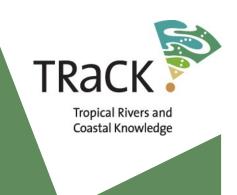# Collaborative Water Planning:
Context and Practice
Literature Review
Volume 2

Best Practice Strategies and Techniques in the Resolution of Public Disputes over Natural Resources

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TRaCK
Tropical Rivers and Coastal Knowledge

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1. Introduction

After Antarctica, Australia is the driest continent on earth. Water is differentially distributed across its surface. Groundwater, water below the surface of the earth, is related to surface water in complex ways that sometimes span the boundaries of many surface water catchments. In Australia, this is particularly the case with deep groundwater. Climate change is causing changes in rainfall. In general terms, areas in the south of the continent are subject to drying, and areas in the north are experiencing greater rainfall and the prospect of more extreme weather events. While Council of Australian Governments (CoAG) agreements have sought to encourage consistency in terms of management of water, it is unsurprising that a federation of states and territories, experiencing climatic change in different ways, has varying legislation and government policies.

The vast majority of Australian people live within 50 kilometres of the coast (Australian Bureau of Statistics 2008). The trend towards coastal living is continuing and is particularly evident in the major urban areas of Australia. This population pressure, combined with changing rainfall patterns, particularly lower rainfalls in urban water catchments, is placing significant pressure on urban water supplies. While many of the heavily populated areas of coastal and southern Australia are experiencing less rainfall due to the influence of climate change, the reverse is true in many parts of northern Australia. Demand for water for irrigation is high and increasingly not able to be met in areas of the south of the continent where agriculture is a dominant land use. There are growing calls to investigate the agricultural potential of the now wetter north of the continent in response to this pressure.

Yet water resource science and planning are in their infancy in north Australia and this vast area faces an enormous knowledge deficit, under-developed catchment management structures, low population numbers, and a growing Indigenous population facing multiple sources of social and economic disadvantage. Indigenous environmental knowledge will be of value in improving our understanding of water resource issues, but new pressures and changing institutional arrangements will require concerted efforts from all participants (Hamilton and Gehrke 2005).

Australia's pre-eminent water policy, the National Water Initiative (NWI) places a great deal of emphasis on water planning as the mechanism through which water resource management will be restructured and sustainable and equitable water allocations achieved. It calls on States and Territories to develop water entitlement and planning frameworks to:

- address systems where water is over-allocated or overused;
- address environmental and public needs for water;
- reflect regional differences in water supply; and
- identify and manage high conservation value water systems.

CoAG and the NWI have set an ambitious agenda for reform. Achievement of the central objectives of the reform depends on comprehensive planning systems based on full basin wide hydrological assessment of the resource. Water planning is seen as "an important mechanism to assist governments and the community to determine

water management and allocation decisions to meet productive environmental and social objectives" (NWI para 36). The NWI requires more transparent and comprehensive water planning that deals with key emerging issues. The plans, based on adaptive management, are to provide for secure ecological outcomes *and* resource security outcomes.

A strong principle that underpins planning is that water users, interest groups and the general community are to be involved as partners in catchment planning processes. Rising concern for environmental sustainability and the need for water planning, water entitlements and water trading processes to take account of local circumstances explain the emphasis given to public participation in the NWI (Connell, Dovers and Grafton 2005). Water planning processes usually involve some element of community consultation and participation, often via the establishment of advisory committees or reference groups comprising representatives of groups from industry, community and government. But despite the attempt to consult and involve the public in water reform and management, the scale and pace of change and the size of the water governance challenge has meant that implementation has been contentious.

Tensions will inevitably arise between different stakeholders particularly where over-allocated water systems are required to be returned to an environmentally sustainable level of extraction (Hussey and Dovers 2006). It is precisely for the purposes of reconciling conflict between stakeholders that the water planning process is required to be transparent. The whole planning process and management system is required to provide a much greater capacity to make trade-offs between competing uses in ways that will gain and maintain community support (Connell and Dovers 2006).

For all the recent discussion on the virtues of community-government partnerships, there is insufficient clarity and agreement amongst various parties as to what constitutes a partnership or collaboration, and how collaborative procedures actually operate. This review and analysis of the literature highlights the ill-defined and nebulous nature of the community-government partnership principle. This is due, at least in part, to the way power, responsibility and authority are understood by politicians and government agency staff involved and the way that, as a result, these 'partnerships' are then implemented and evaluated. While some may see empowering the community as potentially providing better outcomes from the implementation of government policy, others may see it as eroding the power, responsibility and authority of a democratically elected government. Depending on circumstances, both may be correct. Tensions between citizen participation and representative democracy gives rise to a variety of competing and sometimes contradictory interpretations and definitions of terms such as 'partnership' found in the literature on citizen participation, public involvement and participation and community engagement in government, and is mirrored in the literature on the role of citizens in natural resource planning and management. In practice, government water planners and those they involve in the process from community and industry may also understand such terms differently. For example, some may see 'partnering' as working together or collaborating with others in a way that involves re-negotiating authority and responsibility. Others may see partnering as simply a relatively passive process of informing or consulting and seeking opinions of those who may be affected by water planning processes. This ambiguity extends to a wide range of

terms relating to public participation in the water planning process, including 'collaboration'.

In this *Collaborative Water Planning Project* the research team has used the term collaboration to mean 'actively working together'. The research team is interested in better understanding the processes by which people engage in an active process of working together to manage water; in how collaborative procedures actually operate in the water management context. Government agencies usually initiate and lead water planning processes. This usually involves informing and consulting with community and industry affected by the outcomes of such a planning process. Collaborative approaches need to involve citizens more actively, as members of water planning committees, learning about water issues, undertaking joint fact-finding and deliberating over decision-criteria, making decisions together about advice to government on water planning matters. Implicit is the notion of inter-dependence, where the parties have something to gain from collaborating, indeed, believe they can only achieve their respective outcomes by doing so.

It is in this setting that the TRaCK Collaborative Water Planning Project has sought to understand the practice of collaborative water planning, and in particular, the barriers and enablers to effective public participation. TRaCK, the Tropical Rivers and Coastal Knowledge Research Hub, is a consortium led by Charles Darwin University, CSIRO, Griffith University, Land & Water Australia, the North Australian Indigenous Land & Sea Management Alliance and the University of Western Australia. In 2007, TRaCK was established as a research hub under the Commonwealth Environmental Research Facilities Program. TRaCK aims to provide the science and knowledge needed by governments, communities and industries for the sustainable use and management of Australia's tropical rivers and estuaries.

The Collaborative Water Planning Project seeks to improve water planning efforts at two levels:

- **nationally** by developing a tool-kit of good practices to engage industry, Indigenous and rural communities; by setting guidelines and benchmarks to monitor and evaluate collaboration in water planning; by establishing procedures that integrate Indigenous values into water planning; and

- **regionally** by assisting north Australian water agencies to improve water planning approaches; by helping to minimise conflicts between parties; by providing models and case studies for good collaboration; by helping stronger, long-term relationships between stakeholders.

The project has three components (See Figure 1 below):

1. a review and analysis of the literature to provide the conceptual foundation underpinning the project. As well as scientific literature relating to natural resource management, water administration and planning, collaboration and public participation (Volume One), this component includes a volume on public dispute resolution (Volume Two), and the legal and policy environment relevant to north Australia (Volume Three);

2. two retrospective case studies that sought to understand contemporary water resources planning in north Australian settings; one of the Ord River Water Resources Plan in Western Australia and another of the Gulf Water Resources Plan in Queensland; and

3. two prospective case studies, one in either the Greater Darwin region or Mataranka in the Northern Territory, and the other in the Wet Tropics Region of north Queensland.

While it was always the intention of the project research team to undertake a literature review as a foundation for the project, an initial literature scan revealed that this needed to be complemented by an analysis of institutions and legislation impacting on northern Australian water planning, if the team was to gain a comprehensive understanding of the project context and the ability to answer several key questions – "What is water planning?" "What is its place in northern Australia?" and "How is water planning best conducted in such settings?" An understanding of management of conflict arising from natural resource disputes, such as those associated with water resources, also emerged as key to this endeavour. The team has determined that the outputs of this review and analysis, for conceptual coherence, are most sensibly presented in three volumes. This document, *Collaborative Water Planning: Best Practice Strategies and Techniques in the Resolution of Public Disputes over Natural Resources,* is the second.

Figure 1 (below) shows the sequence of activities to be undertaken in two phases. The literature review (Volume One), review of public dispute resolution over natural resources (Volume Two), the Legal and Policy Analysis (Volume Three) and the two retrospective case studies (Volume Four) are all to be undertaken in Phase One.

Figure 1. Diagram showing timing of various project components.

The two prospective case studies, to be undertaken in Phase Two, will involve participants in action research[1] to implement and evaluate lessons from both the

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[1] Action Research is an approach to applied research which participants take on an active co-researcher role. Researchers enter into a collaborative partnership with participants to facilitate improved practice through the direct application of research findings in a practical context. See Carr and Kemmis (1986) and Greenwood and Levin (1998).

review and analysis of literature, institutional arrangements and the retrospective case studies. Outputs will form a toolkit of good practices and improved planning approaches which will be developed into a training program on collaborative water planning in Northern Australia. These products will also be available for use and further refinement in other collaborative water planning settings elsewhere in Australia and overseas.

The following section provides a brief overview of each of the volumes.

Volume One – Literature Review: Collaborative Water Planning, Context and Practice

- **outlines the biophysical characteristics of northern Australian rivers and catchments**, their human history, current land and water use, and development pressures to which they are subject.

- **chronicles the history of water management in Australia**, highlighting water policy and Council of Australian Governments (CoAG) reform in this area. The discussion locates water planning within the broader field of collaborative natural resource management (NRM), and introduces concepts germane to this topic including collaboration, power, citizen participation, social capital and social learning. The place of and limits to collaborative NRM are also discussed;

- **examines citizen participation in water planning processes** from both international and Australian perspectives, particularly in light of current Australian water reform and the National Water Initiative. Various paradigms in water planning ranging from ad hoc*,* opportunistic planning; the development of large-scale, state-funded infrastructure development, through to the use of economic instruments and socio-economic assessments, nationally consistent entitlements, inclusion of environmental flow objectives and enhanced public participation are also summarised. A spectrum of increasing citizen participation is discussed, as are the tensions evident in the National Water Initiative between regulatory, market-based and participatory planning paradigms of resource management;

- **discusses the treatment of values in NRM and water planning.** It addresses the different meanings of value, sociological theories of value and methods of valuation, particularly the way decision makers recognise and understand values of various participants in water planning;

- **focuses on issues of Indigenous participation in water planning in Australia.** The National Water Initiative aims to address Indigenous interests in water through water planning processes. Several issues are identified including negotiating between the very different ways Indigenous and non-Indigenous people know, value and talk about water; differences in social, geographical and temporal scales; appropriate representation and structures for Indigenous participation in water planning; the need for adequate resourcing to allow effective Indigenous participation; and the need to redress power imbalances that disadvantage Indigenous people in decision making.

The lack of any systematic studies of the outcomes of Indigenous involvement in water resource planning in Australia and the need to develop ways to address the issues identified above are emphasised;

- **explains a range of tools that may be used to reveal trade-offs** – situations that involve decisions where each choice that may be made has both advantages and disadvantages. Tools discussed include multi-criteria evaluation; the citizens' jury; deliberative multi-criteria evaluation; consensus conferencing; deliberative polls; and focus groups;

- **explores the notion of collaboration in water and natural resource planning and management**, arguing that there is limited empirical evidence of the benefits of a collaborative approach and an absence of an established framework from which to analyse and assess such evidence. A range of criteria derived from the literature are presented as the basis for a monitoring and evaluation framework to assess collaboration in water resource planning.

Volume Two – Literature Review: Best Practices Strategies and Techniques in the Resolution of Public Disputes over Natural Resources

- **characterises the nature of conflict in natural resource management,** advocating a new role for government as a catalyst for conflict management in water and natural resource planning and management. This volume emphasises the importance of designing appropriate systems to manage and, where possible, resolve conflict. Criteria for success, the nature of the system components, and case studies which exemplify these criteria and system components, are also presented.

Volume Three – Water Planning: a legal and policy analysis

- **introduces and analyses the legal and policy framework within which collaborative water planning exists**. This volume starts at the national level, looking at the constitutional basis of the Commonwealth's role in water planning, recent policy and legislative aspects of its role, including the National Water Initiative; Native Title and Cultural Heritage legislation; the National Water Plan and the Commonwealth Water Act (2007). The volume then addresses the legislative requirements at a State level, identifying the generic features of their water legislation. A description and analysis of the water planning legal framework state by state is included. This state by state analysis emphasises aspects germane to collaborative water planning referred to in earlier volumes, including public participation, socio-economic values, Indigenous participation, tools for tradeoffs and monitoring and evaluation of the water planning process.

While these three volumes may be read as stand-alone works, they together, along with the findings of the two retrospective case studies, will provide a sound foundation to inform the action research that comprises the two prospective case studies to follow in Phase Two of the project. At the time of writing the project team has begun an initial analysis of the data gathered in the two retrospective case studies, relating this to the review and analysis of literature presented in these three volumes and the reflecting on emerging themes that may inform this action research.

In this volume, the importance of designing resource and context appropriate systems to manage instances of conflict is explored. A model of system components and performance indicators are presented, as a means to progress current practice in water planning process. Difficult natural resource conflicts, such as those consequent upon decisions regarding water allocation, are likely to involve significant differences in values among the many conflict participants. Such conflicts are usually socially and ecologically complex, and unlikely to result in outcomes that are satisfactory to all the stakeholder groups. Intractable conflict resulting in impasse may eventuate, where participants feel they are not making process, where agreement seems distant or impossible, and where there is seemingly no way through. This causes considerable human and societal costs, as well as the more obvious economic ones.

Such conflicts will not be resolved if the values issues are not addressed. Frequently, the values conflicts become camouflaged by misunderstandings and miscommunication resulting from badly designed processes. The collection and use of scientific and other technical information needs to be a support for the discussion of values, but has often been used as ammunition for protracted superficial conflict.

As identified in Volume 1, governments are currently promoting and supporting a partnership approach to natural resource management. Increasingly popular are attempts at conflict resolution by committee, the bringing together of stakeholders at meetings to try to achieve agreement on policy, planning and program initiatives. This adoption of consensus-building approaches to conflict has occurred with little evaluation and without appropriate strategies being put in place for managing the 'people' aspects. Current approaches can, for example, combine large numbers of disparate individuals in a room with a chairperson untrained in consensus-building or conflict management, a controversial agenda to develop a plan for a region, an unrealistic time frame, and an inadequate level of resources. Under such circumstances agreement is unlikely and subsequently concepts of consensus building and collaboration may become discredited.

There is little disagreement that better ways of managing conflict would lead to improved natural resource outcomes through the development of agreements on complex environmental problems. There is also a high level of agreement about principles of good conflict management and many of the methodologies that might be used. However, commitment from governments, including allocation of appropriate levels of resourcing is lacking and it still questionable whether our existing system of adversarial politics is capable of genuinely reorienting itself towards a process of negotiation and consensus about environmental conflict.

2. Selection of Literature

Included within this review is an examination of:

- the range of mechanisms, strategies, techniques and approaches (referred to generically as 'tools') used in resolving public disputes worldwide and in Australia;

- the types of tools best suited in specific situations, and in particular, tools which work best where the parties to conflict are spatially dispersed;
- a critical analysis of the success, shortfalls or failure of tools in practice;
- design of systems that are able to work within a limited time frame, of say a 12 month period; and
- a general overview of the approaches appropriate for disputes involving Indigenous communities.

This short review cannot completely cover the extensive literature of natural resource management, dispute resolution and conflict. The purpose of such a review is, however, to select those pieces of research and thinking that will be most useful for its users. In the case of this Review, the initial users are those involved in developing Phase 2 of the Collaborative Water Planning Tools Project which will then involve a range of communities, industries, public interest groups, researchers and governments.

One of the primary criteria used in the selection of literature has been that the cited researchers have demonstrated their ability to bring together their understandings of theory with some practical experience of being involved in natural resource conflicts – either as intervenors attempting to manage conflict, or as participants themselves. Another important criteria has been that the researchers are able to demonstrate an understanding of the challenges that might result from working with both the spatially dispersed populations in rural Australia and the largely centralised state and federal government decision makers.

Some decisions needed to be made in relation to how the discussion of specific "tools" might be handled. Listings and explanations of tools for community engagement, conflict management and consensus building can be found in a multitude of resources. One of the most extensive is the *Consensus Building Handbook*, (Susskind, et al. 1999) which, while an extraordinary collection of tools, evaluations and anecdotal experiences, at more than 1,000 pages is not easily summarised, or even easily accessed, to get direction on any particular conflict situation.

To address this dilemma, the review's focus has been on how decisions are made about which tool to use – which is part of the overall process of system design. There is no perfect tool or combination of tools, or even suite of tools, which can be applied in every situation of water conflict. System design allows the choice of tools to emerge from a strategic examination of all the factors that impinge on the conflict. However, in order to provide some examples of where particular tools have (and have not) worked, a case study approach has been taken to illustrate the diversity of approaches that might need to be taken. Case studies have been chosen to reflect some of the important themes emerging from the review.

There was also an expectation that the review would bring a particular focus on the needs of Indigenous conflict participants. Rather than allocate a separate section to Indigenous people, which has the potential to reflect the all too frequent marginalisation of Indigenous interests in multi-stakeholder processes, and in recognition that the Project Team is preparing another extensive Review in a related area, Indigenous needs, expectations, values and barriers have been highlighted

throughout the paper. Again, choice of literature for inclusion has made on the basis of the researchers cited being able to demonstrate practical experience of involving Indigenous people in multi-stakeholder processes.

3.   Natural Resource Management and Conflict

Conflict is a normal human occurrence (Bingham, et al. 1997), particularly conflict between groups and communities (Pruitt & Carnevale 1993; Rich Harris 1999; Retzinger and Scheff 2000; Clayton & Opotow and Brook 2003; Dukes 2004; Tomlinson and Lewicki 2006). Conflict is often associated with change (Acland 1990; Bingham, et al. 1997).

Conflict is a not uncommon occurrence between sub-groups within a larger community which is assumed from the outside to be homogenous and in general agreement. Conflict between groups of Indigenous people about traditional "ownership" of land is one example which impacts on natural resource conflict and its management (for example, Feary 2001; Smyth et al. 2004). The environment movement is also comprised of a large number of different groups with varying agendas and priorities (Elix 2005)

Over the past 30 years, environmental controversies have expanded from a focus on location-specific disputes (for example, proposed development on the Franklin River; "saving" the Daintree rainforest from developers) to include concerns about bioregional biodiversity protection and natural resource management, including water management, on productive lands.

3.1   Characteristics of Resource Conflict

Natural resource conflicts often involve intense clashes of values and ideals, as well as complicated choices, and they frequently result in all parties feeling that they have failed to achieve their objectives (Papadakis & Young 2000). Some of the particular characteristics of natural resource conflicts are:

- such conflicts are usually complex. They involve a number of different and component conflicts, each with its own scientific and technical questions. The technical experts often do not agree (Burgess & Burgess 1996; Retzinger & Scheff 2000; Jones & Bodtker 2001; Opotow 2002; Burgess et al. 2006; Ozawa 2006).

- the environmental processes involved are themselves complex, involving natural systems with unclear boundaries, which are constantly reorganising themselves into new states of order, and in which change occurs in graduated and uncertain ways, rather than in a binary or discrete fashion. Ecological boundaries are unlikely to concur with political and social boundaries. The conflicts are largely about irreversible changes to natural processes.

- there are usually many stakeholder groups involved, and there is often an imbalance in resources between the groups. For example, the National Alternative Dispute Resolution Advisory Council (NADRAC) provides a summary of some of the financial, legal and cultural barriers that face Indigenous groups in participating in alternative dispute resolution processes

(National Alternative Dispute Resolution Advisory Council 2006). It may be difficult to identify the groups that need to be involved. The community-based groups may not always be well organised, and may not access appropriate advice. All stakeholders may be inexperienced in working with other groups.

- different stakeholder groups will make the claim to be acting in the public interest. In the case of Indigenous organisations, there may be conflict between clans or families (Baker et al. 2001).

- the conflicts are likely to involve clashes of values which are difficult if not impossible to translate into financial terms (Wootten 1993; Susskind & Field 1996; Davis & Keating 2000; Hicks 2001; Foley 2003; Oliver & Whelan 2003; Rubenstein, et al. undated). These values differences may lie at the heart of the conflict, but be masked by more political or scientific controversies. Some of the values differences may relate to the proper relationship between humans and the environment (Elix 2005).

- there is no clear agreement in the community or government about how the conflicts could or should be resolved or managed (Lambert & Elix 2000).

- a number of different government agencies are frequently involved and there are likely to be different types of land tenure arrangements that need to be taken into account (Jennings & Moore 2000; Dukes 2004).

- in conflict over natural resources, the sorts of win-win outcomes that are seen to be the goal of interest-based negotiation processes (Fisher, et al. 1997) are unlikely to be achieved, and conflict may become intractable. The challenge is managing this dilemma in a fair way (Thorman 2003).

- long-standing differences of views among departments representing different agendas, and holding differing statutory obligations, mean that a "whole of government perspective" is often difficult to achieve at a practical level (Toyne 1994; Jennings & Moore 2000; Eckersley 2003; Morrison & Lane 2005). In the case of water management in particular, Tan comments that cooperation between agencies has "not been a feature of the implementation of … reform on the ground" (Tan 2005:59). [2]

Of such conflicts, Fiske notes that:

> Conflict exists because there is an expressed difference between at least two independent parties who perceive incompatible goals, scarce (tangible) resources, threats to or frustration over (intangible) existential needs and values, or interference from another party in achieving their goals or realizing their identities.(Fiske 2000: 163)

Such conflicts are usually composed of a chain of disputes, each dispute reflecting the development and implementation of particular policies or actions:

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[2] Additional references for the above characteristics include: Buchy, et al. 2000:15,23,26; Condliffe 1998: 259; Painter 1988; Wootten 1993; and Jennings & Moore 2000.

> While the resolution of each dispute determines, for the moment and the place, the balance between competing positions, this policy balance remains a matter of continuing conflict in which a never-ending series of disputes lead to decisions which move social policy back and forth between competing priorities. (Burgess & Burgess 1994:2)

Natural resource conflicts not infrequently become intractable. Intractable conflict is non-linear in nature (Carpenter & Kennedy 1988) with an ebb and flow responding to new crises, new participants (Honeyman 2001), and levels of distrust of governments and industries within the community (Susskind & Field 1996). Intractable conflicts are "high stakes distributional conflicts over who gets what" (Burgess & Burgess 1997:2) and they occur where there is competition for the use of resources and where the potential uses are at odds at a fundamental level (Susskind & Cruikshank 2000; Foley 2003). Where conflict over water takes place, this distributional dilemma might occur as follows: a quantity of water cannot simultaneously be kept within a stream or river, kept in a reservoir, used for domestic purposes and, and provided to agricultural industries. The greater the quantity allocated to one user, the less is available for others (Burgess & Burgess 1997).

Even when an agreement is apparently reached, it may not be the end of the matter. Those who have been involved in the settlement of a dispute may subsequently be asked by those they represent if there are other ways that their objectives or interests might be attained (Burgess & Burgess 1994). These options might include administrative appeals, legal processes or political action. If any parties believe that they can get a better outcome to a negotiated agreement through another process, they are likely to use that course of action. Even if some of the participants in a process change their views as a result of the negotiation process, their constituents may not, and are likely to feel betrayed and find other leaders or representatives.

The complexity, and the likelihood that governments will be criticised for their actions by disappointed stakeholder groups, often results in government paralysis. Negotiations occurring as part of conventional democratic processes often seem incapable of managing the complexity of the issues, the stakeholders and the implications for current and future generations. Conflict resolution or management are becoming an imperative, rather than an option, as inaction will only going to result in further resource degradation and the diminishing ability of natural resources to support the population.

4.   International Perspectives and Research

Much of the literature regarding the resolution of public policy and environmental conflicts emerges from the United States of America and it is generally recognised that the US research is the most advanced in this area (Prior 2003). Experiences from this national context can provide some useful guidelines for Australian conflict management, although they may not be completely or directly transplantable (Prior 2003). Systems for conflict management in Australia need to be designed specifically for Australia, taking into account Australian political processes and institutions (Boer 1991; Wootten 1993; Barker 1994; Condliffe 1997).

A number of research centres and professional networks in the US have made intractable conflict in the environmental and public policy areas a focus for their work.

The Beyond Intractability website is a particularly valuable resource (Beyond intractability; Burgess et al. 2006), as is the Conflict Resolution Information Source site (University of Colorado). New technologies and dispute resolution are the focus of a site coordinated by the University of Massachusetts' Centre for Information Technology and Dispute Resolution (University of Massachusetts). There is an increasing number of reviews of conflict management processes in use in the US. For example, the US Centre for Environmental Conflict Resolution provides regular updates on its cases (Institute for Environmental Conflict Resolution), and a range of other organisations and researchers are conducting analyses of collaborative processes across the United States of America (Dukes 2004:215-216).

Some European experiences of environmental conflict resolution can be found at (Participation and Environmental). In comparison with the US experience, the development of environmental conflict resolution processes in Europe is less advanced. The URBACT website provides access to a number of summary online publications about European best practice (URBACT). France's experience with a large scale public policy conflict over the routing of a high speed train has become a model for other similar conflicts in that country (de Carlo 2006).

In Africa, the political aspects of environmental conflict have been more of a focus than the environmental aspects, with high levels of concerns that environmental conflict is leading to depopulation of communities, and increasing numbers of refugees (African Centre for Technology Studies 2004).

5. Australian Research

In Australia, there are a growing number of researchers and practitioners interested in the areas of intractable and environmental conflict. The Hawke Research Institute's Centre for Peace, Conflict and Mediation at the University of South Australia studies all types of conflict and promotes conflict transformation, mediation, dispute resolution and peace building (Hawke Research Institute). The University of New England has a Centre for Environmental Dispute Resolution (CEDR) which is cross-disciplinary and focuses on the "development of ethical strategies which seek to anticipate, avoid, mitigate or resolve disputes over natural resources or the environment" (University of New England).

The Australian Dispute Resolution web site aims to improve collaboration on conflict and dispute resolution and management (University of South Australia). The Conflict Resolution Research Centre at La Trobe University is focussed upon creating frameworks for those who work as practitioners in the conflict resolution area as well as analysing and evaluating conflict approaches and systems (La Trobe University Law and Management). The University of Queensland's Centre for Peace and Conflict Studies has a strong focus in the Asia Pacific region (Australian Centre for Peace and Conflict Studies).

5.1 Definitional Issues

It is not the purpose of this Review to canvass the whole body of definitional discussion in conflict management. However, a short overview of definitions may

lessen misunderstandings in relation to the extremely variable use of language in the area.

Dispute resolution

The Australian Attorney-General's advisory body, the National Alternative Dispute Resolution Advisory Council (NADRAC) concerns itself with "the development of high quality, economic and efficient ways of resolving disputes without the need for a judicial decision (National Alternative Dispute Resolution Advisory Council 2004).

NADRAC describes dispute resolution processes as facilitative, advisory or determinative.

> **Facilitative processes** involve a dispute resolution practitioner, who assists the parties to a dispute to identify the issues, develop options, consider alternatives and endeavour to reach an agreement about some issues or the whole dispute. These processes include mediation, facilitation and facilitated negotiation.
>
> **Advisory processes** involve a dispute resolution practitioner who considers and appraises the dispute and provides advice as to the facts of the dispute, the law, and, in some cases, possible or desirable outcomes, and how these may be achieved. These procedures include expert appraisal, case appraisal, case presentation, mini trial and early neutral evaluation.
>
> **Determinative processes** involve a dispute resolution practitioner who evaluates the dispute, (which may include the hearing of formal evidence from the parties) and makes a determination. These processes include adjudication, expert determination and private judging.[3]

Mediation

In Australia (and elsewhere), the term "mediation" is used widely and loosely[4] to include practices that go beyond NADRAC's description of "mediation" as follows:

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[3] Reconciliation NADRAC comments:

"In NADRAC's view, 'mediation' is a purely facilitative process, whereas 'conciliation' may comprise a mixture of different processes including facilitation and advice. NADRAC considers that the term 'mediation' should be used where the practitioner has no advisory role on the content of the dispute and the term 'conciliation' where the practitioner does have such a role. NADRAC notes, however, that both 'mediation' and 'conciliation' are now used to refer to a wide range of processes and that an overlap in their usage is inevitable."

[4] A study of Canadian mediators underlined the differing understandings, and "confused usage" of the language of mediation. "The 88 Canadian mediator-trainers in this study did not share a common understanding of the language they use. This was seen repeatedly in descriptions of their mediator role, style and orientation. … While ninety percent of respondents described their role as "facilitator", deeper analysis showed that they emphasised different aspects of this role". *(Picard 2002:265).*

> **Mediation** — Process in which the parties to a dispute, with the assistance of a dispute resolution practitioner (the mediator), identify the disputed issues, develop options, consider alternatives and endeavour to reach an agreement. The mediator has no advisory or determinative role in regard to the content of the dispute or the outcome of its resolution, but may advise on or determine the process of mediation whereby resolution is attempted. Mediation may be undertaken voluntarily, under a court order, or subject to an existing contractual agreement. [5]

As a generalisation, the term "mediation" is used to describe interventions between a small number of parties, with a clearly identified and understood process of negotiation and set of issues that might be negotiated. The term "mediation" is generally used most frequently in the areas of family, work and business conflict. "Mediation" is not used in this review to describe the conflict management processes undertaken for multi-party natural resource conflict of long-standing and complex nature (except when specifically citing other authors).

The term "facilitation" is more appropriate for the variety of activities that might be undertaken in these situations.

Facilitation

Facilitation is a term and technique that is regularly used in relation to consensus-building approaches to natural resource conflict. Tyrril (1998: 22) provides a useful definition of facilitation:

> A combination of management and mediation-like dispute resolution skills to assist the participants by focusing and managing the session; identifying and elucidating issues; assisting exploration of differing opinions, disputes, alternatives and potential solutions; and building consensus decisions.

Consensus

In the area of multi-party negotiation, it is often stated that the goal is "consensus" or that the process is consensus seeking, or consensus building. Among the different understandings of consensus, the explanation by the *Round Tables in Canada* provides a clear summary of the intent of working towards consensus, within a framework of flexible process design.

> A consensus process is one in which all those who have a stake in the outcome aim to reach agreement on actions and outcomes that resolve or advance issues related to environmental, social, and economic sustainability.
>
> In a consensus process, participants work together to design a process that maximizes their ability to resolve their differences. Although they may not agree with all aspects of the agreement, consensus is reached if all participants are willing to live with "the total package".

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[5] See also *(Boulle 2005)* for a detailed discussion of the various understandings of mediation.

> Consensus processes do not avoid decisions or require abdication of leadership—but call upon leaders to forge partnerships that work toward developing solutions. A consensus process provides an opportunity for participants to work together as equals to realize acceptable actions or outcomes without imposing the views or authority of one group over another.
>
> There are many forms that a consensus process can take. Each situation, issue or problem prompts the need for participants to design a process specifically suited to their abilities, circumstances, and issues. …
>
> Opportunities for building consensus exist at all stages of decision-making around issues of sustainability–from the establishment of broad policies, to long range planning to allocating land and resources, to resolving specific disputes, to monitoring and enforcement. The use of consensus processes helps decision-makers to be proactive by anticipating and avoiding disputes and problems. (Round Tables in Canada 1998:2,8)

The terms "facilitation", "intervention", "conflict management" and "consensus-building" will be used rather than "mediation".

6. Critiques of Conflict Management and Consensus Building

While there is general agreement that conflicts over natural resource use and management need to be addressed, some observers would prefer leaving such conflicts to mainstream electoral and democratic processes. As just one example, McCloskey warns that consensus-building processes can impact adversely upon those seeking to improve environmental outcomes.

> Collaborative processes represent a beguiling pathway toward devolution and localism. While it is packaged in ways that 'boomers' can hardly withstand, its triumph in service to those ends would affect a massive transfer of power, a repudiation of the progress of the past century, a collapse in environmental gains, and a grievous wound to the practice of democracy (McCloskey 2000:228).

Some of his specific concerns are that:

- Majorities – even very large majorities – can be held captive to obstructive minority views via unsuccessful efforts to reach consensus;
- Taking conflict outside mainstream political processes has the potential to remove decision making on public policy from democratically elected governments; and
- Focusing on agreement through collaborative processes, "shifts the focus to the most tractable questions" and embodies "a preference for an agreeable decision over an important one" (McCloskey 2000:229).

Susskind has argued, however, that mediation (meaning consensus-building processes) "is *not* an alternative to traditional decision-making by legislative, administrative and judicial bodies; rather it is a supplement to such processes" (Susskind 1985:117). It "adds another step" to the processes of decision-making, and can strengthen support for legislation, clarify objections, facilitate the

development of alliances and help avoid litigation. "If the agencies participating in an informal consensus-building effort find the emerging consensus unappealing, they can always walk away before agreements are finalised" (Susskind 1985:118).

In Australia, Cox has also argued against the use of consensus based concepts and practices on the basis that they ignore fundamental differences between interest groups and individuals and fail to allow for the impact of group processes and power differentials. She considers that consensus based processes may stifle debate, and pressure weaker parties into reaching agreement with more powerful interests (Cox 1995).

Consideration of power issues is integral to an analysis of conflict. There is a range of literature in this area of power (see for example Brigg 2007). Consideration of this, and the practical experiences of the author would reinforce Mayer's contention that it is the understanding and addressing of power differentials in any particular conflict circumstance which is the key to ensuring that such differentials do not work against the effective and fair management of conflict. Mayer points out, it is generally untrue that power "can be balanced" (Mayer 2000:50), and power is certainly not balanced in mainstream political processes. Mayer contends that balancing power or overcoming power imbalance is a fruitless "and possibly meaningless" quest as power is dynamic and context dependent. All that is possible in any conflict management process is to ensure that participants have "an adequate basis of power to participate" (Mayer 2000:51).

A discussion of power in relation to consensus building conflict management processes cannot avoid inadequacy of the adversarial political system in dealing with public policy conflict. This has been recognised for the past thirty years, particularly as the need to develop solutions for complex, modern problems grows (Hawke 1979; Papadakis 1996). Politicians are influenced in their policy making by a diversity of players, including the media (Susskind & Field 1996), public opinion polling, a range of interest groups, the party political system (Papadakis 1996), consultants and lobbyists (Burton 2007), think tanks (Norington 2003; Burton 2007) and commentators (Burgess & Burgess 2006) – many of which thrive on conflict and bi-polarity (for instance, development or conservation; protection or utilisation). Power differentials determine on a daily basis the access that different interest groups have to decision makers.

Reframing conflict to move beyond bipolarity, and explictly designing processes to manage conflict is not only preferable to inertia, but is likely to result in more long-lasting outcomes (Schon & Rein 1994; Lewicki, et al. 2003; Shmueli & Ben-Gal 2003).

The solutions to complex social and environmental problems will most likely be found through constructive dialogue:

> in which both parties are looking for solutions that will benefit both sides, where parties attempt to develop an empathetic understanding of divergent viewpoints or of divergent goals and where this understanding involves good will, the willingness to listen, and discretion. (Papadakis 1996:4)

Encouraging parties in conflict to adopt an interactive negotiating stance is the first challenge (Poltras & Bowen 2002).

7. Australian Experiences

Multi-stakeholder consensus-building processes in natural resources involve individuals, with their varying strengths and weaknesses, prejudices and knowledges (Ozawa 2006). This last group includes scientific, economic, practical, historical and Indigenous (Jackson 2005) knowledges. However, such processes also involve and rely upon governments and their institutions.

The history of consensus-building and other alternative approaches to natural resources conflict in Australia to date would suggest that even when implemented, they are not fully recognised, supported and endorsed by political processes.

Eckersley comments that:

> many of the new and widely-heralded experiments in community participation in natural resource management have not achieved their full potential owing to the failure on the part of the political executive to relinquish sufficient control to, or to adequately empower, fund and resource/support and publicise or continue these new initiatives (2003:494).

She cites the Resource Assessment Commission, the National Conservation Strategy for Australia and the National Strategy for Ecologically Sustainable Development 1992 as examples, and to this list could be added the New South Wales Regional Vegetation Management Planning process (Elix 2005) and the New South Wales and Queensland Regional Forestry Agreement Processes (Foley 2007; Lane 2003).

The following three case studies characterise some of the experiences and learnings from instances of conflict of natural resources in Australia.

Case Study 1: The River Management Committee Process in New South Wales

From Spriggs (1999)

Public participation in plans for water allocation has occurred largely through committee processes, many of which have faced real difficulties (Tan 2006). The River, Groundwater and Water Management Committee (River Management Committee—RMC) process was initiated by the New South Wales government in 1997 and 1998.

The Committees were "the first of the community decision-making exercises designed for longer term participation to adaptively manage a natural resource—in this instance water flows and water quality of regulated rivers" (Spriggs 1999:1).

The River Committees were composed of multi-stakeholder representatives and established within the (then) Department of Land and Water Conservation.

Key review findings were:

- the RMCs were forced to make decisions shortly after their formation and this meant that the participants had insufficient time to understand each others'

- perspectives and positions;

- several of the Committees studied had difficulty with consensus decision-making in a short time frame, with at least one submitting a minority report;

- skilled facilitation would have helped Committees in their group learning and group trust and team building;

- attention needs to be paid to group dynamics when a new member joined an existing group;

- the involvement of Departmental staff as members of Committees meant that the government had greater levels of control over Committee processes than would be the case for "true community ownership" (Spriggs 1999:108);

- there was wide-spread belief among Committee members that a lack of definition in the roles and responsibilities of Committees in relation to advice provision and decision-making "[was] because the government wants to, at the same time, abdicate responsibility for such complex and contested issues to the community while retaining the right to make contrary decisions where votes and/or economic prosperity of the State may be at stake" (Spriggs, 1999:109); and

- there were problems associated with the lack of perceived (interactive, procedural and distributive) justice. The participants felt that the political processes changed several times during the course of their consensus-building work. A number of participants felt that "ministerial intervention and changes in protocol" undermined the process, causing them to move outside the process to the media to try to gain better outcomes for their stakeholder groups (Bowmer 2007:4).

Case Study 2: NSW Regional Vegetation Management Planning

From Elix (2005)

A Regional Vegetation Management Planning (RVMP) process was undertaken in New South Wales (NSW), between 1998 and 2002. Within the RVMP process, 20 multi-stakeholder Regional Vegetation Committees (RVCs) were established across New South Wales to undertake planning and policy development work.

Key review findings were:

- At the beginning many participants hoped that conflict would be addressed in new and different ways. Many later described their disillusionment and disenchantment as the process unfolded, with some expressing disappointment that the potential of participative consensus-building processes to assist in managing complex policy conflicts was not fulfilled.

- Seemingly arbitrary changes in attitude from the NSW government— "the ground rules kept changing"—was also a significant contribution to the disenchantment of many of those involved.

- When conflict participants perceived that it was in their best interests to

prolong conflict, then a conflict was unlikely to be resolved. Resolution or movement towards agreements only occurred if the participants could see that it was in their interests to contribute, despite best efforts from independent conflict resolution experts.

- A range of negotiating and conflict resolution strategies is available when participants do not see the maintenance of conflict as being in their best interests. The strategies considered to be most effective were:
    - moving into smaller, mixed interest groups to try to resolve difficult issues, or at least develop options for the larger group to consider;
    - delaying decisions on more difficult issues; and
    - continuing to move forward in small agreed steps.

- However, if the relationships between group members did not improve during a time of delay, it was unlikely that the difficult issues would be adequately addressed afterwards.

- Training, particularly in communication and negotiation skills is likely to play an important role for those involved in group agreement building processes. This most effectively occurs at the beginning of the process, (and during the process on a planned or responsive basis) rather than in an ad hoc manner when conflict reaches a climax.

- Conflict resolution processes commenced after conflict has become well entrenched are less likely to succeed than planning for, and managing conflict from the beginning of a process.

- Managing group processes is crucial. Relying on this to happen by circumstance is likely to be an ineffective strategy. Having someone with the skills and intent to focus on effective group processes is essential to achieving outcomes, however, this does not necessarily need to be a skilled outsider. It may also be a trusted member of the group (see also Mayer 2004).

- The mix of personalities, skills and backgrounds among Committee members was very important in determining the effectiveness of the process. Recruitment processes need to consider not only individual characteristics, but how effectively a particular group of people will work together.

Case Study 3: Western Australian Western Goldfields Experience

From Friedel et al. (2002)

The Western Australian Goldfields experience focused on achieving structural adjustment outcomes in declining pastoral areas, while involving regional communities in the process of decision-making.

The project was a success in terms of high levels of community engagement, the development of some new outcomes for the region, the gathering of future based statements, and the putting in place of some policy planning processes. However, long term outcomes were not assured - "the processes which evolved are still very vulnerable to internal and external pressures" (Friedel et al. 2002:24).

There was a strong incentive for stakeholder groups to participate (due to the real possibility of the need for significant land use change), but institutional change was difficult to achieve: "Existing political approaches to regional land use in rangelands tend to be 'top-down'–strongly centralised, technocratic, uni-sectoral and responsive to powerful lobby groups" (Friedel et al. 2002:23).

8. The Role of Government as Catalyst for Conflict Management

Governments at all three levels, national, state and local, play critical roles in resource conflict management. A public sector institution capable of managing the implementation of a conflict management system for natural resource conflict will initially be involved in the catalytic role of bringing parties together. Acting as a "convenor/facilitator of multi-stakeholder negotiations, [it should] provide incentives for reluctant or untrained parties to participate, [acting] as a capacity builder of parties and institutions" (Susskind & Secunda 2000:310).

As discussed earlier, there is a need for clear communication about the relevant government roles and the detail and purpose of the conflict management process. Conflict management processes "should not … take away the government's decision-making role but [aim] to produce a consensus between different groups to make it easier for government to legislate" (Newton 1989:18).

Government will need to change the way that they approach conflict, some key changes being the need to, for instance:

- Coordinate activities across different players and groups of players (Land and Water Australia 2001);
- Be robust, flexible and resilient and capable of responding to internal and external conditions (Land and Water Australia 2001);
- Be able to balance various roles as facilitator, advocate and authority (McKinney 1992); and
- Establish negative feedback mechanisms (thus providing "alert signals") (Land and Water Australia 2001). This last point relates to what is known as 'boundary spanning', and is illustrated in Case Study 4.

Case Study 4: Conflict Management Processes in the United States Forest Service

From Manring (1993)

The US Forest Service designed and implemented dispute resolution processes for their interactions with stakeholder groups, including environmentalists.

Key issues which emerged included:

- The importance of "boundary spanning" - "the formal and informal mechanisms that organizations develop to link with and obtain information

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from the external environment" (Manring 1993:15). Those who work within the organisation should be able to realistically evaluate the advantages of a negotiated agreement over an imposed agreement from a higher level decision-making authority. Without this understanding of what might be called the political realities of a situation, the officers within the organisation are likely to be less enthusiastic about engaging in conflict management activities.

- The need for organisational education

- The officers involved reported that actually being involved in dispute resolution processes was a major transformative experience, which would be difficult to achieve without being part of the actual experience.

- Costs issues - The US Forest Service found that negotiation processes took up more hours of work by (primarily lower level) individual officers, but that it saved overall agency time in calendar days. These two groups within the one department therefore had differing understandings of the costs of the processes.

9. Key System Characteristics

In a general sense, a system designed for public policy conflict management will require (Elix 2005):

Order

Attempting system development is a process of imposing a level of order on what might appear at face value to be a confusing, complex and disordered situation. System design allows order to be developed in the conceptualisation of the conflict, even if this level of order is frequently disrupted or overturned. Encouraging conflict participants to see some ordering of the conflict through the process will also assist with lowering negative emotional levels and anxiety.

Flexibility and adaptability

In contrast but complementary to order, there is the need for flexibility within a system designed for complex environmental conflict. A broad range of approaches may need to be adopted, and changed with shifting circumstances.

Flexibility will also be needed with respect to time - the system will need to be capable of extending out in time where this is necessary to involve conflict participants effectively, and to contract back down when decision-making is possible. A system which is flexible will also need to be adaptive, to make changes as necessary as the conflict management process proceeds.

Flexibility and adaptability are particularly important in negotiation processes involving Indigenous participants, where enough time needs to be provided, and strategies specifically tailored for effective and meaningful engagement.

Inclusive and consultative procedures

The research demonstrates the importance of involving conflict participants or stakeholders in conflict management processes and their design. Stakeholder groups have the expectation that processes will not be foisted upon them, and they therefore need to be included in early planning stages. The Australian experience shows that not doing this is a general predictor of process failure.

10. Key System Design Issues

10.1 Inducements for Participation in Conflict Management

Successful partnerships involve "not only reciprocal obligations but also mutual gains" (Gunningham 2002:153). All parties need to feel that "they will be better off as a result of entering the partnership" (Gunningham 2002:155). While this may appear self-evident, it is worth emphasising that no stakeholder group can be expected to automatically become involved in consensus-building activities, particularly given the relatively high transaction costs of their involvement. Providing financial support for the involvement of community stakeholder groups provides a significant inducement to participate on what is then perceived to be a more level playing field.

A significant inducement for industry involvement may be the threat of the introduction of legislation or regulation considered to be onerous: "it may be the fear of a worse alternative … creates sufficient self-interest on the business side for it to view the potential partnership in win-win terms" (Gunningham 2002:156). However, in other circumstances, consensus agreement induced by the threat of legislation has later been seen to produce negative environmental outcomes (Coglianese 2003).

In the lead-up to the enactment of the *Native Vegetation Act 1997* (NSW), it was regulation, and the threat of more legislation, that convinced the farming industry to become involved in the Regional Vegetation Management Planning collaborative process (Elix 2005). However, this inducement was not sufficient to ensure that the negotiating representatives went on to play a constructive role.

In addition, the government did not then set up a process that allowed all stakeholders to undertake partnership and consensus building activities with a high level of effectiveness, and only provided limited incentives for their ongoing participation.

10.2 Diagnosis/Assessment

It is during the initial diagnosis (Elix 2005) or assessment (Bean et al. 2007) phase that information is collected and decisions made which will impact on the way that the system unfolds in subsequent phases. Clearly, these decisions can be revisited as situations change, but completing a comprehensive diagnosis phase will establish the system on a strong foundation (Bean et al. 2007). Involving stakeholders at these early stages, and establishing processes for joint information collection processes which will themselves help overcome conflict down the track (McKinney 1992).

While there have been attempts at standardisation of the diagnosis (or assessment) phase, most recent research suggests that there is no ideal method, and that each situation requires examination to determine the appropriate mix of tools, strategies and techniques to match the participants and resources (Bean et al. 2007).

An intervenor can facilitate the initiation of consensus-building by paying attention to all the relevant impinging factors in the diagnoses phase, for example:

- the "ripeness" of the conflict (Burkardt, et al. 1998);
- the risks associated with establishing a conflict management process (Elix 2005);
- appropriate communication protocols and a range of communication manuals (Adler 2004); and
- determining appropriate representational strategies (McKinney 1992; Jennings & Moore 2000; Carson, et al. 2002).

However, it would be unrealistic to suggest that controlling all the proposed factors and variables is possible (Poltras & Bowen 2002).

10.3   Determining Timeframes

An ongoing problem in addressing natural resource management is:

> the imperative of defining suitable spatial and administrative scales. Ecological (and many human) processes rarely match historically defined political boundaries, and the match of human and natural scales is an ongoing challenge. (Dovers 2001:14)

In the particular context of conflict management, these temporal issues are critical. Under-estimation of the time required for discussion, negotiation and agreement on complex, multi-faceted natural resource conflict is common (Elix 2005), and particularly so when large distances, isolated communities and cultural and linguistic differences are involved (Wohling 2001). Realistic and respectful timeframes are particularly crucial in ensuring the participation of Indigenous groups.

> External (arbitrary) time constraints which limit or pressure Indigenous people are counter-productive. Effective processes are those which enable Indigenous people to set their own time frames that are compatible with their own cultural protocols. (Smyth et al. 2004:17)

There is frequently a mismatch between the apparent urgency of political decision-making and the artificial deadlines imposed by electoral cycles, and the much slower change characteristic of complex negotiations, ecological processes, institutional and individual behavioural change (Dovers 2001).

10.4   Resourcing

Costings of conflict management activities are likely to vary widely depending on the natural resource issue in question, the assumptions on which the costing is based, and the understandings of those involved in the costing exercise (Rowe 2003; O'Leary & Bingham 2003). It is almost impossible to compare the costs of conventional processes to address public policy or environmental conflict, and those focused on consensus-building, but the latter are definitely resource intensive (Mayer 2004; Manring 1993).

If engagement needs to occur across a large geographical area, with communities who are inexperienced negotiators, and long standing differences, costs will escalate. Investment in skills development for key personnel is likely to be particularly critical (Thomson & Allison 2006). Adequate resources need to be provided to Indigenous leaders and organisations to allow and encourage engagement in conflict management processes (Smyth et al. 2004) to ensure that these groups have the "adequate basis of power to participate" discussed above. For example, it is estimated that the Aboriginal Planning process undertaken in the Wet Tropics NRM region cost in the order of $250,000 excluding in-kind contributions from individuals and organisations (Smyth et al. 2004).

If cost savings can be demonstrated, this provides a powerful argument in favour of the implementation of such consensus-building process. It may well be however that short term cost savings are generally not achieved through the implementation of better conflict management processes. However the inability to gain agreement, or make decisions on natural resource conflict will inevitably cost the Australian community greatly in years to come. Socially and environmentally at least, collaborative, consensus seeking processes are likely to have the advantage in enhanced and more accepted decision-making, irrespective of cost (Elix 2005).

10.5   Facilitator/Intervenor Role

Facilitation is "about working with people and assisting individuals with their interactions and discussions" (Keating 2003:2). Facilitation aims to empower people to take control and responsibility for their own efforts and achievements. Effective facilitation requires clarity of purpose, and a well designed and managed process in which participants provide the content (McKinney 1992).

Impartiality (i.e. freedom from favouritism or bias) and neutrality (i.e. not acting to support one party over another) in the facilitator are expected. Sharing funding between conflict participants is one way to demonstrate impartiality in a facilitator (Dukes 2004). However, it usually falls to governments to fund conflict management processes about natural resource conflict and the allocation of funding itself also needs to be seen to be impartial and fair.

However, facilitator impartiality is perhaps less significant than the ability to be flexible, improvisational and reflexive (Elix 2003). The facilitator needs to be able to interpret the different values and positions presented and their implications for an outcome. This observation is reinforced in a US case study review of land use conflict resolution, which found that those involved:

> expressed strong appreciation for the intervener's substantive knowledge of the content of the conflict and ability to suggest options and alternative means for overcoming differences. (Lampe & Kaplan 1999:3)

One of the key roles of an effective facilitator is working with participants to change the framing of a conflict to decrease its intractability (Shmueli & Elliott 2006) and gradually build up areas of consensus. "[C]onflict episodes may be more readily resolved if participants share a common frame of the dispute resolution process" (Lewicki et al. 2003:270-271). The facilitator also needs to ensure that participants have a clear understanding of the relationship between the conflict management process and existing political and legislative processes (McKinney 1992).

In their work on training and educating environmental facilitators, Glavovic et al. (1997) outline six characteristics which they see as indicative of a facilitator who is both ethical and effective. These qualities, which are either innate or the product of years of development built on both training and experience, include the ability to advocate for sustainable development, environmental literacy, and the capacity to be flexible in response to different conflict situations.

10.6   Addressing and Managing Values Differences

Difficult natural resource conflicts are likely to involve significant differences in values among the many conflict participants (Lambert & Elix 2000; Clayton & Opotow 2003; Martin & Verbeek 2003; Jackson 2006). Such conflicts are usually socially and ecologically complex, may involve high levels of emotion (Jones & Bodtker 2001; Maiese 2006) and are unlikely to result in outcomes that are satisfactory to all the stakeholder groups.

Rural people in particular, including landholders and Indigenous people, come to the negotiating table with the weight of their communities on their shoulders. They are likely to see themselves as representatives of a particular way of life, and set of beliefs, and are, in many circumstances, likely to see these as being under attack. They may resent outsiders participating or facilitating in discussions about their region. [For details of some of the conflicting values in beliefs about the environment, cultural frameworks and personal values see (Dempsey 1990; Campbell 1995; Hussey 1995; Crago, et al. 1996; Gray & Phillips 1997; Voyce 1999; Brown 2000; Gunningham 2002; Lane & Corbett 2005; Jackson 2005)].

Intractable conflict resulting in impasse causes considerable human and societal costs, as well as the more obvious economic ones (Carpenter & Kennedy 1988; Isenhart & Spangle 2000; Burgess & Burgess 2006).

Frequently values conflicts become camouflaged by misunderstandings and miscommunication resulting from badly designed processes (Acland 1990; Burgess & Burgess 1996; Parker undated).

10.7   Indigenous Knowledge, Values and Culture

It is generally agreed that traditionally, Indigenous people have a different understanding of the relationship between humans and the environment from non-Indigenous people (Smyth and Bahrdt Consultants 2004[6]), although these values and understandings may not have been fixed or consistent across Indigenous groups before European settlement (Bradley 2001). The valuing of Indigenous knowledge needs to be a part of conflict management processes in natural resources in the same way that scientific and other on-ground land management knowledges are considered.

> Aboriginal languages and knowledge systems categorize species, habitats, ecological communities and the resources they contain in ways equivalent to, but different from, Western scientific classifications. Aboriginal environmental knowledge also contains a complex system of ecological and cultural indicators that are linked to environmental features (such as the flowering of particular species indicating the appropriate time for hunting and collecting another species). (Smyth and Bahrdt Consultants 2004:14)

However, ensuring that the labelling of Indigenous values as distinctly cultural does not lead to their being ignored in the consideration of wider value sets (Jackson 2006). Particular strategies for cultural translation may be needed between non-Indigenous and Indigenous peoples (Wohling 2001), including the employment of respected leaders to act as cultural translators (Smyth et al. 2004; and Case Study 5).

Case Study 5: Values Mapping in the Far North-West of Tasmania

From Elix & Lambert (2007)

A values mapping process has been used in managing land use conflict in Robbins Passage - Boullanger Bay area in the far north-west of Tasmania Values mapping combines a hands-on values mapping tool within an interactive, facilitative framework to enhance agreement and clarify areas of disagreement. When used in environmental conflicts, it allows the assessment of the competing factual and technical claims within a values-based context.

Values mapping uses values identification strategies from business marketing, as well as consensus-building strategies from alternative dispute resolution (ADR), in a tool for bringing together the diversity of interests in conflict management and planning

At the core of the values mapping process is the use of a visual tool - a topographical or aerial photograph or land use planning map - which allows participants to discuss issues of conflict freer of the values that the differing sectors attach to particular words. For example, 4WD users see the beach as a place for active recreation. Scientists see it as a dune system and an important habitat for bird nesting. The mapping process allows the discussion of both these values, without giving one of them precedence or greater weight.

Values mapping allows participants to express difficult and threatening concepts in ways that do not require one side to win and another to lose. The ideas and concepts become the basis of agreements about the breadth of values. Values mapping also allows the development of trust and relationships before agreement is sought or needed on issues of conflict. The participants listen to others talk about their values in comparison with their more usual interactions where they feel forced into defending entrenched positions, and denigrating others' positions.   The conversation becomes "How can we accommodate these diverse values?" rather than "How can I make sure the things I value take precedence over the things that my opponents value?"

Facilitation is responsive and adaptive to the micro-directions of the group.   If the group or parts of the group want to put a greater focus on one area of discussion, the process is flexible enough to accommodate this, while still maintaining an overall direction.

Values mapping is capable of being adapted to the particular needs of the communities and government or business stakeholders involved. It has been used in far north Western Australia to facilitate discussions between Indigenous and non-Indigenous people in a natural resource planning process, involving local Indigenous people acting as cultural translators within their communities.

See also Gambold (2001) for descriptions of how participatory mapping has been used by the Central Land Council in the Northern Territory as an aid for land use planning and Australian Government (undated) for a description of an Indigenous Cultural mapping project being undertaken in the Wet Tropics Catchment.

10.8　The Use of Scientific and Technical Information

The collection and use of scientific and other technical information needs to be a support for the discussion of values, but has often been used as ammunition for protracted superficial conflict. Specialised sciences might need to be involved but may not be able to produce an agreed outcome. Missing or inadequate data, the politicising of information and the skewing of information by the application of political spin and media inaccuracies, are other factors leading to conflict (Adler et al. 2000). Acceptance by conflict parties of the "persistence of scientific uncertainty" is probably crucial to creating mutually agreeable options for the future (Ozawa 2006:202).

A "joint fact-finding" approach to collecting information in the mediation of complex environmental disputes relies on pooling the information of the various interest groups (Hillman et al. 2005; Tan 2005; Cullen 2006; Bowmer 2007). This can include face to face dialogue involving the experts, the stakeholders and the decision-makers, translation of technical information, highlighting of areas of scientific agreement and "narrowing" of areas of disagreement, and importantly, using a "single negotiating text to record the results" (McCreary, et al. 2001:330) Such a text (which could be, for example, a written document, an annotated map, or a computer generated data-based representation) might be described as a "boundary object": providing "a common point of reference for conversations and a means of translating abstract and complex ideas" (Jakku et al. 2004:2).

Case Study 6: Deliberate Multi-Criteria Evaluation in the Goulburn-Broken Catchment, Victoria

From Proctor et al (2006)

Deliberative multi-criteria evaluation is a methodology which brings together the use of a citizien's jury (a deliberative process) with the formal process of multi-criteria evaluation (MCE). MCE identifies options for a particular problem, in this case the future of tourism management in the Goulburn-Broken Catchment, and assesses them using a range of weighted criteria.

The members of the citizen's jury chose the options and the weightings, with the assistance of computer technology, reviewing of material and presentations by "expert witnesses".

This methodology had real benefits including allowing the breaking down of "the problem" into manageable sections and providing a streamlined, efficient process for managing problem solving. It provided a strategic, and codified method of approaching conflict.

However, it would probably work best when the stakeholders are relatively homogenous, have similar levels of technological understanding and no significant political agendas.

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11. Criteria for Success

The most obvious criterion for success in conflict management is complete or partial agreement by conflict participants. However, complete agreement is unlikely to be

forthcoming in natural resource management, and agreements are unlikely to be directly attributable to a particular conflict management process (Sourdin 2002; Dukes 2004). However,

> [T]he equating of success with reaching agreement and of failure with not achieving agreement is very limiting, particularly in complex disputes. The longer, more involved, and more intense a conflict, the less useful it is to see resolution and agreement as the same thing. Agreements are often just steps along the way. (Mayer 2000:212)

Other potential criteria include measuring:

- satisfaction of interests and perceived needs (Bingham, et al. 1997; Dukes 2004);
- changes in thinking - including attitudinal change and better communication (d'Estree 2001; Foley 2007);
- changes in relations, such as improved empathy or improved levels of respect (Bingham, et al. 1997; Conley & Moote 2000; d'Estree 2001; Holzinger 2001; Dukes 2004; Foley 2007);
- provision of a foundation for transfer - that is the achievements that allow the "new discoveries" to be conveyed to participants' communities and outside groups (d'Estree 2001);
- provision of a foundation for outcome or implementation - including environmental outcomes, political reforms and changed institutional processes (Conley & Moote 2000; d'Estree 2001; Holzinger 2001; Sourdin 2002; Dukes 2004; Emerson et al. 2003);
- fairness of process (Bingham, et al. 1997). Sourdin suggests that "[a]sking questions of the conflict participants at the beginning of a process such as: "How would you know whether the process has been fair?" or "What will be the characteristics of acceptable outcomes?" may assist in determining realistic expectations (Sourdin 2002);
- accessibility (Sourdin 2002; Jackson 2005);
- resource and other efficiency (Holzinger 2001; Sourdin 2002); and
- consistency of the procedure and the result with the surrounding political and legal systems (Holzinger 2001).

12. Development of Conflict Management Tools Through System Design

> [T]here probably is no such thing as one optimal approach. (Mayer 2004:199)

Viewing environmental policy conflicts as complex systems is an appropriate frame for natural resource conflict management (Bingham, et al. 2003). Conflicts vary considerably in terms of the participants, the environmental, social and economic issues, and the political imperatives. However, system design provides opportunities for the development of better management processes within the context of "a dynamic sense of conflict" (Benjamin 1990), and a wider policy, planning and rule making environment (Emerson et al. 2004). The goal is for a comprehensive system, built on the knowledge of previous experiences and institutionalising their successful aspects. Processes need to be put in place that allow the players who should be involved, to talk, seek information, negotiate, argue, come to agreement, or continue to disagree. Such processes will not arise spontaneously. They need to be planned and managed with care and expertise (Thomson & Allison 2006). The role of

governments in acting as catalysts, planners and resourcers of conflict management processes is fundamental.

12.1 System Components

The following system components have been developed by Elix as the conclusion of the extensive research conducted for her PhD thesis (Elix 2005). The research methodology employed in her thesis used the triangulation of literature review, quantitative and qualitative data collection and analysis. Issues were approached from a general and theoretical perspective before being explored through the specific case study outlined above (Elix 2005).

Step 1: Diagnosis

- An assessment is made of the nature of the conflict including identifying:

    - the varying interests, values and needs;

    - the organisations and individuals who need to be involved;

    - the potential impact of external factors on the conflict management process;

    - the organisational and individual power dynamics operating among conflict participants;

    - *inter-group* dynamics, and where possible, intra-group dynamics among conflict participants;

    - the likelihood of the success of intervening with a conflict management process, taking into account the time that has elapsed since the beginning of the conflict, and the intensity of the conflict;

    - the resources necessary to allow all conflicting stakeholder groups to participate effectively.

- Conflict participants should be involved as far as possible in the diagnosis and design of the conflict management process.

Step 2: Choosing intervenors/conflict managers

- A skilled intervenor(s) is chosen to manage conflict management process, and to participate in the diagnosis and system design phases.

- Skills should include:

    - the ability to demonstrate a set of skills, appropriate knowledge, and life experience relevant to the conflict;

    - the ability to show flexibility in their approach to conflict management activities;

- the ability to emphasise the positive and constructive nature of the interactions among conflict participants, in particular the 'learning' aspects and the ability to 'make a difference' and bring about change.

- The selected intervenor(s) should be perceived by conflict participants to be sufficiently neutral to carry out their work.

- Where necessary, "cultural translators" are in place to ensure Indigenous values are clearly identified and Indigenous people have sufficient power within the conflict management process.

Step 3: Establishing clear communication processes

- An appropriately resourced secretariat(s) for the conflict management process is established which is perceived by conflict participants as providing effective support services and being independent in its interactions with conflict participants.

- Information is provided to conflict participants including:

  - a realistic assessment of how the conflict management process might progress;

  - the roles and responsibilities, particularly regarding decision-making;

  - realistic expectations for the achievements of the conflict management process;

  - the incentives (or lack of them) to become involved in a negotiating, consensus-building process, compared with the other courses of action open to them;

  - the resources available to support them in participation.

- Day-to-day communication protocols have been established and documented between the parties involved.

Step 4: Determining appropriate representation

- A decision is made regarding the representational needs in consultation with the conflict participants.

- Resourcing levels for the conflict management process, including reimbursements to participants and travel costs, are set at an appropriate level.

- A skills assessment has been performed with conflict participants as early as possible, and training needs identified, particularly in the areas of negotiation and communication skills.

Step 5: Setting a time frame for agreement

- A realistic time frame is developed with conflict participants for the course of the conflict management process.

- Monitoring and amendment (as necessary) of the time frame occurs regularly.

- Changes to decision-making points and processes and the reasons for them are reported to participants as they occur.

Step 6: Developing evaluation methodology

- An evaluation methodology is developed with the involvement of conflict participants including development of indicators of success. The evaluation process should include the following components:

  - measurement of a range of both process and outcome objectives;

  - quantitative and qualitative assessment;

  - gathering views from the participants and from external observers;

  - measurement against criteria agreed early in the process.

- Regular reviews of progress are undertaken and the results provided to decision-makers and conflict participants.

Step 7: Initial agreements made

- Initial agreements are made on the matters outlined in Steps 1-5.

- Conflict participants have a clear understanding of, and agreed to accept, their roles and responsibilities.

- Decision leaders are clearly supported by their constituent groups.

- In processes focused on building consensus, the participants agree on their understanding of consensus.

Step 8: Skills development

- Relevant skills development training is carried out, focusing on:

  - improving conflict participants' flexibility in their negotiation styles;

  - team building, consensus and agreement building processes;

  - communication skills.

- Where possible, the members of multi-stakeholder groups are involved together in learning.

Step 9: Collecting technical, scientific and perceptual information

- Appropriate information and data collection methodologies are undertaken taking into account the level of technical knowledge among conflict participants and existing information.

- A collaborative approach is taken between scientists/technicians and other conflict participants, in relation to:

    - information collection;

    - information analysis;

    - ways of using information in reaching agreements and resolving disagreements has been determined.

Step 10: Development of strategic questions

- A set of strategic questions is generated by conflict participants.

- Review processes have been initiated that track the "answering" of questions, and the initiation of new or subsidiary questions.

Step 11: Secondary agreements made

- Agreements are made between conflict participants on the matters outlined in Steps 6-10.

Step 12: Generating options

- Options generation processes occur so as to:

    - encourage the highest levels of creativity possible in responding to the strategic questions;

    - produce an optimal number of possible responses to the strategic questions for conflict participants to consider.

Step 13: Tertiary levels of agreement

- Agreements are made between conflict participants where consensus can be achieved in relation to preferred options as developed in Step 12.

Step 14: Focus of areas of disagreement

- The intervenor(s) has put in place debriefing or other strategies to ensure recognition and acknowledgement of their own emotions and the development of ways of preventing its harmful expression.

- In situations of impasse, intervenors trial a range of strategies aimed at moving the conflict participants through disagreement towards consensus.

Step 15: Formalising agreements and disagreements

- Agreements are formalised through a written document.

- Remaining areas of disagreement are outlined, and processes agreed for their resolution; e.g. government decision making, further negotiation.

13. Indicative Timeframes

Given the following assumptions, two timeframes are suggested for the 15 steps outlined above.

Example 1: Indicative CR System Design Time Frame for a State-Wide Natural Resource Management Conflict
Assumptions 1. The case study area is state-wide and involves a wide range of stakeholders including: ▪ Conservation interests; Catchment management organisations; Indigenous interests; Dryland agricultural interests; Irrigation agricultural interests; Grazing interests; Tourism interests; Recreational users; Land care organisations; Local government; State government; Scientific interests 2. That decisions on water management are made on a catchment basis, and that there are approximately 20 catchments in the state. 3. That there is a level of existing hostility among conflict participants.

An appropriate time frame might be as follows:

	Months 1-3	Months 4-6	Months 7-9	Months 10-12
Year 1	Steps 1, 2 & 3	Step 1 (cont) Steps 4 & 5	Steps 6 & 7	Step 8
Year 2	Step 8 (cont) Step 9	Step 8 (cont) Step 9 (cont)	Step 8 (cont) Step 9 (cont)	Step 9 (cont)
Year 3	Step 10	Step 11	Step 11 (cont)	Step 11 (cont) Step 12
Year 4	Step 12 (cont)	Step 13 Step 15	Step 13 Step 14	Steps 14 & 15
Year 5	Initiation of additional processes (if necessary) to increase areas of agreement and further limit areas of disagreement.			

Example 2: Indicative CR System Design Time Frame for the Wet Tropics Catchment in Queensland

Assumptions

Information from *(Australian Government undated)(Smyth et al. 2004)*

1. The region covers 2.2 million ha and is defined as covering from Douglas Shire in the north, to Hinchinbrook in the south, extending west to include the Atherton Tableland and Upper Herbert catchments.

2. Approx 216,000 people live in the region and are directly or indirectly reliant on the natural resources.

3. The region includes 91% of the Wet Tropics World Heritage area, part of the Great Barrier Reef World Heritage area, the Great Barrier Reef Marine Park, National Parks State Forests and other protected areas, bringing a large number of state and federal government officials into the system.

4. There are 10 Local Government authorities in the region.

5. The region has great cultural significance for Aboriginal Traditional owners. There are at least 18 Traditional Owner groups in the region and 2 Aboriginal Community Councils. An Aboriginal Plan for the Wet Tropics NRM has been developed (Smyth et al. 2004) following extensive engagement of Aboriginal people.

6. The tourism industry is the largest source of income - 2 million domestic visitors and 1 million international visitors per year.

7. Other natural resource based uses include commercial agriculture, timber production, grazing, minerals and extractive resources, and urban uses.

8. Key water resource issues of concern are:
    -   Historical land use changes that impact on water quality, such as clearing and mining; Diffuse source emissions (e.g. from agriculture, urban runoff); Point source emissions (e.g. water treatment plants, agriculture, and industrial sources); Urban and industrial growth (including new dams); Regional growth; Climate change; Water rights allocations.

An appropriate time frame might be as follows:

	Months 1-3	Months 4-6	Months 7-9	Months 10-12
Year 1	Steps 1 & 2	Steps 4, 5 & 6	Steps 7 & 8	Step 8
Year 2	Step 8 (cont) Step 9	Step 8 (cont) Step 9 (cont)	Step 13 & 14	Step 14 & 15
Year 3	Initiation of additional processes (if necessary) to increase areas of agreement and further limit areas of disagreement.			

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