

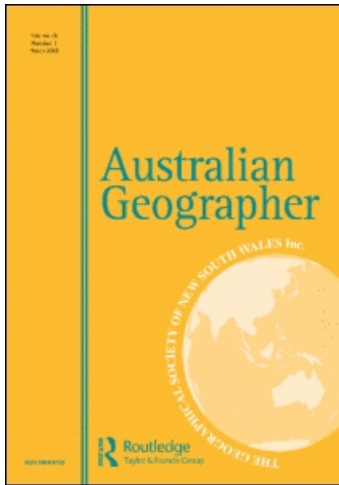
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Multi-level Environmental Governance: lessons from Australian natural resource management

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ABSTRACT *The region has become a significant scale of governance for the implementation of public policy, including natural resource management (NRM). A community-based regional NRM governance model has been adopted by the Australian government in partnership with Australian state and territory governments. There have been persuasive advocates of this approach both within community organisations and government. Proponents point to advantages such as the capacity to integrate across social, environmental and economic issues; improved investment efficiency; ability to establish appropriate power-sharing and partnership arrangements; better conversion of planning products into on-ground outcomes; and community learning and capacity building. However, concerns have also been raised in the academic literature regarding insufficient devolution of power, lack of downward accountability, exclusion of some stakeholders from decision making, and inadequate vertical and horizontal integration. We interviewed representatives from each of the governance levels (national, state, regional) to examine these concerns, and in doing so identify the strengths and challenges of the Australian experiment with devolved NRM governance. We synthesise the interview data with insights from the literature and make observations on the current state of Australian NRM governance. From this analysis, we identify lessons from the Australian experience to inform the development of multi-level environmental governance systems.*

KEY WORDS *Governance assessment; good governance principles; natural resource management.*

Introduction

Decline in autonomy of the nation-state, combined with a rise in power of both the market and civil society, have led to an increasingly plural political culture based on partnerships and networks amongst state, market and civil society actors (Rhodes 2001). One manifestation of these broad-scale realignments of polity, economy and society is the emergence of the region as an important scale of governance for the

implementation of public policy (Gibbs & Jonas 2001; Held 2000), including natural resource management (NRM).

Associated with the rescaling of state power is a shift among scholars and practitioners from a preoccupation with the formal institutions of government to an interest in diverse modes of governance (Stoker 1998) that include a variety of partnership, co-management and informal arrangements involving multiple agencies, private-sector interests, community groups and individuals. In policy environments such as NRM, the complexity of issues and the interconnectedness of decisions dictate that power has to be shared (Greer 2001; MacLeod 2001). Such challenges are currently being worked through at supra- and sub-national scales (Jessop 2004) in processes of experimentation that embrace rethinking and resettling questions on the role of the state, distribution of power and allocation of responsibilities. Of importance here are the processes of meta-governance that secure governmental influence and control within hybrid, multi-level governance regimes (Bell & Park 2006) that can enable political authorities to direct the form of devolved governance and associated partnerships between governance actors (Wallington *et al.* 2008). The emerging role for the state in regional governance is to put in place co-ordinative frameworks and set standards that specify a range of expected or required policy outcomes. The delivery of outcomes is increasingly devolved to non-government actors, including semi-autonomous para-statal and NGOs, with governance delivered through a strategic framework of co-operation in which regulatory approaches have a supporting rather than central role (Morrison *et al.* 2004).

Devolved and collaborative governance arrangements are intended to provide more co-ordinated approaches to the challenges presented by complex problems, and attempt to integrate activities of diverse public and private actors, instruments and institutions (Howlett & Rayner 2006). In environmental matters, the challenge is coping with multiple values, multiple stakeholders, different interests, multiple functions of natural resources such as water, and high stakes (such as biodiversity loss, water scarcity and declining soil capacity) (van der Brugge *et al.* 2005). The attractiveness of multi-level collaborative governance relates to its potential to facilitate the requisite communication, co-operation and co-ordination among actors, resource regimes and spatial/organisational levels, and provide for effective management of unanticipated impacts and adaptation to changing conditions (Briassoulis 2004).

Recent innovations in Australian NRM exemplify these trends towards collaborative and devolved governance. In 1997, the Australian government established the 5-year, AUS\$1.25 billion Natural Heritage Trust (NHT1) to address problems of land degradation and biodiversity loss across rural Australia. Although a substantial proportion of NHT1 funding was delivered using community-based processes, the program failed to deliver significant regional-scale change (Ewing 2003). The effectiveness of the program was hampered by a lack of strategic planning to ensure that funds were systematically directed to achieving priority outcomes (ANAO 2001). In 2001, a second-generation AUS\$1 billion Natural Heritage Trust (NHT2) program and a new program, the AUS\$1.4 billion National Action Plan for Salinity and Water Quality (NAP), were designed to channel funds through regional plans in ways that would address priority issues. NHT2 received a further AUS\$300 million boost in the 2004 Federal Budget, extending the funding until 2007–08, making NHT an AUS\$3 billion investment.

In a significant departure from the delivery model for NHT1, under NHT2/NAP regional bodies were charged with managing and accounting for NHT and NAP funds. Bilateral agreements between the Australian government and the state and territory governments established the basis for transfer of public funds to regional NRM bodies. These organisations, some newly created, some based on pre-existing bodies, were charged with planning and managing NHT and NAP funding in their region, and held accountable for expenditure of public monies. Both NAP and the regional component of NHT were driven by single 3-year Regional Investment Plans designed to address priority national and state issues. These plans, developed by the regional bodies, with the support of local communities and government, were required to consider all environmental, social and economic impacts of NRM decisions on a regional basis. Each regional plan was accredited by the Australian government and the corresponding state or territory. Following accreditation, regional investment strategies were developed and approved by government as the basis for NHT and/or NAP funding. The regional bodies were then charged with overseeing the implementation of their plans, and required to report on outcomes to government.

Under NHT2, 56 regions were established, each having an associated regional body. In addition, 21 priority regions were targeted for NAP funding. Unlike the NAP regions, the NHT2 regions provide comprehensive coverage across all Australian states and internal territories. NRM governance in Australia is thus a multi-level system with regional, state and national components. In some state jurisdictions—New South Wales (NSW) and Victoria for example—regional NRM bodies are established under legislation, while in other such as Queensland they are incorporated bodies.

Proponents of the regional approach to NRM point to advantages such as the capacity to integrate across social, environmental and economic issues; improved investment efficiency; ability to establish appropriate power-sharing and partnership arrangements; better conversion of planning products into on-ground outcomes; and community learning and capacity building (Paton *et al.* 2004). On the other hand, academics have raised issues of insufficient devolution of powers and autonomy to regional organisations; inadequate downward accountability; exclusion of some stakeholders from decision-making processes; domination by local elites; inadequate vertical and horizontal integration; poorly developed information management systems; and incapacity to implement adaptive management approaches (Beer *et al.* 2005; Bellamy 2007; Head & Ryan 2004; Moore & Rockloff 2006; Morrison & Lane 2006).

Given the status of Australian NRM as an experiment in new governance, examination of this regime is likely to yield insights that can inform environmental governance design in other jurisdictions and contexts. As the devolved system was operating for 6 years under the NHT2 arrangements (2002–2008), it is also timely to examine the quality of Australian NRM governance, and the extent to which the hoped-for advantages of a (partially) devolved and collaborative regime are being realised. We undertake this task using a normative framework of eight governance principles (described in the next section) and data derived from interviews with key players, in combination with a review of the related literature. We synthesise the empirical data with insights from the literature and analyse the common ground and discrepancies between them. In so doing, we identify the strengths of Australian NRM governance, as well as the challenges that lie ahead. In the

context of the above-noted international trend for governance devolution and the emerging importance of the region as a scale for the delivery of environmental management, we also use our analysis to draw out lessons for the design and implementation of multi-level NRM governance systems. While our focus is on governance, we also refer to output-related matters where these reveal important connections between governance and management.

Methodology

Empirical data on the strengths and challenges of the Australian regional NRM system were collected using a series of qualitative interviews held with representatives from nine (of fifty-six) regional NRM organisations, as well as from the associated state jurisdictions and the national level. The case study regions were drawn from three states, namely NSW, Victoria and Tasmania (see Figure 1)—a sampling strategy dictated by access to informants and project logistics. Representatives from the boards and staff of the following regional NRM bodies were interviewed: Corangamite Catchment Management Authority (CMA), North Central CMA, Goulburn-Broken CMA, Murray CMA, Lachlan CMA, Central West CMA, Northern Rivers CMA, Cradle Coast NRM, and NRM South. The selected regional NRM bodies are at varying levels of maturity and encompass a diversity of agricultural enterprises, urban centres, landscapes and state jurisdictions. While

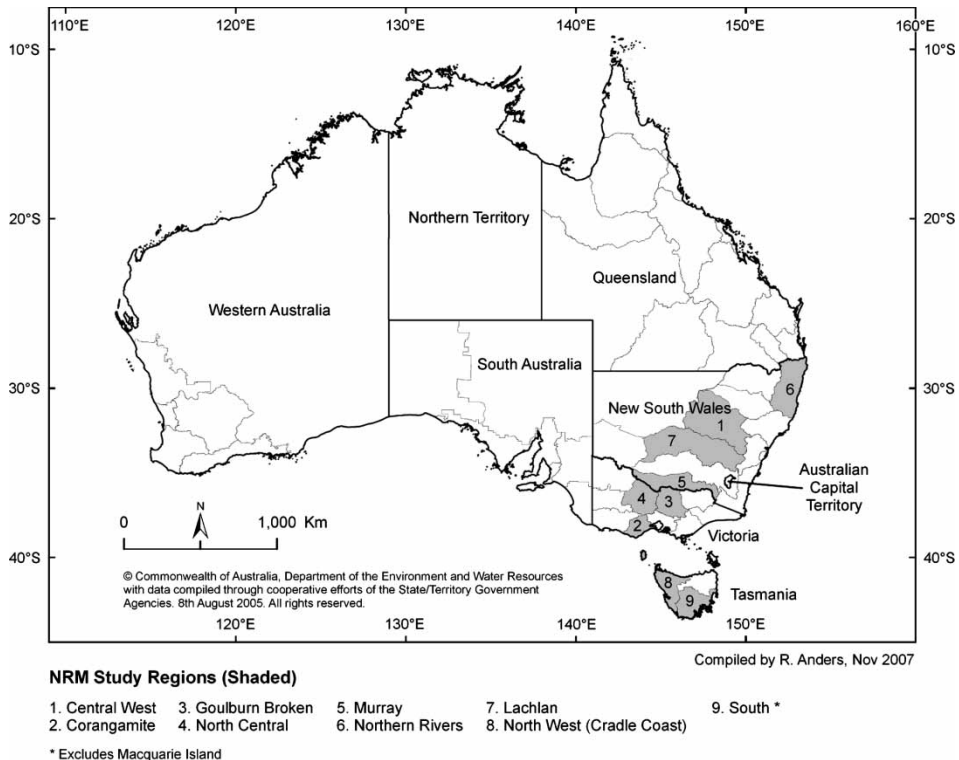


FIGURE 1. Australian states, internal territories and NRM regions (with our nine study areas highlighted).

not necessarily representative of Australian NRM at the regional scale, there is sufficient diversity among the selected regions to enable us to draw some wider conclusions about the state of NRM governance, particularly across south-eastern Australia.

Fifty-five participants were interviewed: eight NSW regional board members; eleven NSW regional NRM body staff; one NSW government agency representative; seven Victorian regional board members; eight Victorian regional NRM body staff; one Victorian government representative; seven Tasmanian regional board members; six Tasmanian regional NRM body staff; two Tasmanian government representatives; three Australian government representatives; and one NRM advisor to the Australian government. Each interview was conducted by two members of the research team. In each interview, one research team member asked the questions; the other took notes and recorded the session. Draft transcripts were constructed from the notes and recordings and sent to participants for checking. Several participants made amendments to the draft transcripts, and in these cases a revised transcript was produced. Most interviews were with one participant, although several group interviews were conducted at the request of members of the participating regions.

A content analysis of the interview transcripts was undertaken, with text blocks classified according to governance principles and related elements developed by Lockwood *et al.* (2008). This normative analytical framework is summarised in Table 1. The process used to develop the governance principles involved three main components: (i) suggestions from an expert panel; (ii) consideration of principles from the literature; and (iii) refining and testing draft sets of principles with the assistance of the interview participants listed above—see Lockwood *et al.* (2008) for details. The eight principles are normative guides that express claims about how governing or steering should happen and in what direction—that is, how governance actors should exercise their powers in meeting their objectives.

Findings from the content analysis were compared with assertions and conclusions offered in the Australian regional NRM literature. Some papers are, at least in part, based on an analysis of empirical data from case study regions or the system as a whole, while many draw conclusions based on understandings of the wider processes that shape and influence the system. Most are by academics, and three are consultants' reviews commissioned by government. The purpose is not to present in detail or analyse the credibility of the arguments presented in these documents. Rather, we review the claims made about strengths and weaknesses of regional NRM so that we can examine the extent to which they are supported or refuted by the empirical data. To aid such comparability we have confined our review to papers published after the establishment of the regional framework (that is, papers published no earlier than 2002), as well as to works that deal specifically with some aspect of Australian NRM governance.

Findings from participant interviews and the literature

Legitimacy, accountability and transparency

Partnerships and collaboration between state and non-government actors have blurred traditional roles, so that legitimacy can no longer be understood solely in terms of democratically elected governments (Wallington *et al.* 2008). Issues of

TABLE 1. Governance principles from Lockwood *et al.* (2008)

Principle	Elements
<i>Legitimacy</i>	<ul style="list-style-type: none"> ● Validity of an organisation's authority to govern that may be (a) conferred by democratic statute; or (b) earned through the acceptance by stakeholders of an organisation's authority to govern
<i>Transparency</i>	<ul style="list-style-type: none"> ● Integrity and commitment with which authority is exercised ● Visibility of decision-making processes ● Clarity with which the reasoning behind decisions is communicated ● Ready availability of relevant information about the governance and performance of an organisation
<i>Accountability</i>	<ul style="list-style-type: none"> ● Allocation and acceptance of responsibility for decisions and actions ● Demonstration of how these responsibilities have been met
<i>Inclusiveness</i>	<ul style="list-style-type: none"> ● Opportunities available for stakeholders to participate in and influence decision-making processes
<i>Fairness</i>	<ul style="list-style-type: none"> ● Respect and attention given to stakeholders' views ● Consistency and absence of personal bias in decision making ● Consideration given to distribution of costs and benefits of decisions
<i>Integration</i>	<ul style="list-style-type: none"> ● Connection between, and coordination across, different levels of governance ● Connection between, and coordination across, organisations at the same level of governance ● Alignment of visions and strategic directions across governance organisations
<i>Capability</i>	<ul style="list-style-type: none"> ● Systems, resources, skills, leadership, knowledge and experience that enable organisations, and the individuals who direct, manage and work for them, to deliver on their responsibilities
<i>Adaptability</i>	<ul style="list-style-type: none"> ● Incorporation of new knowledge and learning into decision making and implementation ● Anticipation and management of threats, opportunities and associated risks ● Systematic self-reflection on organisational performance

legitimacy raised in the literature focus on devolution of power, democratic representation and non-electoral sources of authority that are earned through citizen engagement and acceptance. Lane *et al.* (2004), amongst others, argue that devolution should occur such that tasks can be undertaken at the least centralised level of governance with the (potential) capacity to satisfactorily complete them, as well as represent all actors with an interest at this level (the principle of subsidiarity). These authors go on to argue that this principle has not been followed in the design of regional NRM in Australia. Governments appear to have responded to pressures for assistance and action on environment problems by distributing funding and responsibilities to regional bodies without devolving the necessary degree of power and autonomy they need to be successful (Beer *et al.* 2005; Head 2004; Paton *et al.* 2004). As a result, Moore and Rockloff (2006) characterise governance under NHT2 as deconcentrated, rather than decentralised or devolved.

These findings are broadly supported by the interview material. While there was some divergence of opinion, participants generally lamented insufficient devolution of powers (as distinct from responsibilities) by governments. Consequently, many participants called for regional bodies to be conferred with greater autonomy and flexibility than is evident in the current structures that provide only for partial and conditional devolution:

[Our region] has a lot of responsibility but doesn't have the powers it needs—you've got others looking over your shoulder all the time.
(Tasmanian NRM group board member)

Trust was raised by both government and regional participants as a key precondition for such devolution. Head (2005) asserts that building trust in the new NRM processes will be difficult as long as governments disguise the use of institutionalised power in the rhetoric of partnerships. At the same time, passing substantial responsibility for NRM to regional governance authorities risks the marginalisation of distant stakeholders' interests (Lane 2006), and fails to recognise the significance of state-directed governance for redistributive roles and public good provision (Lane *et al.* 2004). Lane (2006) and Moore and Rockloff (2006) recognise that governments have a legitimate responsibility with regard to broad-scale issues such as nature conservation and representing the interests of non-regional constituencies, as well as providing fora for engagement of environment groups and others who urge that the interests of wild nature and future generations be taken into account.

The legislative base for devolution to regions was recognised by participants as a two-edged sword. On the one hand it imparts an authority to regional planning and action, particularly in Victoria and NSW. From a government agency perspective, state government oversight makes for a less risky system, reducing the likelihood that 'rogue' regions pursue a unilateral agenda or become dysfunctional. On the other hand, their statutory status means that regional NRM bodies have had to develop strategies that emphasise a separation from government in order to establish community (earned) legitimacy.

Earned legitimacy is demonstrated by community acceptance of and confidence in regional NRM bodies. Whether stakeholders see regional NRM bodies as having the legitimacy to act, Lane (2006) argues, depends on mechanisms to ensure 'downward' accountability. Lane *et al.* (2004) contend that if regional bodies are not downwardly accountable to locals, as well as upwardly to governments, then decentralisation will not yield more effective and democratic NRM. As our interviews show, acceptance of and confidence in regional NRM bodies by their regional constituencies is patchy and the need to increase both is seen as a key challenge by some participants in our study:

The challenge has been to get the confidence of our landholders. We've taken the line to educate and make direct contact rather than contracting work out to Landcare groups although we're also trying to keep the confidence of these groups. That relationship is strained because they see it as us taking away a service, that is, a coordinator. (NSW CMA staff member)

Some stakeholders do not have a good understanding of the powers, purposes and constitution of regional NRM bodies, while others simply do not know of their existence. This lack of awareness constitutes a significant impediment to achieving higher levels of earned legitimacy, especially in Tasmania, where there is no track record of regionalised land and water management. Nonetheless, several participants in each jurisdiction consider that community acceptance of regional NRM is a strength of the system that is being built through engagement by developing effective partnerships and by on-ground achievements.

Academics and participants diverge in relation to the adequacy of democratic representation. Participants regarded the appointment of regional NRM boards on

the basis of expertise and/or sectoral background as a strength of the current system, whereas several academics, as noted above, argue that this approach compromises democratic legitimacy, particularly given the absence of any formal mechanisms for downward accountability (Wallington *et al.* 2008). In our view, formal accountability to regional communities may not be necessary provided regional NRM bodies can demonstrate a high level of earned legitimacy, although in some regions this has yet to be achieved.

Upward accountability, on the other hand, is being paid 'serious attention' (Moore & Rockloff 2006). However, participants frequently commented on unnecessarily complex and demanding reporting requirements. The strict and complex financial accountability processes required by governments place a considerable administrative burden on regional organisations, especially those that are newly established and still finding their way. Reporting quarterly financial expenditure requirements and half-yearly milestone reports has tied up a significant proportion of some regional NRM groups' capacity:

There are still concerns about the extent of reporting to state government. I am not saying there shouldn't be comprehensive reporting . . . There is a need to get it to the stage where reporting can be done more efficiently, and not diverting time from carrying out other elements of project management. (Victorian CMA board member)

While such problems would be expected to recede as institutional processes become routine, they can cause lasting disaffection and frustration with the process, thereby wearing down community effort, especially given a heavy reliance on goodwill and voluntary engagement (Head 2005). The limited and rigid nature of outcome accountabilities under NHT2 constrain the ability of regional bodies to assume active responsibility for the social and environmental consequences of decisions and actions, and undermine shared responsibility and responsiveness to wider community concerns (Wallington & Lawrence 2008). Most participants argued for a reduction of micro-management by governments, streamlining of administrative and reporting processes, and more opportunities for regional actors to influence outcome-based accountabilities: positions supported by Beer *et al.* (2005), ITS Global (2006) and Keogh *et al.* (2006).

Participants argued that effective accountability requires greater clarity regarding the respective roles and responsibilities of regional NRM bodies, government NRM and related agencies, and statutory authorities with some NRM mandate, particularly regarding native vegetation, inland waterways, coastal environments and pest plant and animal management. Many authors also point to lack of role clarity in various parts of the system as an impediment to effective accountability. Further clarification of roles and responsibilities is needed in the services supplied by government agencies (Robins & Dovers 2007), bilateral agreements (ITS Global 2006; Robins & Dovers 2007), and in the multitude of NRM plans and other instruments being used by all levels of government (Lane 2006).

Legitimacy also depends on the integrity and commitment with which authority is exercised. Participants from regional NRM bodies generally considered that their processes and responses to 'conflict of interest' issues were sound, and that probity-related matters were being effectively managed through codes of practice, training and procedures. The systems and culture are generally in place to support and require the integrity of regional NRM boards and staff, and participants gave

numerous examples of where such procedures are being effectively used to prevent inappropriate behaviour. Regional participants demonstrated genuine commitment to NRM, and we found no evidence to suggest that individual agendas were taking precedence over achieving NRM outcomes. We are not so confident about the commitment of governments, where political motivations at times cut across substantive NRM concerns. Regional participants offered several examples of government NRM agencies failing to provide the agreed level of support and services:

The CMAs were set up with DNR (the then Department of Natural Resources) as their strategic level, human resource management, finance and information technology providers, but since then DNR has down-sized their services and it can't provide what it contracted to do. (NSW CMA staff member)

Participants in some states also noted an NRM policy vacuum that is hampering the development of a strong unified implementation of NRM initiatives. Both the haphazard performance of some state agencies in terms of service delivery and their apparent lack of awareness or consideration of how their actions affect specific regional NRM programs undermine the credibility of the regional model amongst some local communities and constrain the effectiveness of regional action.

Decision-making processes and performance outcomes within regional NRM bodies are generally transparent, with participants indicating that a range of communication media is used, often targeted to particular audiences and needs. Regional participants offered examples of where the board minutes are available publicly, where regions have put in place decision-making processes and protocols, and where reasons for decisions are clearly articulated and promulgated. Use of such processes and tools to foster transparency is not, however, ubiquitous, and it is more difficult for stakeholders to access and understand the basis of decisions made within higher level co-ordinating committees and government NRM agencies. As with availability of information, some participants highlighted the need to ensure that decision processes are robust enough to withstand stakeholder scrutiny at all levels of the system:

I say to staff 'how will your decision look to the person in the street?' It is a key challenge for the organization ... I want to be able to justify our decisions to anyone in the context of our values. I hate to hide behind commercial-in-confidence and freedom-of-information as some do. Your processes should be robust enough to withstand any scrutiny. (NSW CMA staff member)

Inclusiveness and fairness

Moore (2005) and Robins and Dovers (2007) claim that regional NRM engagement fails to sufficiently address and resolve exclusion of some stakeholders from planning processes, and that some regional actors are marginalised from decision making. Moore and Rockloff (2006) present evidence from Victoria and Western Australia that suggests those stakeholders well represented in regional processes tend to be those actively involved in NRM, specifically those involved in farming businesses. In South Australia, Farrelly (2005) found evidence of short,

non-inclusive consultation processes, and tensions between actors working at the local and regional levels.

Several authors point to a general failure of regional NRM to adequately engage with and accommodate the interests of indigenous peoples (Keogh *et al.* 2006; Lane & Corbett 2005; Moore & Rockloff 2006; Robins & Dovers 2007). Other stakeholders thought to be largely outside current engagement processes include local governments and urban communities (Farrelly 2005; Keogh *et al.* 2006) and those in non-NRM sectors such as tourism (Moore & Rockloff 2006). Such deficiencies have led to claims that decentralisation and limited localised participation in decision making has entrenched, or may lead to, the domination of local elites (Lane 2006; Lane *et al.* 2004), so that interest group decision making overpowers wider public deliberation, and regional NRM bodies become dominated by conservative sectoral agendas (Morrison & Lane 2006).

In some sense our regional participants may be regarded as 'local elites'. Nevertheless, we do not consider that they are complicit in initiatives or processes to entrench their power—in many cases quite the contrary. All our regional participants showed a high degree of recognition that inclusiveness was a central component of establishing a good governance regime. We suspect that most regional board members and staff would welcome other regional players taking on more significant roles and sharing the massive job they face. Some regional participants considered inclusiveness of their decision-making processes to be a strength of their governance arrangements. Pero and Smith (2006) present evidence that at least some regional NRM bodies in Queensland are mounting successful programs to promote and achieve multi-sector dialogue and are actively engaging indigenous communities and local government. ITS Global (2006) also regards stakeholder engagement as one of the strengths of regional NRM. So, in contrast to the conclusions reached by Lane, Morrison and Moore in their various papers, our interviews and the work of Pero and Smith (2006) suggest that, in some regions at least, current governance arrangements enhance participatory democracy. On the other hand, participants noted that upward inclusion of regional actors in state and national level decision making was largely absent.

All NSW and Victorian regional participants made reference to some form of community advisory committee. These committees provide a valuable means to widen the range of input into decision-making processes beyond the expertise and interests represented on regional NRM body boards. In some regions, these committees specifically target key stakeholders that are recognised as posing significant engagement challenges. However, the advisory committee approach has not always worked, and establishing effective engagement with several key stakeholders—indigenous communities, local governments, urban and environmental constituencies—was identified by most participants as a significant challenge.

Based on participant responses, decision-making processes at the regional level are generally fair, with respect and attention given to stakeholders' views. Systems and procedures generally ensure that consistency, absence of bias, and distribution of costs and benefits are addressed in decision-making processes. However, concerns were raised about inadequate consideration of distributional issues, in that it was alleged that allocations often depend on the politics of the past rather than good bases for decisions. Fairness does not, however, imply equity of outcomes. The proposition that a strategic and targeted approach will lead to

more effective NRM outcomes than trying to spread effort evenly between and within regions was universally accepted by participants.

Integration

A major theme in the literature is inadequate vertical and horizontal connection and co-ordination that is leading to system-wide dysfunction. For example, Bellamy (2007) and Morrison *et al.* (2004) argue that much NRM planning and practice remains fragmented, and that the connections and coherence between NRM and other planning regimes is insufficient, with limited co-ordination across state/territory NRM regulatory, planning and policy frameworks. Participants agreed that integration of NRM policy and action across national, state and regional levels is inconsistent, and that system-wide deficiencies are evident in both vertical and horizontal connection and co-ordination. Nonetheless, a broad level of coherence is evident in the direction set in national, state and regional policy planning statements. Communication, if not co-ordination, across regions, their respective state NRM agencies, and Australian government NRM staff is well developed and apparently constructive. As the regional model matures, co-ordination between regional NRM bodies, and with other regional NRM providers, is strengthening. The observation by one of our participants that a regional NRM body is catalysing efforts amongst local governments to better co-ordinate their efforts suggests a widening of institutional regionalisation—a trend that has the potential to yield significant dividends in terms of integrating policy development and service delivery at the regional level, with the likelihood of associated efficiency and productivity gains.

Most participants pointed to a history of poor horizontal integration between regional NRM bodies, but noted that meetings between board chairs and between general managers are now creating useful linkages. And, while participants offered examples of effective partnerships and projects between regional NRM bodies and other regional NRM providers, cross-jurisdictional integration at the regional level remains limited, with participants from all three states of the view that competition between regions for resources and government support remains a significant barrier to effective collaboration and co-ordination between regional NRM bodies. Bellamy (2007) refers to the need to balance co-operation and competition arising from organisational self-interest as a key challenge for regional NRM. On the other hand, Abrahams (2005) argues that devolving program administration has led to better integration of program delivery; that devolving priority setting to regional NRM bodies has improved effective NRM delivery through integrated regional plans; and that integration across government NRM policy and program delivery has been enhanced through the Australian government's NRM Team, which comprises staff from the Departments of the Environment and Water Resources and of Agriculture, Fisheries and Forestry. Nonetheless, Keogh *et al.* (2006) are of the view that stronger leadership is required to bring all the efforts into a co-ordinated program that is delivering something meaningful at a national scale. This view is supported by our participants' comments:

We went into this thinking this was about regional NRM, but too many funding sources cut across what we do—Biodiversity Hotspots, Acid Sulphate Soils, we have no control over the Envirofund. There's a lack of

integration between Commonwealth Government funding programs. This means that our priorities can't be addressed strategically—non-strategic priorities get funded and these projects take staff from our core business. (Tasmanian NRM group board member)

Capability and adaptability

The dimensions of capability canvassed in our interviews included business systems, finance, human resources, and knowledge management. Business systems for regional NRM bodies encompass procedures for managing governance, finances, contracts, records, information, staff and projects. The importance of getting these systems in place and working effectively was emphasised by most participants. The relative maturity of regional NRM bodies influences the degree to which they have effective systems. Based on our interviews, Victoria and NSW generally have strong business systems, and while rapid progress has been made in Tasmania, some basic developmental work remains. Human resource management, information technology systems and management, codes of conduct, risk management, contract management, fraud control and managing conflicts of interest are areas where improvement is required (ITS Global 2006).

The adequacy of NRM funding provided by governments, and the conditions imposed on regional NRM bodies for the use of these funds, have attracted extensive comment. Head (2005), Head and Ryan (2004) and Morrison *et al.* (2004) suggest that despite their magnitude, the NHT/NAP investment falls short of requirements by a considerable margin. Not surprisingly, a lack of financial resources was raised by participants from all regions as a significant capability constraint. Several regional NRM bodies are actively diversifying their income bases with a view to establishing a more sustainable financial position. On the other hand, Beer *et al.* (2005) argue that it is not so much the amount of money but rather the various ways in which the money is given, either with conditions attached or only for limited time periods, which is problematic. The conditions attached to funding, including constrained time periods for expenditure, make it difficult for regional organisations to adopt adaptive planning approaches and make strategic investment decisions (Beer *et al.* 2005). Project-led funding means that there may be insufficient resources to support core management, research and planning functions (Paton *et al.* 2004). Participants agreed that uncertainty of the extent, timing and conditions attached to government funding has made it difficult for regional NRM bodies to build the long-term partnerships and programs that are essential for effective NRM outcomes:

You build up steam and then the brakes are put on and you lose a few people and then everything revs up and the funding authorities expect things to get up and running straightaway but it takes time to re-rev the community. (NSW CMA board member)

Trust by governments in regional NRM bodies was identified as a key requirement for the establishment of more durable and flexible funding arrangements. It was acknowledged that to earn this trust, regional NRM bodies must have strongly developed business systems and well-credentialed decision makers. Most regions considered that they have both these elements in place, and that it is time for governments to give them the financial autonomy they need.

Effective and integrated knowledge management and communication systems are fundamental to regional NRMs' capacity to deliver outcomes and to enable adaptive management. The importance of establishing regional NRM bodies as learning organisations was widely recognised by participants. Many participants showed awareness of the importance of basing monitoring, evaluation, review and improvement (MERI) systems on outcomes rather than outputs. Such systems go beyond merely providing accountability—they give an organisation the capacity to adapt direction and/or means of implementation using evidence and lessons learned from experience. MERI processes are well established in a few regional NRM bodies, but are still under-developed in most others, and at the state and national levels significant deficiencies were identified. Information to support effective decision making is generally deficient (Mitchell *et al.* 2007). System-wide NRM governance has not yet delivered institutions in which citizens and experts co-produce the knowledge required to address environmental problems (Bellamy 2007; Lane *et al.* 2004). Adaptive regional plan development and implementation is constrained by centrally established targets and rigid amendment processes that inhibit responses to changing priorities, knowledge, and conditions (Wallington & Lawrence 2008). ITS Global (2006) urges the implementation of a more comprehensive and inclusive structure for information and knowledge management and exchange between jurisdictions and regional bodies. Participants identified state NRM agencies as the key organisations to lead the development of such products and co-ordinate their delivery.

There is evidence that regional actors are struggling to embrace the adaptive management model. In their study of a particular NRM region, Allan and Curtis (2005) found a culture that valued activity, control, comfort, and clarity over reflection, learning, and embracing complexity and variability. One of our interview participants lamented the reactive nature of adaptive responses:

We epitomize adaptive management—we are too responsive and we need to be more proactive and manage for risks. (Tasmanian NRM group staff member)

What is being described here is the passive approach to adaptive management—the literature also recognises an active adaptivity that initiates directed and experimental interventions and can incorporate a risk management capability. Active adaptive management, the more mature and developed approach, is not implemented effectively in any of our participating regions.

Lessons for multi-level environmental governance

To greater and lesser degrees, our findings bear out both the positive and negative claims for devolved NRM governance, articulated in the introduction. The main contribution of this work has been, firstly, to enhance understanding of such claims and to elucidate the prerequisites for and impediments to good multi-level environmental governance, and, secondly, to highlight the achievements and deficiencies in the Australian experiment with a regionalised NRM system. In the first instance, the findings suggest that supportive rather than absent or controlling central governments are a key factor in the effectiveness of devolved governance, while community and stakeholder collaboration is dependent on a mix of factors, but most particularly confidence and trust in NRM governing bodies. In the second

instance, by elaborating the governance parameters of regionalised NRM in Australia, the work highlights the challenges for co-ordinated and integrated approaches to environmental governance. The lessons to be mindful of in pursuing such approaches are outlined below.

Legitimate NRM governing bodies have democratic mandates, are entrusted with sufficient powers to fulfil their delegated responsibilities, gain the confidence of funding bodies and stakeholder communities, and support the integrity and appropriate behaviour of NRM decision makers. A legislative base for multi-level environmental governance confers system-wide legitimacy, but can undermine attempts by non-government governance organisations to earn legitimacy from their stakeholders. This tension can be managed by governments devolving power and autonomy to community-based regional bodies commensurate with their allotted tasks, and ensuring that they have an identity distinct from the government agencies to which they relate. Creating formal links between regional NRM bodies and democratically elected local governments would also strengthen the legitimacy of the former. At the same time, governments have legitimate responsibilities to represent extra-regional interests, and measures should be in place to resist erosion of their capability to address state, national and international concerns and obligations. Wider societal needs and aspirations may be under-represented at the regional level, so state and national governments need policies, institutions and instruments to represent and pursue such matters. Further decentralisation of authority to sub-jurisdictional environmental bodies should therefore be accompanied by retaining or, if necessary, strengthening governments' commitments and capabilities to manage environmental concerns. Government agencies need to earn legitimacy from subsidiary environmental bodies, while the subsidiary bodies need to recognise and respect the legitimacy of governments' roles in a multi-level governance system.

Governments need to be mindful of the impact that rapid policy changes can have on sub-jurisdictional organisations' abilities to establish mature governance systems and to sustain community effort and engagement. Good multi-level governance demands effective multi-lateral engagement that involves organisations at each level actively participating in the design, development and delivery of the governance system. Relations of trust, mutual respect and responsibility between the parties are crucial. Transparency in decision-making processes is also required at every level of a governance system in order to create the conditions needed for inclusive engagement and effective partnership development.

Regional bodies are being stretched on a rack turned at one end by upward accountability requirements and a downward imperative for community ownership and involvement at the other. While upward accountability is essential to good governance, micro-management by governments is to be avoided, with administrative and reporting processes designed to be as lean as possible. Governments must be confident that subsidiary organisations meet acceptable standards of capability and integrity, and have processes in place to support and maintain these qualities. Without such confidence, accountability processes tend to be excessively complex and demanding, diminishing the capacity of subsidiary bodies to focus attention on delivering outcomes, and dissipating community effort and support. At the same time, governments need to give regional actors greater say in system direction and the construction of outcome-based accountability measures.

Downward accountability is important for decentralisation to yield more effective and democratic NRM, establish community-based credentials, and earn legitimacy from local communities. In some cases, it may be appropriate to provide such accountability through electoral processes, but there are likely to be advantages associated with appointed decision-making bodies, as is the case with many Australian regional NRM organisations. Boards that have a membership appointed on the basis of experience and expertise give subsidiary organisations the strategic capacity they need to deliver effective environmental management and impart a flexibility that can be crucial for an organisation's ability to mount appropriate responses to threats and opportunities. When non-elected governance models are adopted for subsidiary organisations, earned legitimacy becomes crucial, both from their constituent communities and from higher levels of the governance system. Building community acceptance through communication, engagement and partnerships can be an effective alternative to formal electoral accountability. To avoid entrenching or establishing local power elites, and to meet ethical requirements for stakeholder engagement, devolved governance arrangements should be accompanied by processes that provide genuine opportunities for inclusive governance, as well as strong upward accountability mechanisms. Special attention needs to be given by all governance institutions to inclusion of marginalised stakeholders. NRM governing bodies have to do more to earn the acceptance and confidence of indigenous communities; people moving from cities to rural areas for lifestyle reasons; the fisheries, forestry and tourism sectors; and urban residents.

Environmental decisions often require strategic investment of resources into particular sectors or geographic locations that are in a state of crisis. In Australia, this strategic allocation policy has given rise to complaints of unfair treatment from those who have not received the benefits of such investments. It is important, therefore, that organisations at all levels of the governance system demonstrate consistency and absence of bias in decision making and take into account the distributional consequences of their decisions. Strengthening communication regarding the justifications for a targeted investment approach as well as bringing opportunities for attracting support outside priority areas to stakeholders' attention are important in executing governance fairness. These requirements can be met by governing authorities reversing the perception among regional organisations of unfair treatment through building trust—in this, providing genuine and ongoing opportunities for regional NRM boards and staff to participate in and influence higher level decisions is key.

More use of formal and deliberative decision-making procedures would enhance capacity and transparency. Such procedures could also provide a buffer against the potential for powerful individuals and interests to exert undue influence on decisions, as could a greater attention to establishing procedures that on the one hand provide for effective conflict management, and on the other foster a culture in which mutual respect, active listening, honesty, as well as lack of distortion, manipulation and deception become the norm.

Effective multi-level nesting of institutional responsibilities requires that emphasis be given to developing effective communication and co-ordination mechanisms. Better vertical integration can be achieved through strengthening the co-ordination functions of existing institutional structures—bilateral agreements, joint steering committees, and ministerial advisory councils—together with an upgraded support

role for the Australian Government NRM Team. Competition between organisations is a significant barrier. The tensions and contradictions arising from the competitive business environment in which environmental governance organisations operate and the imperative for partnership building are an ongoing governance challenge. Again, building trust and respect between actors is a central amelioration strategy.

The manner in which funding is delivered from ‘higher’ to ‘lower’ governance levels needs to enable strategic long-term investment; support core management, research and planning functions; and remove structural barriers to adaptive environmental management. As with conferring more substantive powers, trust by governments in devolution is a key requirement for the establishment of more durable and flexible funding arrangements, and strongly developed business systems provide a basis for governments to grant subsidiary organisations the financial autonomy they need.

Effective knowledge management systems are an essential ingredient of good environmental governance. System-wide institutions are needed by which citizens and experts can co-produce and use the knowledge to address complex environmental problems. Government agencies will often be the key governance layer for the championing, development and delivery of such products. Effective MERI systems that provide for accountability as well as give their organisations an adaptive management capacity are a core component. Adaptive governance is characterised by each governance level having responsibility to capture knowledge, respond, and give effect to NRM priorities as expressed by their constituencies (Wallington & Lawrence 2008). However, a culture that values reflection, learning, experimentation, complexity and diversity is required before adaptive management is possible. If the Australian experience is anything to go by, the prevalence of antagonistic cultural and institutional conditions emphasises the extent of the challenge ahead. Establishing all governance bodies as learning organisations is essential if this challenge, and the other challenges noted above, are to be met.

In addition to insights into devolved multi-level environmental governance, lessons from Australian NRM contribute to an understanding of issues raised by the broader global realignments in polity, economy and society. Governance experiments, such as those discussed here, are essentially attempts at settling fundamental questions about how we govern ourselves under conditions of complexity and uncertainty. In this new governance landscape, old meta-governance questions such as the role of the state, sharing of power, and allocation of responsibilities have to be rethought and resettled. Novel issues also emerge, such as the need to design governance structures that can account for increased institutional interdependency and provide for greater co-ordination of planning and action. These questions and issues can only be settled through institutional experimentation and learning. The Australian NRM experience provides helpful guidance in this regard.

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REFERENCES

- ABRAHAMS, H. (2005) 'Devolution enhances integration', *Australasian Journal of Environmental Management* 12 (Supplement), pp. 57–61.
- ALLAN, C. & CURTIS, A. (2005) 'Nipped in the bud: why regional scale adaptive management is not blooming', *Environmental Management* 36, pp. 414–25.
- ANAO (2001) *Performance information for Commonwealth financial assistance under the Natural Heritage Trust*, ANAO, Canberra.
- BEER, A., CLOWER, T., HAUGHTON, G. & MAUDE, A. (2005) Neoliberalism and the institutions for regional development in Australia', *Geographical Research* 43, pp. 49–58.
- BELL, S. & PARK, A. (2006) 'The problematic metagovernance of networks: water reform in New South Wales', *Journal of Public Policy* 26, pp. 63–83.
- BELLAMY, J. (2007) 'Adaptive governance: the challenge for regional natural resource management', in Brown, A.J. & Bellamy, J.A. (eds) *Federalism and regionalism in Australia: new approaches, new institutions?*, ANU E Press, Canberra.
- BRIASSOULIS, H. (2004) 'The institutional complexity of environmental policy and planning problems: the example of Mediterranean desertification', *Journal of Environmental Planning and Management* 47, pp. 115–35.
- EWING, S. (2003) 'Catchment management arrangements', in Dovers S. & Wild River, S. (eds) *Managing Australia's environment*, Federation Press, Sydney, pp. 393–412.
- FARRELLY, M. (2005) 'Regionalisation of environmental management: a case study of the Natural Heritage Trust, South Australia', *Geographical Research* 43, pp. 393–405.
- GIBBS, D. & JONAS, A.E.G. (2001) Rescaling and regional governance: the English regional development agencies and the environment', *Environment and Planning C* 19, pp. 269–88.
- GREER, J. (2001) Whither partnership governance in Northern Ireland?', *Environment and Planning C* 19, pp. 751–70.
- HEAD, B. (2004) 'Regional NRM planning arrangements: evaluating through the state lens', in *Regional NRM planning: the challenges of evaluation as seen through different lenses*, Department of Natural Resources and Mines, Brisbane.
- HEAD, B. (2005) 'Participation or co-governance? Challenges for regional natural resource management', in Eversole, R. & Martin, J. (eds) *Participation and governance in regional development*, Ashgate, Aldershot, pp. 137–54.
- HEAD, B. & RYAN, N. (2004) 'Can co-governance work? Regional natural resource management in Queensland, Australia', *Society and Economy* 26, pp. 361–82.
- HELD, D. (2000) 'Regulating globalization? The reinvention of politics', *International Sociology* 15, pp. 394–408.
- HOWLETT, M. & RAYNER, J. (2006) Convergence and divergence in "new governance" arrangements: evidence from European integrated natural resource strategies', *Journal of Public Policy* 26, pp. 167–89.
- ITS GLOBAL (2006) *Evaluation of the bilateral agreements for the regional component of the Natural Heritage Trust of Australia*, ITS Global, Melbourne.
- JESSOP, B. (2004) 'Multi-level governance and multi-level metagovernance', in Bache, I. & Flinders, M. (eds) *Multi-level governance*, Oxford University Press, Oxford, pp. 75–89.
- KEOGH, K., CHANT, D. & FRAZER, B. (2006) 'Review of arrangements for regional delivery of natural resource management programmes', available from: <http://www.nrm.gov.au/publications/books/regional-delivery-review.html> (accessed 19 June 2007).
- LANE, M.B. (2006) 'Critical issues in regional natural resource management', available from: <http://www.deh.gov.au/soe/2006/integrative/nrmissues/index.html> (accessed 17 September 2007).
- LANE, M.B. & CORBETT, T.T. (2005) 'The tyranny of localism: indigenous participation in community-based environmental management', *Journal of Environmental Policy and Planning* 7, pp. 141–159.

- LANE, M.B., McDONALD, G.T. & MORRISON, T. (2004) 'Decentralisation and environmental management in Australia: a comment on the prescriptions of the Wentworth Group', *Australian Geographical Studies* 42, pp. 102–14.
- LOCKWOOD, M., DAVIDSON, J., CURTIS, A., STRATFORD, E. & GRIFFITH, R. (in press) 'Governance principles for natural resource management', *Society and Natural Resources*.
- MACLEOD, G. (2001) 'Beyond soft institutionalism: accumulation, regulation, and their geographical fixes', *Environment and Planning A* 33, pp. 1145–67.
- MITCHELL, D.P., NORTON, T.W., GRENFELL, R.I. & WOODGATE, P.W. (2007) 'Barriers to implementing of natural resource management at landholding level in the intensive agricultural zones of Southern Australia', *Australasian Journal of Environmental Management* 14(2), pp. 103–10.
- MOORE, S.A. (2005) 'Regional delivery of natural resource management in Australia: is it democratic and does it matter?', in Eversole R. & Martin, J. (eds) *Participation and governance in regional development*, Ashgate, Aldershot, pp. 121–36.
- MOORE, S.A. & ROCKLOFF, S.F. (2006) 'Organizing regionally for natural resource management in Australia: reflections on agency and government', *Journal of Environmental Policy and Planning* 8, pp. 259–77.
- MORRISON, T.H. & LANE, M.B. (2006) 'The convergence of regional governance discourses in rural Australia: enduring challenges and constructive suggestions', *Rural Society* 16, pp. 341–57.
- MORRISON, T.H., McDONALD, G.T. & LANE, M.B. (2004) 'Integrating natural resource management for better environmental outcomes', *Australian Geographer* 3, pp. 243–58.
- PATON, S., CURTIS, A., McDONALD, G.T. & WOODS, M. (2004) 'Regional NRM—is it sustainable?', *Australasian Journal of Environmental Management* 11, pp. 259–67.
- PERO, L.V. & SMITH, T.F. (2006) 'Facilitating multi-sector dialogue for natural resource management: examples of rural governance in two Queensland regions', *Rural Society* 16, pp. 236–53.
- RHODES, R.A.W. (2001) *Understanding governance: policy networks, governance reflexivity and accountability*, Open University Press, London.
- ROBINS, L. & DOVERS, S. (2007) 'Community-based NRM boards of management: are they up to the task?', *Australasian Journal of Environmental Management* 14, pp. 111–22.
- STOKER, G. (1998) 'Governance as theory: five propositions', *International Social Science Journal* 50, pp. 17–28.
- VAN DER BRUGGE, R., ROTMANS, J. & LOORBACH, D. (2005) 'The transition in Dutch water management', *Regional Environmental Change* 5, pp. 164–76.
- WALLINGTON, T.J. & LAWRENCE, G. (2008) 'Making democracy matter: responsibility and effective environmental governance in regional Australia', *Journal of Rural Studies* 24, pp. 277–90.