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Summary   This paper synthesises the lessons learnt and challenges encountered when applying Indigenous and non-Indigenous knowledge and methods in natural and cultural resource management (NCRM) in northern and central Australia. We primarily draw on the papers within this special issue of *Ecological Management & Restoration*, which originated largely from the Indigenous land management symposium at the 2010 Ecological Society of Australia conference. Many of the papers and therefore this article discuss practical experiences that offer insight for enhanced on-ground cross-cultural NCRM and can inform broader thinking and theoretical critiques. A wider literature is also drawn upon to substantiate the points and broaden the scope of the synthesis. Four key themes for consideration in collaborative cross-cultural NCRM are discussed. They are as follows: 1. The differences in environmental philosophy between Indigenous and non-Indigenous cultures which profoundly shape perceptions of environmental management; 2. Cross-cultural awareness of Indigenous and non-Indigenous knowledge and methods; 3. The mechanics of two-way approaches to ecological research and managing country (NCRM as perceived by Indigenous people) and 4. Operational challenges for Indigenous NCRM organisations. To conclude, we point out five broad principles for managing country using Indigenous and non-Indigenous knowledge: (i) Recognise the validity of both Indigenous and non-Indigenous environmental philosophies; (ii) Create more opportunities for improved cross-cultural understanding, respect and collaborations; (iii) Involve Indigenous people and their knowledge and interests at all stages of the Indigenous NCRM project or research (including planning, design, implementation, communication and evaluation); (iv) Ensure that time and continuity of effort and resources are available (to undertake participatory processes and for trust-building and innovation) and (v) Establish high-level political support through legal and policy frameworks to maintain continuity of government commitment to Indigenous NCRM.

Key words: *community-based natural resource management, cross-cultural approaches, Indigenous ecological knowledge, natural and cultural resource management.*

Introduction

International and regional policy directions

Over the last 30 years, approaches for including Indigenous people's knowledge, skills and interests in broader natural and cultural resource management (NCRM) have increasingly been theorised, tried and tested around the world (e.g. Carbonell *et al.* 2001; Sobrevila 2008; Nelson & Agrawal 2008; Berkes 2008; Ross *et al.* 2011; Bohensky & Maru 2011; papers within this special issue). This trend has been driven by widespread recognition of the failure of top-down approaches to Indigenous conservation and management; the increasing legal rights and land ownership of Indigenous people; acknowledgement of existing Indigenous NCRM achievements and current Indigenous affairs policies of self-determination and alleviation of Indigenous disadvantage (Baker *et al.* 2001; Borrini-Feyerabend *et al.* 2004; Ross *et al.* 2011).

The importance of combining Indigenous and non-Indigenous knowledge for conservation and management is also reflected in the widespread adoption of international strategies that couple poverty alleviation with sustainable development and biodiversity conservation as exemplified through four major international initiatives. These are the Millennium Ecosystem Assessment (2005), the Ramsar Convention on Wetlands (see Finlayson *et al.* 2001), the Convention on Biological Diversity and the more recent global Strategic Plan for Biodiversity 2011–2020 and the Aichi Targets (CBD 2011). The latter includes the target '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, as 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 definition of Indigenous ecological knowledge is not universally accepted (Berkes 2008). Here we will adopt the widely utilised working definition of Berkes (2008: 7) as:

> … a cumulative body of knowledge, practice and belief evolving by adaptive

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processes and handed down through the generations by cultural transmission about the relationship of living beings (including humans) with one another and with their environment.

In Australia, Indigenous ecological knowledge has a major role to play in NCRM. Indigenous Australians own more than 20% of the Australian land mass and much of this is of high biodiversity value (Garnett & Sithole 2007; Altman & Jackson 2008). Indigenous people have a body of environmental knowledge accumulated over hundreds of generations of actively caring for country (see Young 1991). Local systems of customary law dictate that traditional land owners have a substantive role in land and water management; therefore, Indigenous people expect to participate fully in environmental management decisions. The significant role of Indigenous land owners and managers is reflected in Australia's key piece of environmental legislation, the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), which acknowledges 'a partnership approach to environmental protection and biodiversity conservation' and promotes 'Indigenous peoples' role in, and knowledge of, the conservation and ecologically sustainable use of biodiversity (s 3(2)(g)(iii)).

In recognition of these factors, Australian government legislation, policies, programmes and NCRM strategies and plans increasingly recommend or require Indigenous engagement from local to national levels. Increased Australian Government support for Indigenous NCRM is evidenced by the Caring for our Country Program. This includes (i) the Working on Country Program, which supports the employment of 600 Indigenous Rangers to manage Australia's natural and cultural assets, and (ii) the national Indigenous Protected Area (IPA) programme, which financially supports Traditional Owners to develop, declare and manage their land as part of the National Reserve System (Australian Government 2011a). In 2011, there were 47 declared IPAs in Australia, comprising 24 % of the National Reserve System (Australian Government 2011b). The non-governmental and private sectors are also

increasingly supporting Indigenous NCRM (see Fitzsimons *et al.* 2012; Moorcroft *et al.* 2012; Wallis *et al.* 2012).

Indigenous Australians are not passive bystanders in this national effort. Indigenous people are investing time and initiative in active land and sea management; collaborating with government agencies and other stakeholders; developing innovative partnerships with researchers to exchange knowledge and solve identified problems and retaining scientists as an integral part of the development of their own management programmes (see McGregor *et al.* 2010; Jackson *et al.* 2011; Ens *et al.* 2012; Grice *et al.* 2012; Muhic *et al.* 2012).

Notwithstanding the increased effort dedicated to Indigenous NCRM, results have been mixed, with many projects falling well short of both Indigenous and non-Indigenous expectations (Nadasdy 2005; Walker 2010; Barbour & Schlesinger 2012). International and national experience clearly shows that combining Indigenous and non-Indigenous ecological knowledge, values and interests in NCRM is considered a worthy and necessary goal, yet these processes are frequently contested, and designing and implementing programmes to achieve this goal are far from straightforward (Carbonell *et al.* 2001; Borrini-Feyerabend *et al.* 2004; Dressler *et al.* 2010; Hill *et al.* in press).

Published accounts of attempts to combine Indigenous knowledge and interests with broader NCRM and the successes, failures and lessons learnt are available (e.g. see Finlayson *et al.* 1998; Walsh & Mitchell 2002; Horstmann & Wightman 2001; Smyth *et al.* 2004; McGregor *et al.* 2010), but are limited (Roughley & Williams 2007; Carter 2008; Bohensky & Maru 2011; Hill *et al.* in press). Protocols and guidelines to assist in the ethical dimensions of this engagement are being developed (e.g. Holcombe 2009; Holcombe & Gould 2010). Furthermore, various researchers have recently devised insightful principles and theoretical frameworks to guide Indigenous NCRM (Roughley & Williams 2007; Ross *et al.* 2011; Hill *et al.* in press). Less common are published accounts from those working at the cultural interface to develop and implement Indigenous NCRM, particularly from Indigenous

people (but see, for example, Ens *et al.* 2010; papers within this issue).

This paper is a synthesis of the papers in this special issue that demonstrate practical ways to combine Indigenous and non-Indigenous people's knowledge, methods and values for improved national NCRM outcomes. Many of the papers are case studies that have more of a practical than theoretical focus. The strength of this issue is in giving voice to Indigenous and non-Indigenous people who are working together on the ground in Indigenous NCRM. This paper elucidates some of the lessons learnt and challenges involved in integrating two different sets of environmental knowledge and skills. We review four key themes that emerged from the papers in this issue and suggest some specific practical actions that, if included in future strategies, may enhance collaborative or two-way efforts for improved NCRM outcomes across Australia. We conclude with five broad principles for managing 'country' using Indigenous and non-Indigenous knowledge.

Exploring the Themes

The main themes identified by the range of papers in this issue are as follows:

1 Differences in environmental philosophy between Indigenous and non-Indigenous cultures and the effect of these on perceptions of conservation and land and sea management;

2 Cross-cultural awareness of Indigenous and non-Indigenous knowledge and methods;

3 The mechanics of two-way approaches to ecological research and 'managing' country and

4 Operational challenges for Indigenous NCRM organisations.

Differences in philosophy and their effect on management

A number of papers in this special issue point to ongoing tensions between the different world views in environmental collaborations involving Indigenous and

non-Indigenous Australians. Indigenous people have a much broader conception of 'country' than used in mainstream NCRM. As Rose (1996: 7) described in her seminal book 'Nourishing Terrains', country is multidimensional:

> Country is not a generalised or undifferentiated type of place, such as one might indicate with terms like 'spending a day in the country'...Rather, country is a living entity with a yesterday, today and tomorrow, with a consciousness, and a will towards life. Because of the richness country is home, and peace; nourishment for body mind and spirit; hearts ease.

Indigenous people do not simply see management as a one-way linear process where people take specific actions to affect the environment (Bradley 2001; Howitt & Suchet-Pearson 2006). Rather, terms such as 'looking after' or 'caring for country' are often used in place of management to show the 'two-way interaction between people and country' (Bradley 2001: 297). Similarly, Barbour and Schlesinger (2012) and Vaarzon-Morel and Edwards (2012) illustrate attitudes of Indigenous groups to the types of plants and animals that others have come to define as pest species showing that cultural differences can affect how (i) conservation and land management activities are defined and legitimated and (ii) research, planning and implementation activities are prioritised.

The papers in this special issue demonstrate that paramount in cross-cultural consultation, planning, research and training programmes is the need to recognise the validity of both world views, particularly Indigenous perspectives when working on Indigenous land. Ideally, such recognition can then lead to greater opportunities for devising novel understandings of problems and potential solutions that can result in improvements to the health of ecosystems and societies as identified by different world views.

A collaborative way forward will require investment in a new 'management and ecological' language, philosophies, attitudes and increased awareness of the multiple landscape perspectives and world

views across Australian society (Robertson *et al.* 2000; Rose 2005; McDonald 2008; Barbour & Schlesinger 2012).

Cross-cultural awareness of Indigenous and non-Indigenous knowledge and methods

Individuals involved in cross-cultural environmental work must have an understanding and appreciation of and respect for the cultures of the people involved in the work, whether it be planning, research, management action or project evaluation. Cross-cultural awareness goes beyond an understanding of the differences in perceptions of land management to include broader social and cultural systems within which environmental knowledge sits. Cross-cultural awareness can facilitate more effective, informed and grounded communication and interaction and has been noted by many stakeholders as fundamental and essential to cross-cultural projects (see Roughley & Williams 2007; papers within the special issue). For example, non-Indigenous knowledge of Indigenous kinship structures will guide non-Indigenous understanding of why certain people want to work or cannot work with others (see Moorcroft *et al.* 2012), and where and how certain people are allowed to work. Some Indigenous people also tend to prioritise cultural responsibilities such as ceremonies or other family obligations that can affect the timing and duration of work (see Brennan *et al.* 2012; Moorcroft *et al.* 2012; Preuss & Dixon 2012). Additionally, Ens *et al.* (2012), drawing on research by McRae and Gerritson (2010), discuss some of the cross-cultural differences in work ethic and expectations of Indigenous and non-Indigenous work roles which can influence how work is conducted and what outcomes are achieved. Current perceptions of and attitudes to work are shaped by our past, which is very different for Indigenous and non-Indigenous Australians. Indigenous histories of subjugation and coercion have resulted in a legacy of Indigenous marginalisation (Altman & Hinkson 2007) and in many cases a lack of confidence in engaging with mainstream Australia, including its employment practices. Broader cross-

cultural awareness is essential to creating change. Truly providing for such differences in collaborative efforts will not be easy and will require a re-ordering of the priorities and practices of the dominant NRM sector. For example, more participatory approaches will require increased resourcing (more time, more money) and there will be trade-offs in effort and impact.

Currently, Western paradigms tend to dominate processes because of cultural misunderstandings and/or perceived superiority of Western philosophies and methods held by many mainstream resources and funding agencies (Rose 2005; Davies *et al.* 2010). Indigenous co-researchers of cross-cultural projects throughout Australia have noted that all too often, the values and preferred methods of Indigenous participants are pushed aside with preference for faster and more efficient methods of the dominant non-Indigenous culture (Robinson *et al.* 2003; Sithole *et al.* 2007). Lack of cross-cultural awareness can lead to power struggles between Indigenous and non-Indigenous collaborators. This generally is an unresolved and ongoing issue in Australia that needs to be addressed if we are to be able to develop truly collaborative approaches (see Rigney 2001; Barbour & Schlesinger 2012). Recently, Muller (in press) argued that Indigenous organisations and communities are the institutions that are being forced to change rather than the dominant governing institutions. As stated by Barbour and Schlesinger (2012), there needs to be a shift in the mindset and approaches of non-Indigenous Australians to enable increased involvement of Indigenous people, knowledge and preferred methods at management and decision-making levels.

The mechanics of two-way approaches to research and 'managing' country

Globally, collaborative approaches are invoked in informal community-based projects through to formal joint or co-management arrangements of National Parks and are viewed as integral to attaining sustainable development (Folke *et al.* 2002). In Australia, the concept of 'two-way' approaches originated in the education

sector (Harris 1990; Muller in press) and has since increasingly been taken up to describe collaborative NCRM research and management methods that include Indigenous and non-Indigenous people, knowledge, techniques, values and worldviews (Davies *et al.* 2010; Preuss & Dixon 2012). Synonymous descriptions are referred to as both-ways or two-toolbox approaches (see Davies *et al.* 2010). Muller (in press) eloquently described how, for Yolngu people of north-eastern Arnhem Land, a two-way approach is based on the Yolngu *ganma* concept; a metaphor that describes the mixing of the saltwater and freshwater to form brackish water. According to this concept, brackish water has a different taste, but neither is more important nor dominant. Two-way learning, methods and management were highlighted as key principles for success in all of the papers in this special issue. A recent review of Indigenous land and sea management in the Top End of the Northern Territory found that Traditional Owners wanted to see more Indigenous knowledge used to manage country (Sithole *et al.* 2007).

Ideally, two-way projects should involve Indigenous and non-Indigenous participants in all stages of the project including conceptualisation, design, implementation, interpretation, monitoring, evaluation and dissemination stages (Carter & Hill 2007). In practice, various combinations of Indigenous and non-Indigenous involvement at each of these stages are likely to occur. Strategies to increase the use of Indigenous knowledge and values in landscape management from the planning to implementation, monitoring and evaluation stages are described in papers throughout the special issue and in the literature. The need for respectful Indigenous involvement in the planning phase of Indigenous NCRM projects, and therefore enhanced Indigenous ownership, was highlighted in the influential book by Walsh and Mitchell (2002) titled 'Planning for Country: Cross cultural approaches to decision-making on Aboriginal lands'. Insight from this book was put into practice and further explored by Preuss & Dixon (2012) and Moorcroft *et al.* (2012) during the respective development of regional management plans for

the proposed Southern Tanami IPA in the Northern Territory and Wunambal Gaambera country in the north Kimberley, Western Australia. These and numerous other case studies cited on-country participatory workshops and discussions as crucial for the developmental stage.

Time was also seen as crucial to the participatory planning process – making time for conversations among participants, digestion of ideas and information, and exploration of different options and cultural imperatives (Preuss & Dixon 2012). Likewise, Hoffmann *et al.* (2012) noted that time is important for development of mutual understanding, respect, trust and effective communication, which are also considered as key elements for ongoing mutually beneficial collaborations (Horstmann & Wightman 2001; Storrs *et al.* 2001; Davies *et al.* 2011). As many projects have tight timelines that impose operational constraints on all project phases, there is a danger that the essential element of setting aside adequate time for participatory processes, which engage and empower Indigenous people, can be lost (Woodward *et al.* 2012). In this regard, the federal governments' IPA programme is laudable as it funds a consultation phase that enables lengthy participatory planning processes prior to IPA declaration and ongoing management (Baumann & Smyth 2007; Preuss & Dixon 2012).

Indigenous project participants are being increasingly involved in specific project design and implementation, particularly at local levels and on Indigenous owned land. For example, Grice *et al.* (2012) describe the process leading to the development of the Nywaigi wetland rehabilitation project, where initially CSIRO scientists approached the Nywaigi Aboriginal Land Council seeking research sites for aquatic Weed of National Significance (*Hymenachne amplexicaulis*). This interaction sparked further collaboration that was driven by the Nywaigi people's desire to reconnect with their recently re-acquired country, develop a management plan and restore degraded wetlands using Indigenous knowledge and ways of managing country with fire combined with Western weed control methods. Muhic *et al.* (2012) described how a two-way management

plan was applied to conserve *warru* (*Petrogale lateralis*) in the Anangu Pitjanjara Yankunytjajara lands of South Australia following concern about declining abundance by Anangu Traditional Owners. Similarly, the seasonal calendars described by Woodward *et al.* (2012) were nominated as a preferred model for representing traditional ecological knowledge by Traditional Owners of the Daly River.

Generally speaking, non-Indigenous tools and management methods still tend to be used to execute and frame projects. As discussed by Ens *et al.* (2012), the current non-Indigenous authority over how projects are managed, run and administered is the result of our socio-political history and current funding environment. As long as Indigenous initiatives have to rely on national priority and outcome-driven funding (where outcomes are often defined externally), there will be constraints on what activities Indigenous NCRM organisations can undertake (Altman & Whitehead 2003). The lack of stable, adequate and appropriate funding was flagged by numerous papers in this special issue as a substantial obstacle to the long-term sustainability of projects and successful partnerships (e.g. see Hoffmann *et al.* 2012; Wallis *et al.* 2012; Weston *et al.* 2012).

Enhanced Indigenous interpretation and communication of project outcomes and challenges are needed to inform the cross-cultural awareness and learning process. Communication of projects does occur using both Indigenous and non-Indigenous preferred methods including verbal (presentations at conferences and community conversation; e.g. Ens *et al.* 2012), audio-visual (e.g. Ens *et al.* 2012; Moorcroft *et al.* 2012) and written communication (e.g. papers in this issue). However, the analysis of and communication about projects, as well as the challenges involved and appropriate development strategies, is often dominated by non-Indigenous voices. It is also pertinent here to recognise that Indigenous knowledge is under threat from severe social and economic changes, and as a result, communities may wish to prioritise knowledge transfer within the community over external publication and promotion.

Operational challenges for Indigenous NCRM organisations

All of the papers in this special issue identify organisational challenges that Indigenous NCRM organisations face, particularly in the planning phases (Fitzsimons *et al.* 2012; Moorcroft *et al.* 2012; Preuss & Dixon 2012; Vaarzon-Morel & Edwards 2012; Yen 2012) and operational phases (Barbour & Schlesinger 2012; Brennan *et al.* 2012; Ens *et al.* 2012; Hoffmann *et al.* 2012; Muhic *et al.* 2012; Wallis *et al.* 2012; Weston *et al.* 2012). These challenges are largely congruent with issues raised in the literature (Jackson & Morrison 2007; Roughley & Williams 2007; Sithole *et al.* 2007; Davies *et al.* 2010). The two most obvious challenges relate to the size of the Indigenous managed land and sea base, particularly those in remote Australia, and the lack of funding to adequately support management of these areas. Remote areas have the extra challenges of limited service delivery (such as shops, medical and education facilities) as well as transport and travel constraints.

Many if not all, Indigenous NCRM organisations want to collaborate with external stakeholders who can offer skills and expertise that complement their own expertise and aspirations (e.g. Ens *et al.* 2012; Grice *et al.* 2012; Hoffmann *et al.* 2012; Moorcroft *et al.* 2012; Muhic *et al.* 2012; Woodward *et al.* 2012), but there are challenges associated with cross-cultural collaboration. Throughout the issue, it was evident that for much of central and northern Australia, non-Indigenous people play an important role in facilitating, brokering and generally assisting to ameliorate challenges in Indigenous NCRM. Many Indigenous people, particularly in remote Australia, speak English as a second or more language and have limited Western education and research-based technical skills (e.g. Brennan *et al.* 2012; Ens *et al.* 2012; Hoffmann *et al.* 2012). This places a particular constraint on local Indigenous capacity to acquire and report on mainstream funding, which is often full of non-Indigenous management jargon and requires computer skills. Therefore, non-

Indigenous coordinators or assistants are often employed to administer organisations. In addition to funding directives, this can lead to non-Indigenous control over work activities if not handled sensitively (Barbour & Schlesinger 2012).

Most two-way collaborations in Australia have been short term, executed opportunistically and reliant on the enthusiasm of one or few individuals rather than supported by consistent and long-term institutional commitments, although this situation is changing with increasing governmental and non-governmental support, especially through the IPA programme (Baumann & Smyth 2007). Some other well-known examples where Indigenous knowledge, expertise and involvement have been incorporated into longer-term, large-scale projects include the fire management programmes of Kakadu National Park and western Arnhem Land (Russell-Smith *et al.* 2009) and marine fauna monitoring across northern Australia (Kennett *et al.* 2004). There have also been a number of shorter-term projects where successful partnerships were formed and developed to produce useful and influential results such as Indigenous flora surveys (Marrfurra *et al.* 1995), where Indigenous names of species were documented and have been later applied in broader land management contexts (e.g. Woodward *et al.* 2012).

There are, however, numerous instances where collaboration has not resulted in mutually satisfactory outcomes. Many Indigenous communities recount cases where Indigenous knowledge has been offered, particularly to researchers, but insufficient attention is given to the legacy for Indigenous participants: the 'sharing' stops there and researchers go back to their institution (Sithole *et al.* 2007; Barbour & Schlesinger 2012). Similar poor results have been seen in on-ground NCRM (Nadasdy 2005; Walker 2010). Nadasdy (2005), for example, demonstrated how co-management of Indigenous owned land can actually disempower Indigenous people and simply extend the ideology and dominance of mainstream NCRM agendas into Indigenous communities. Of these failed associations, there are a variety of causal explanations offered by non-Indigenous

participants, such as lack of funding, inconsistent institutional support, limited cultural awareness, burn-out from working in a cross-cultural environment and, in some cases, difficulty in retaining suitable people who can work in remote and cross-cultural situations. We believe that today's non-Indigenous practitioners should seek to overcome the historical legacy of poor and often unethical research practice and imbalanced power relationships in Indigenous NCRM (see Holcombe & Gould 2010) by strengthening cross-cultural knowledge exchange and developing mutually beneficial, innovative approaches.

Interestingly, although arguably necessarily, much support for Indigenous NCRM is restricted to providing Indigenous employment. As a result, many organisations have a large number of Indigenous staff (many of whom may not have had much NCRM training) and a disproportionately low amount of operational funding and allowance for essential non-Indigenous or external stakeholder support – this was particularly noted in the special issue papers from northern Australia (e.g. see Ens *et al.* 2012; Wallis *et al.* 2012; Weston *et al.* 2012). To address this gap we recommend that Indigenous NCRM groups need to communicate the reality of on-ground challenges to researchers and decision and policy makers who in turn need to listen to and respond accordingly by targeting funding where it is needed – and these needs are likely to change over time as groups become more established. In attempt to address this shortfall, some Indigenous NCRM groups have been creating innovative and collaborative institutional structures to support local aspirations to care for country and culture while also meeting national and international conservation targets (e.g. Fitzsimons *et al.* 2012; Grice *et al.* 2012; Moorcroft *et al.* 2012; Preuss & Dixon 2012; Wallis *et al.* 2012). We, therefore, reinforce the need for policy and decision makers to recognise the evolving nature of Indigenous NCRM and the new institutional structures that Indigenous communities and their external collaborators are creating and work with these entities to develop a new way forward.

Cross-Cultural Collaboration – Principles for the Future

Indigenous Australians are increasingly regaining ownership of their ancestral estates and are engaging in NCRM to provide local employment opportunities and maintain customary obligations to care for country, particularly in northern and central Australia. This burgeoning sector of Australian NCRM cannot be ignored. These sentiments are also highlighted in several international biodiversity conservation strategies and linked poverty alleviation goals, as outlined in the introduction.

This paper outlines what we see as the key elements for successful cross-cultural collaboration in support of Indigenous NCRM aspirations and practice – elements that we have drawn from the papers assembled in this special issue and the literature. While the detail in individual cases vary, sometimes greatly, we have used this information to devise a wider commentary on approaches that may enhance collaboration between Indigenous and non-Indigenous NCRM practitioners.

Five broad principles for managing 'country' using Indigenous and non-Indigenous knowledge are presented below. While these are largely drawn from experiences in northern and central Australia, they are considered more widely applicable and resonate with the key messages from the broader literature:

1 Recognise the validity of both Indigenous and non-Indigenous environmental philosophies;

2 Create more opportunities for improved cross-cultural understanding, respect and collaborations;

3 Involve Indigenous people and their knowledge and interests at all stages of the Indigenous NCRM project or research (including planning, design, implementation, communication and evaluation);

4 Ensure that time and continuity of effort and resources are available (to undertake participatory processes and for trust-building and innovation); and

5 Establish high-level political support through legal and policy frameworks to maintain continuity of government commitment to Indigenous NCRM.

Increasing awareness and inclusion of Indigenous NCRM in broader Australian NCRM goals and strategies has proven to be a complicated task that necessitates a commitment in resources, time and new ways of thinking from all stakeholders, as described throughout this special issue. Given the innate Indigenous connection to country and desire to live and work on their ancestral estates, the inclusion of Indigenous NCRM in broader NCRM is inevitable, whether it unfolds in an *ad hoc* way or is strategically crafted on a range of levels to promote efficient use of limited resources and achieve more effective innovations. Innovative approaches are needed to produce workable outcomes and to decipher what direction is needed to support Indigenous perspectives and aspirations for NCRM. Carefully considered approaches could also expedite local socio-economic and environmental outcomes, particularly for those Indigenous Australians whose well-being and health are interconnected with the fulfilment of cultural obligations to care for country. Such achievements will bring positive outcomes for all Australians through greater social cohesion and promotion of a uniquely Australian way of proudly managing country and culture using Indigenous and non-Indigenous knowledge.

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