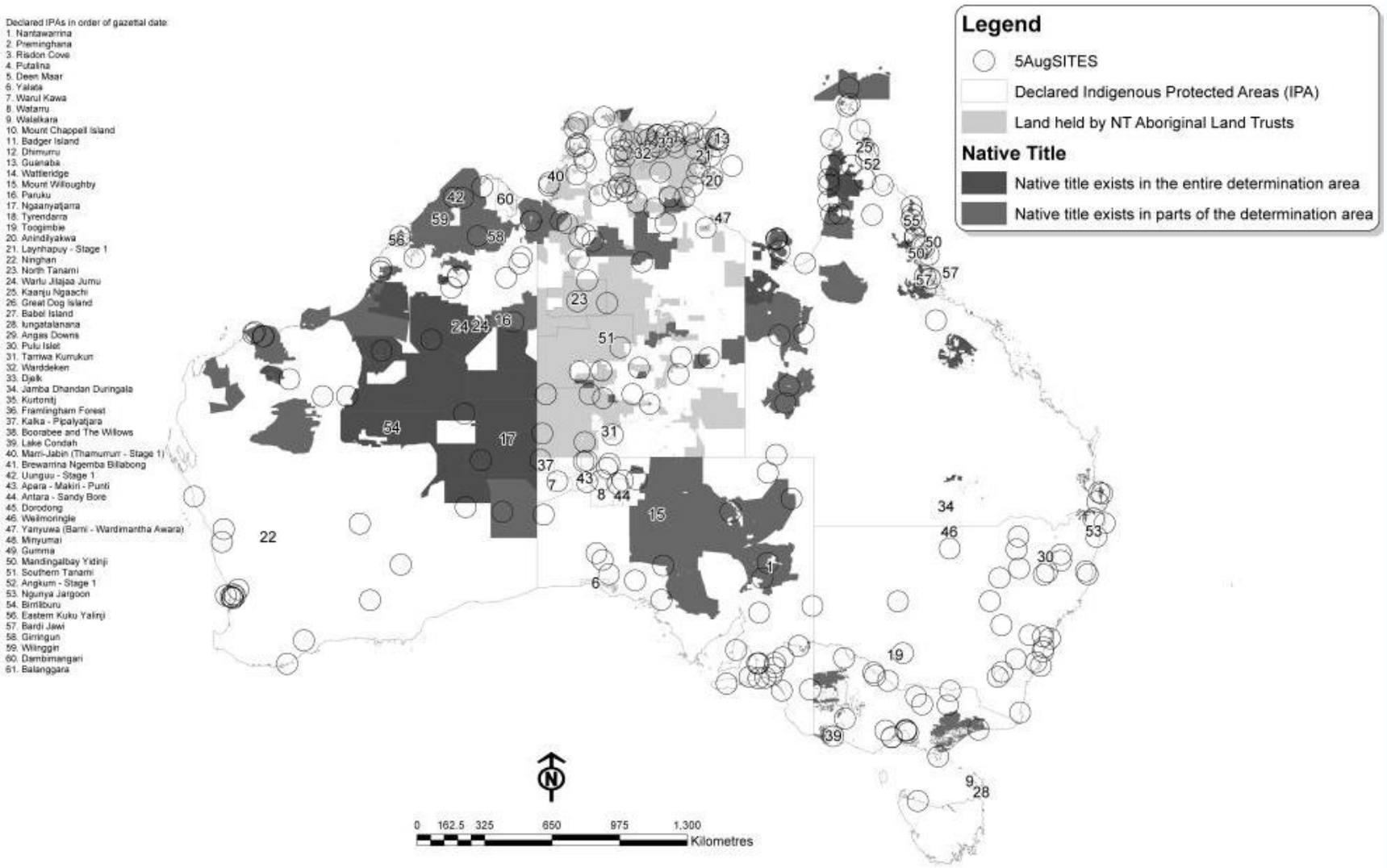
Bioregions with IBK



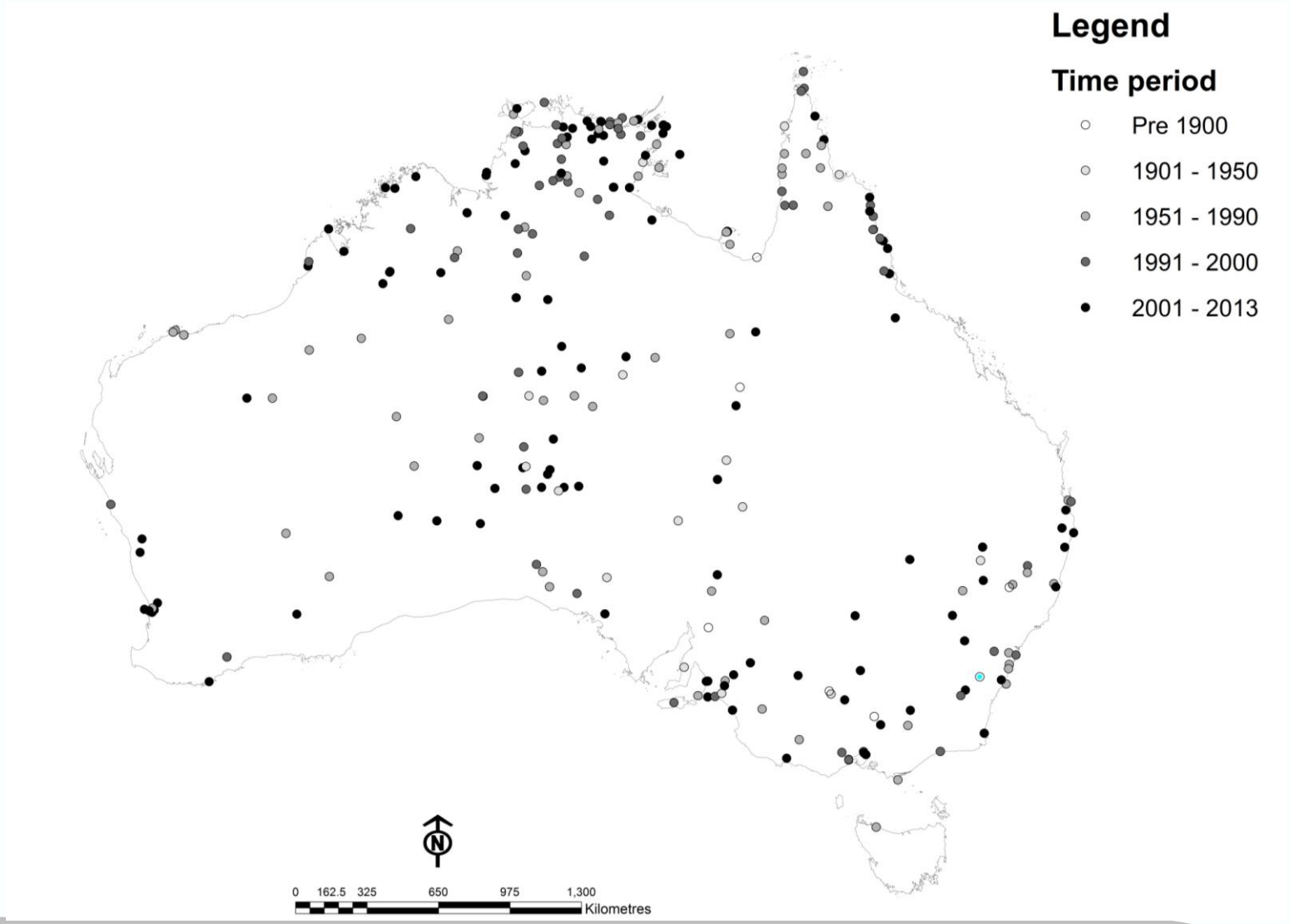
Remote areas with IBK



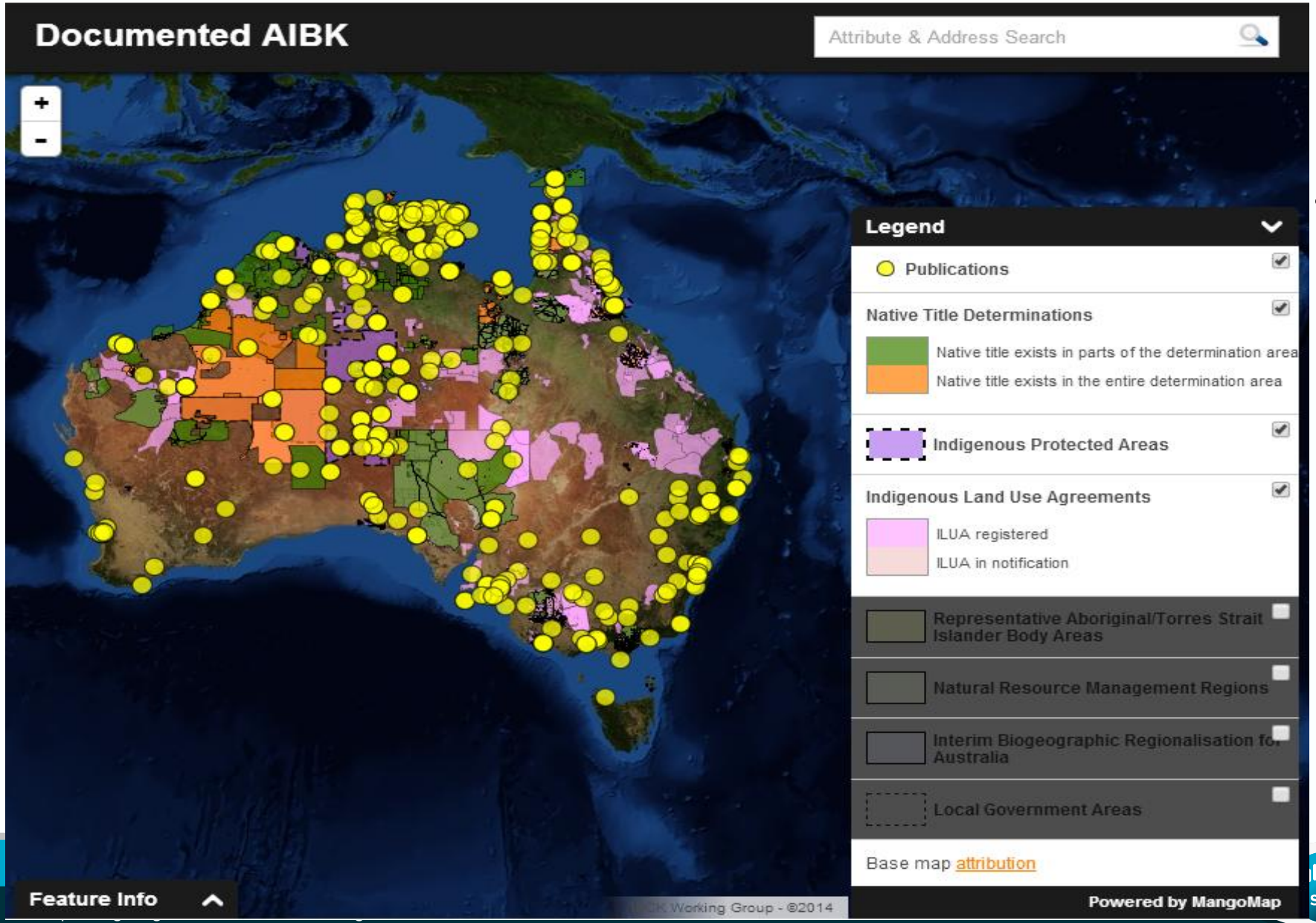
Indigenous Protected Areas, NT, with IBK



Temporal record of IBK



ACEAS IBK Website



Benefits of incorporating IBK

1. By **integrating** Indigenous knowledge it will help halt biodiversity decline
2. Offer **new opportunities** for Indigenous groups to engage in wider NRM planning processes & include Indigenous knowledge in environmental governance & management .

These activities have their origins in the holistic relationships between traditional Aboriginal and Torres Strait Islander societies and their customary land and sea estates—or 'country'—that have existed for at least 50,000 years (Australian State of the Environment 2011, p. 9).

Challenges of incorporating IBK

1. The challenge for contemporary Indigenous people is how to maintain their biocultural knowledge, customary obligations and livelihoods in the future, amidst increasing pressures from dominant society to conform to ‘Western’ modes of living and environmental conservation.
2. A major challenge for the broader population is to understand where Indigenous people are coming from. There needs to be greater recognition by non-Indigenous people of the value and diversity of non-scientific knowledge systems operating within society.

In Press/In Prep

Proposal for Special Issue of Science of the Total Environment *Science making sense: the role and challenges of transdisciplinary synthesis (in the ecosystem sciences)*

TITLE

A systematic mapping and synthesis review of Indigenous biocultural knowledge in natural resource management in Australia.

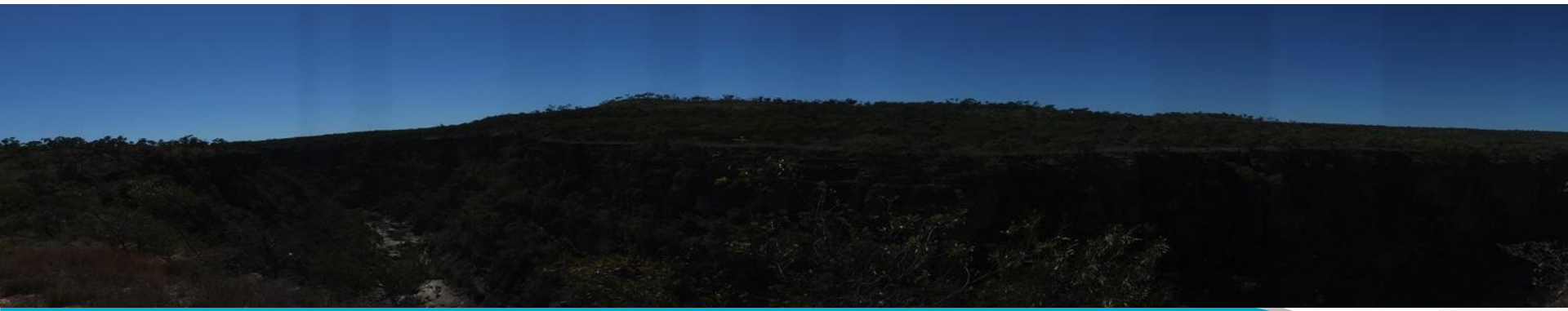
Authors

Petina L. Pert[1,12*], Emilie J. Ens[2*], Marita Budden[3], Philip A. Clarke[4], Lilian Clubb[3], Bruce Doran[5], Cheryl Douras[3], Jitendra Gaikwad[6], Beth Gott[7], Sonia Leonard[8], John Locke[9], Joanne Packer[6], Gerry Turpin[3,10], Marilyn Wallace[3,11], Peter Wallace[3,11], Steve Wasson[3]

[1] CSIRO Ecosystem Sciences, Cairns, Qld, Australia, 4870
[2] Centre for Aboriginal Economic Policy Research, Australian National University, ACT, Australia, 0200
[3] Tropical Indigenous Ethnobotany Centre, Cairns, Qld, Australia, 4970
[4] School of Environment, Griffith University, Nathan, Qld, Australia, 4111
[5] Fenner School, Australian National University, ACT, Australia, 0200
[6] Indigenous Bioresources Research Group, Macquarie University, NSW, 2109
[7] Monash University, Clayton, Victoria, Australia, 2800
[8] James Cook University, Cairns, Qld, Australia, 4870
[9] Biocultural Consulting Pty Ltd, Brisbane, Qld, Australia, 4000
[10] Department of Science, Information Technology, Innovation, Arts, Cairns, Qld, Australia, 4870
[11] Bana Yaralji Bubu Incorporated, Shiptons Flat, Qld, Australia, 4871
[12] School of Earth and Environmental Science, Centre for Tropical Environmental Sustainability Science, James Cook University – Cairns campus, Smithfield, Qld, Australia, 4878.

Take home message

- This project has synthesised for the first time, the disparate array of publically available documentation of IBK that has occurred since colonisation of Australia so as to provide a baseline of knowledge that we can learn from and build on in the future to make some headway towards respectful cross-cultural understanding and management of Australia's unique biodiversity and ecosystems.
- Indigenous authorship has been acknowledged in only 14% of IBK documentation to date, suggesting that more respectful and equitable partnerships between Indigenous knowledge holders and non-Indigenous researchers/collaborators are required.



Two-Way Information System Between Indigenous and Scientific Knowledge

Pethie Lyons

Aims

This pilot project will aim to achieve the following objectives:

- To support Indigenous-driven development of a two-way knowledge system that builds synergies between Indigenous and scientific knowledge
- To test the draft Intergovernmental Platform on Biodiversity and Ecosystem Sciences (IPBES) Guidelines for Best Practice
- To evaluate the particular benefits and risks for Indigenous people involved in linking with the ALA, including Indigenous concepts of risks and benefits.

- Partnership with the Djunbunji Land and Sea Program to support their IPA cultural heritage management goals

Agreement based on Mutual Benefit

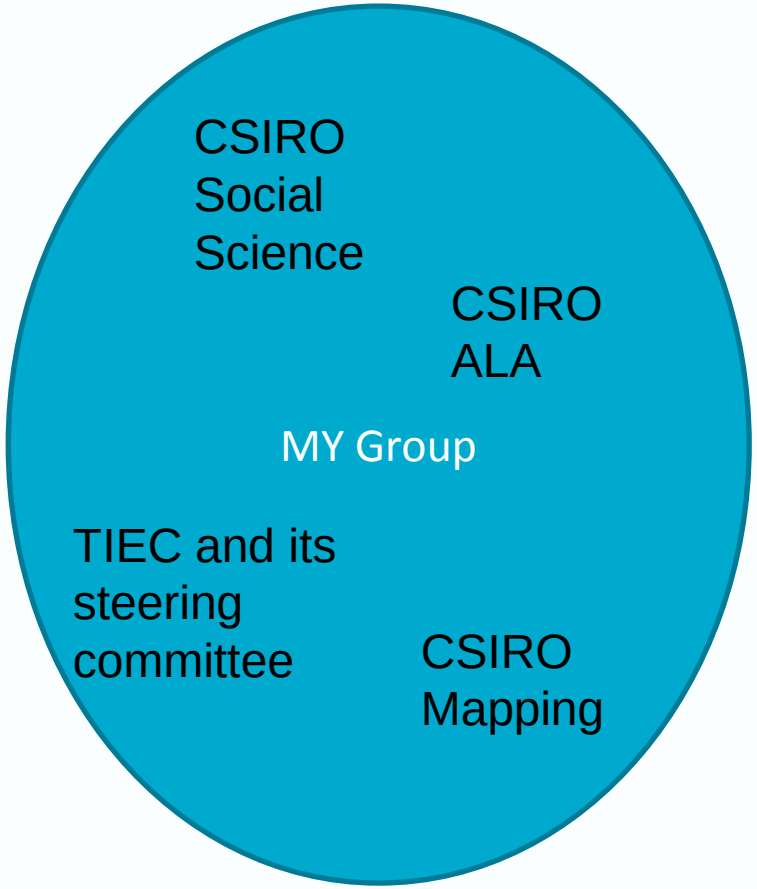
- Recording of cultural and seasonal ecological knowledge
- Two-way information system that can support land management and traditional ecological knowledge and cultural goals.
- Establish and test a model for two-way information exchange between the ALA and Indigenous groups

Develop a model that could be generalised to provide the framework by which the ALA engages with other Indigenous groups on knowledge exchange.

Help build trust between the ALA and Indigenous groups

Partners and Activities

Research Partners



On-Country workshops that include knowledge recording and storage for two-way information system

TIEC strategic review of project including implications for IP and TIEC protocols.

Development of two-way information system that supports IPA and publically available information.

Key Process and Outcomes Considerations

- Maintaining Indigenous and local authority/governance during the knowledge-contribution process
- Process of co-development of the two-way information system
- Multi-evidence approach – each knowledge system provides evidence from unique validation process
- Results will be incorporated into the ALA
- Contribute to the expanding dialogue on the contribution of Indigenous knowledge to national and global environmental policies and actions

THANK YOU

We thank CSIRO, ACEAS and the workplaces of all authors for providing the resources to meet and produce the AIBK website (www.aibk.info), database and spatial layers.

CONTACTS

Name: Dr Petina Pert
Organisation: CSIRO, Cairns
Phone: (07) 4059 5006
Email: petina.pert@csiro.au

Name: Dr Ilaspeci (Pethi) Lyons
Organisation: CSIRO, Cairns
Phone: (07) 4059 5017
Email: ilaspeci.lyons@csiro.au

2. Investigate Indigenous-driven knowledge integration and innovations that utilise land use and occupancy spatial maps to represent Indigenous land and sea values.

- Value-add to an Indigenous driven process for the integration of Indigenous knowledge into NRM planning
- Support Indigenous groups to document the many ways they use the land through the creation of traditional owner land use and occupancy spatial maps to represent Indigenous land and sea values.
- Allow Indigenous leaders to articulate their aspirations for their people and Country. This includes the way they want to manage their land and water for social, environmental, economic and spiritual well-being (Tobias 2000, 2010).
- Enable Indigenous people to better communicate their cultural values and resources in the environmental and natural resource management contexts (Tobias 2010).
- Offer new opportunities for Indigenous groups to engage in wider NRM planning processes.

4. Integrate Indigenous knowledge to help halt biodiversity decline and ensure the perpetual and sustainable supply of cultural ecosystem services for Australia

- Focus on connections between people and nature
- Identify areas where investment may enhance cultural ecosystem services, human well-being and biodiversity.
- Identify species of high cultural importance e.g. ‘iconic’, ‘cultural keystone’ or ‘collaborative’ species and compare these with those classified by biologists as ‘rare and threatened’ species.