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Openness in the Face of Systemic Constraints: On Science, Public Participation, and the Western Australian Regional Forest Agreement

### Martin Brueckner

### PhD

2004

### USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

### Abstract

The aim of this thesis is to explore the role of science and public participation in environmental policy-making processes in Australia. To this end, I analyse the Western Australian Regional Forest Agreement (RFA) process, a recent Australian Federal Government initiative designed to resolve a longstanding dispute over native forest use and management.

Theoretically underpinned by an open systems approach, the thesis employs a case study method for the analysis of the RFA process, using data from three distinct sources; interviews, RFA-related literature, and media content. The analysis of the RFA occurs against the historical background to this policy process and in context of contemporary discussions on science and public participation in natural resource conflicts. Interview data is used for the construction of a meta-narrative of the RFA from multiple stakeholder perspectives as a means of learning about the inclusiveness of, and the treatment of science during, the RFA process. The interview data is analysed using an adaptation of discourse analysis, the findings of which are integrated with information derived from the other data sources. This combined data set is then used to inform a systems critique of the Western Australian RFA process in view of gauging its perceived strengths and weaknesses.

The analysis reveals a sense of systemic failure in the management of the Western Australian RFA, pointing towards a process and governing structures which constrained opportunities for stakeholder input and deliberation-based decision-making. A range of cultural, socio-political, and personality-based issues are seen to have given rise to constraints, underlying which is found to be an economic rationality subtly driving a systemic closure of political structures and processes. The resultant degree of closedness is shown to have caused an insensitivity of the political apparatus towards community opposition to, and scientific concerns about, commercial forestry, which is understood to have contributed to the social and political rejection of the process and its outcomes.

In this thesis I unearth a paradox arising out of the political need to reduce and simplify the complexity inherent in messy socio-ecological affairs but in doing so adding complexity due to political over-simplification. The findings suggest that the political process depends on the trimming of complexity for pragmatic reasons but that, at the same time, the politicality of such closure demands deliberative approaches to negotiate the terms of closing so as to attain sustainable process outcomes.

This thesis echoes calls from the literature in support of political and scientific pluralism. An opening of political structures and processes is suggested to enable and facilitate active stakeholder participation and decision-making. Similarly, it is argued that science also needs to become more open towards alternative, yet equally valid, modes of knowing and understanding so as to avert threats to its relevance and trustworthiness in political processes dealing with complex socio-ecological problems. Complex problems demand problem solving with requisite complexity. An openness of politics and science and the processes they engage in invites variety of perspective, which in turn increases capacity to deal effectively with socio-ecological messes.

Finally, this thesis understands the dominance of economic rationality as a constraint for environmental policy-making, working against notions of openness and plurality and thus precluding trans-formational change in the structure, mode, and outcomes, of political decision-making. For its implicitness this constraint has so far defied needed societal reflection on its implications for science, society, politics, and nature, which is why this thesis stresses the need for explication and for searching pathways towards more balanced rationalities in policy making processes.

### Declaration

I certify that this thesis does not, to the best of my knowledge and belief:

- (i) incorporate without acknowledgement any material previously submitted for a degree or diploma in any situation of higher education;
- (ii) contain any material previously published or written by a person except where due reference is made in the text; or
- (iii) contain any defamatory material.

Signature:.

Date: 07. 07. 04

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I am extremely grateful to a number of people for their indispensable input, without which this thesis would have never been completed. Most especially, I must acknowledge the role of my supervisors Pierre Horwitz, John Duff, and Richard McKenna. I am appreciative of their friendship, mentoring, and ceaseless support. I cannot thank them enough.

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This project existed only because of my research participants, who unfortunately must remain anonymous. Their time, help, advice, and willingness to participate were very much appreciated. The insights gained from their perspectives were the lifeblood of this thesis.

This work benefited from the facilities and resources made available to me by Edith Cowan University. In times of growing resource scarcity for the funding of tertiary research in the 'soft' sciences, I am especially grateful for the funding and support received. Principally, my work was supported by the School of Natural Sciences/Centre for Ecosystem Management. I would like to thank them for giving me the opportunity to branch-out in new and rewarding fields of inquiry.

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### List of Acronyms and Abbreviations

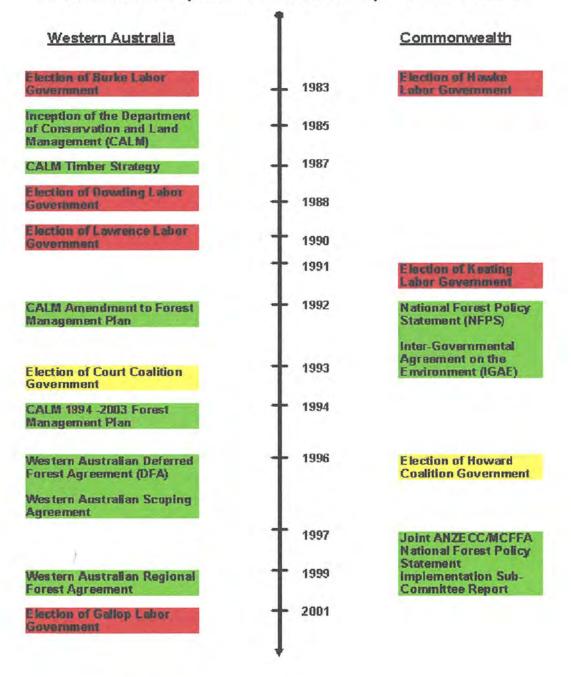
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ACE	And the Constant Free lating
ACF	Australian Conservation Foundation
ACT	Australian Capital Territory
AFC	Australian Forestry Council
AFFA	Agriculture, Forestry and Fisheries Australia
AHC	Australian Heritage Commission
ANZECC	Australian and New Zealand Conservation Council
AWU	Australian Workers Union
BRS	Bureau of Rural Resources
CALM	Department for Conservation and Land Management
CAR	Comprehensive, Adequate, and Representative
CCA	Computer Content Analysis
CCPR	Complex Common Property Resource
CPR	Common Property Resource
CRA	Comprehensive Regional Assessment
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CTRC	Conservation Through Reserves Committee
DEP	Department for Environmental Protection
DFA	Deferred Forest Agreement
DME	Department of Minerals and Energy
DP	Design Principle
DPIE	Department of Primary Industries and Energy
EA	Environment Australia
EH	Ecosystem Health
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESD	Ecologically Sustainable Development
ESFM	Ecologically Sustainable Forest Management
FMP	Forest Management Plan
FORWOOD	Forestry and Wood-based Industries Development
FPC	Forest Production Council
FPS	Forest Protection Society
FSC	Forest Stewardship Council
GDP	Gross Domestic Product
HCV	High Conservation Value
HST	Hard Systems Thinking
IFA	Institute of Foresters of Australia
IGAE	Inter-Governmental Agreement on the Environment
IPP	Institute for Public Participation
IUCN	International Union for Conservation of Nature and Natural Resources
JANIS	Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-Committee
LFC	Lands and Forest Commission
MCFFA	The Ministerial Council on Forestry, Fisheries and Aquaculture

NAFI	National Association of Forest Industries
NAG	Noongar Action Group
NFI	National Forest Inventory
NFPS	National Forest Policy Statement
NGO	Non-Government Organisation
NGRS	National Greenhouse Response Strategy
NHT	National Heritage Trust
NPNCA	National Parks and Nature Conservation Authority
NSESD	National Strategy for Ecologically Sustainable Development
NSW	New South Wales
NT	Northern Territories
NVivo	Non-Numerical Unstructured Data Indexing, Searching, and Theory Building
OST	Open Systems Theory
P&C	Department of Premier and Cabinet
PDW	Participative Design Workshop
PM&C	Department of Prime Minister and Cabinet
QLD	Queensland
QSR	Qualitative Solutions and Research
RAC	Resource Assessment Commission
RFA	Regional Forest Agreement
SC	Search Conference
SRG	Stakeholder Reference Group
SST	Soft Systems Thinking
Tas	Tasmania
Vic	Victoria
WA	Western Australia
WACAP	W.A. Chip and Pulp
WAFA	Western Australian Forest Alliance
WCED	World Commission on Environment and Development

### Timeline

Western Australian State Governments, Australian Federal (Commonwealth) Governments and Key Events Relevant to Forestry in Western Australia



Generally, since the latter half of the twentieth century, Australian Federal Governments and State Governments have been formed either by the Australian Labor Party (ALP) or the conservative coalition parties, the Liberal Party of Australia and the National Party of Australia.

### **Chapter One**

### Introduction and Thesis Background

#### Introduction

When I arrived in Western Australia (WA) in 1995, a national debate about native forests captured my attention as it gained renewed momentum. I soon learned that this rapidly intensifying debate was triggered by a new approach to forest policy taken by the Commonwealth Government of Australia<sup>1</sup>, an approach purported to bring an end to a long-standing dispute over the use and management of the country's native forests. Back then, however, it was not foreseeable that this government initiative was going to be the catalyst for Western Australia's yet largest wave of environmental protests and a trigger for civil disobedience, violence, political upheaval, and electoral defeat of the ruling State Government in response to an environmental policy process.

The events in Western Australia, which I will describe shortly, have directed my attention to the area of environmental policy-making in Australia. With a personal interest in ecologically sustainable development (ESD), I regard research in the area of environmental policy-making as complementary to ESD and its operationalisation because I view policy processes as potential drivers for sustainability. ESD, which is centred around notions of ecology, equity, futurity, and democracy (United Nations Conference on Environment and Development, 1992; Palmer et al., 1997), explicitly incorporates science and public participation (see United Nations Division for Sustainable Development, 1992; Beder, 1996). Operationally, the advancement of the sustainability agenda is, to a large degree, dependent on environmental policy-making, which also draws on science and public input. In that sense, science and public participation form a link between sustainability and environmental policy. Against this background, the Western Australian experience made me wonder how an acceptance of political processes, and lasting policy outcomes, could be realised and what the role of

<sup>&</sup>lt;sup>1</sup> Based on its Constitution of 1901 Australia has a federal system of government. Under this system, powers are distributed between a federal government (the Commonwealth) and six states (New South Wales (NSW), Queensland (QLD), South Australia, Tasmania (Tas), Victoria (Vic), and Western Australia (WA) and three Territories (Australian Capital Territory (ACT), the Northern Territory (NT), and Norfolk Island) which have self-government arrangements (see Parliament of Australia, 2003).

both science and the public within processes of environmental policy formulation could, or should, be. It is these issues that are going to be the main preoccupation of this thesis, the focus of which I clarify and refine below.

I consider the politics of the environment topical because it is a policy area which is becoming increasingly complex and critical. While it is true that science is improving our understanding of economy-ecology relations and ecological processes per se (see for instance Perrings et al., 1995; Lenton, 1998), we are faced with problems when attempting the inculcation of these newly gained insights in political decision-making processes. Problems arise because not only do demands for extended planning horizons, precaution in the face of uncertainty, and still poorly understood notions of carrying capacity, connectivity, and inter-dependence lead to high degrees of complexity but they also collide with increasingly market-driven, short-term focused demands placed on natural systems by a globalised world economy. The concomitant intensification of natural resource exploitation sharply raises the environmental stakes for political decision makers as environmental impacts reach ever more critical levels. In other words, there is progressively less room for error regarding humanity's approach towards the biophysical environment (on this point see World Resources Institute, 2000; Flavin et al., 2002), and therefore, vigilant environmental policy-making and management are imperative.

The ill-effects of rapid economic expansion have given rise to the notion of environmental crisis, which in turn has triggered the emergence of sustainability as a new development paradigm. ESD, although it can be traced back to the 1960s (e.g. Carson, 1962), was popularised by the Brundtland Commission (World Commission on Environment and Development, 1987) in the late 1980s. Since then, sustainability has registered on the political compasses of environmental policy makers world-wide. Yet, despite more than 15 years of theoretical (e.g. Basagio, 1995; Palmer et al., 1997; Buchdahl & Raper, 1998) and empirical (e.g. Lafferty & Meadowcroft, 2000; O'Riordan & Stoll-Kleemann, 2002b) work in the area, the implementation efforts by the international community hitherto have been disappointing (see foreword of Kofi Annan in Flavin et al., 2002; O'Riordan & Stoll-Kleemann, 2002b). The reasons behind the slow progress towards implementing ESD are manifold; they relate to a range of factors which are in part systemic (i.e., linked to economic and political apparatuses), and in part cultural. The cultural dominance of economic rationalism (Gare, 2002) or marketisation (Dovers, 2002), the prevalence of a consumer ethic (Saul, 1997; Theobald, 1997), an acculturated growth fetish (Hamilton, 2003), as well as commercial and political short-termism (Brown, 2001) may serve here as examples. All these factors act as constraints on sustainability efforts.

In recent years, a number of trends, working against these cultural and systemic constraints, have become discernible. The literature speaks of a "backlash against perceived economic, social and political domination" (Cuthill, 2002, p.82) and a growing disquiet about resultant community disempowerment. The renewed interest in participative democracies (see for instance Saul, 1997; Theobald, 1997; Owens, 2000) and the resurgence of the literature on public participation in environmental and natural resource conflicts (see for instance Tuler & Webler, 1999; Overdevest, 2000; Buchy & Race, 2001) may also be indicative of the trend articulated by Cuthill (2002). The growing demand for public input in political decision-making processes has profound implications for environmental policy makers because these changes in public attitude are likely to lead to challenges to existing decision-making processes and structures. Furthermore, they can lead to community disputes about underlying assumptions in environmental decision making and to questions about the validity of scientific advice. Changes in public sentiment ultimately increase the complexity of the environmental policy-making process.

Changes in public attitude also increase the potential for conflict as evidenced by the intensification of conflicts over natural resource use and management over the last 30 years. This intensification, while perhaps predominantly an indication of growing resource scarcity, may also attest to a public reaction towards economic and/or political domination. The North-Atlantic fisheries, forestry in Canada and the USA, and mining in the UK are prominent examples of such disputes. Australia has not been immune to environmental conflicts (e.g., Fraser Island, Franklin River, Jabiluka Mine) (Scholes et al., 1983; Wilderness Society, 1983; Henkel & Canin, 1999). In fact, being a resource-based economy, Australia is particularly prone to disagreements over the allocation and utilisation of its natural assets. In this context, the forest debate mentioned in the opening paragraph of this chapter has been a dispute of particular endurance and intensity. This well documented debate (see for instance Routley & Routley, 1975;

Nicholson & Pople, 1977; Cullen, 1986; Dargavel, 1995; Mercer, 1995) is one of the most long-standing and dates back to the 1960s. It is largely seen to be the product of ideological differences fuelled by perceived economic imperatives, the absence of scientific certainty in forestry practices, fractious Federal-State relations, and the electoral significance of forest policy in general (Chindarsi, 1997; Lane, 1999; Slee, 2001). In the past, various government initiatives at the state and federal level, which intended to resolve or at least dampen these controversies, largely failed and even, at times, increased the polarisation between the various protagonists (Dargavel, 1998). Ad hoc crisis-management by successive governments ostensibly lacked an understanding of the symbolic and ideological factors involved in forest disputes (Syme, 1992; Lane, 1999) and tended to ignore public/stakeholder views to the extent that these attempts at crisis resolution were dubbed *participatory rituals* (Mercer, 1995).

The forest debate I witnessed during the 1990s promised to be different and to resolve the enduring conflict. In 1992, a national forest policy was announced by the Federal Government, heralding a new approach to forest use, conservation, and management. The National Forest Policy Statement (NFPS) spoke of conflict resolution and certainty for all stakeholders via the establishment of comprehensive, adequate, representative (CAR) forest reserve systems, the development of an internationally competitive and sustainable native timber industry, and the implementation of ecologically sustainable forest management practices (Commonwealth of Australia, 1992a). The vehicle for the realisation of this national forest policy became known as the Regional Forest Agreement (RFA). RFAs represented individual, 20 year long, agreements entered into by the Commonwealth and all State and Territory Governments, which - based on science and intensive community consultation (Commonwealth of Australia, 1992a) sought to regulate native forest use, conservation, and management in delineated forest areas.

In Western Australia, a considerable amount of time and public money was spent, involving many scientists and the public in the RFA process. Nonetheless, the process and the resulting agreement attracted widespread public and scientific condemnation. Indeed, the public outcry triggered by the WA RFA led to the amendment of the original agreement by the WA State Government only eight weeks after it was first signed. To me it was bewildering that the WA RFA – going by appearances – did not

deliver widely acceptable outcomes despite its much emphasised scientific and consultative thrust. This is why in this thesis I will interrogate the WA RFA process and its outcomes, concentrating in particular on the scientific and participatory nature of the process.

#### **Research Problem**

This thesis is based on the proposition that the science of the WA RFA and the kind of public participation enabled during the process were at the heart of the public's negative response to the process and the outcomes it delivered. In light of this working hypothesis, this study seeks to identify:

- the degree to which public participation was enabled in the WA RFA process;
- the level of community input desired by WA RFA process participants; and
- the role of science/scientists played in the WA RFA process.

In general terms, I wish to determine:

- the factors that determine an *adequate* level of public input in political processes;
- the role science *could/should* play in an environmental policy-making context; and
- the kind of science that is required for effective environmental policy-making.

With regard to earlier references to a perceived public backlash against a range of social, economic, and political constraints affecting environmental policy-making, I will attempt an assessment of the public reaction towards the WA RFA, looking for discernible signs of process constraints. Therefore, an additional aim is to determine the:

• factors constraining environmental policy-making and assess their implications for policy processes.

The assumptions implicit in the research proposition from which this thesis evolves are a starting position only. A final analysis of the data presented throughout this thesis will help determine the validity of the assumptions made.

#### Nature of Thesis

At this point, I wish to make explicit that this thesis is trans-disciplinary in nature, meaning that it does not fall into a discrete disciplinary area. In contrast to traditional approaches, this work does not necessarily seek to embed this thesis within an existing school of thought nor does it seek to erect new academic boundaries. Instead, this study seeks to integrate traditionally disparate modes of knowing and to employ different forms of knowledge construction for the purpose of identifying complementarities and room for cross-fertilisation among established disciplines. Therefore, this work should not be seen in light of established norms for disciplinebound work but viewed as an attempt of working against barriers of holistic, academic inquiry.

The structure of this thesis is intended to reflect the exploratory nature of this project. In light of the amount of contextual information and wide range of literature covered in this work, a number of theme-specific literature reviews will be presented throughout the thesis. These will be synthesised in Chapter Seven. For the sake of clarity and manageability, this thesis deviates from the conventional scientific report writing format as such a design would have proven impractical. More detail on thesis format can be found in the methods section in Chapter Two.

Finally, as I will demonstrate in Chapter Two, this thesis employs a relativistic approach for the exploration of perceptions, world views, and perspectives. This exploration is not aimed at the establishment of objective truths but – via a dialogical approach - at the construction of synthesised realities reflective of their originators' perceptions. In other words, this study intends to give a voice to its research participants and to integrate their views in an attempt to make sense of an opaque, highly complex and politicised social issue. Again, these and other methodological issues will be addressed in more detail in Chapter Two.

#### **Thesis Structure**

This thesis is divided into seven chapters, including this introductory chapter. Additional information is included in ten printed appendices, and a further 26 appendices are provided in electronic form (see CD-ROM), the purpose of which I will explain later on.

6

#### **Chapter Two: Theoretical Framework and Methods**

In this chapter I introduce the commons problematique as a means of framing the WA RFA. Attention will be directed to a socio-ecological commons perspective which is derived from open systems theory and will serve as this study's theoretical framework. I provide detail on the theory's conceptual evolution and argue for its applicability to the case of the WA RFA. Subsequently, I introduce my research design and methods of choice for the purposes of this study. In particular, I provide detail on my case study design and the use of discourse analysis for the treatment of the case study data. Finally, I elaborate on my approach to data collection and analysis and present a rationale for its appropriateness.

### Chapter Three: The Contexts of the Western Australian Regional Forest

### Agreement

This chapter is contextual in nature providing the necessary background information to the WA RFA. I commence by describing the WA RFA area in terms of its ecology, demographics, and socio-economic significance. Subsequently, as a means of exploring the history of resource use and management in WA, I review the evolution of the state's timber industry, its forest management agencies, and the emergence of the conflict over the governance of timber resources. Finally, I sketch, both regionally and nationally, the evolution of the RFAs and lay out the progress and conclusion of the Western Australian process.

#### Chapter Four: The RFA Discourse Community and Stakeholder Expectations

In this part of the thesis – against the historical background presented in Chapter Three – I introduce my research participants, chosen from the large group of actors in the WA RFA debate, and present a rationale for this study's treatment of this discourse community. Furthermore, as a contextual adjunct to Chapter Three, analysis is made of the expectations of members of the selected RFA discourse community on the process and its outcomes. This analysis is designed to provide an informed understanding of the public reactions towards the WA RFA and to aid subsequent analyses.

#### Chapter Five: The Participatory Nature of the Western Australian RFA

In this chapter I investigate RFA stakeholders' perceptions of the participatory nature of the RFA process against the backdrop of a broader debate on public participation in resource conflicts. Analysis is made of stakeholders' perceptions of their role in the process, their views on the process outcomes, and their notions on *ideal* modes of participation within political processes. This analysis is followed by a general discussion on the participatory nature of the WA RFA.

### Chapter Six: Science and the Science of the Western Australian RFA

Here I examine the role and function(s) of scientists during the RFA process in context of a review of the literature on science and democracy. Stakeholders' perceptions are analysed with attention given to the perceived treatment of scientists throughout the RFA process and the impacts that scientists made upon the process and its outcomes. Finally, the key issues pertaining to the science of the WA RFA will be summarised and discussed.

#### Chapter Seven: Contextual Analyses, Syntheses, and Conclusions

In this final chapter, I present three discrete analyses, which focus on the role of individuals, the issue of homogeneity of discourse groupings, and media reporting of the RFA respectively. Following this, I present a summary of the WA RFA as seen from multiple stakeholder perspectives. I then integrate the issues of public participation, science, and democracy that emerged from the preceding analyses of the WA RFA experience. This synthesis is conducted from an open systems perspective, the conceptual strengths and weaknesses of which are also assessed. Based on arguments and analyses made throughout the thesis, I critically reflect on the issue of openness in the face of constraints as it relates to science, public participation, and environmental policy processes and present a case for structural and procedural openings with a view to negotiate new (temporary) points of closure.

### **Chapter Two**

### **Theoretical Framework and Methods**

#### Introduction

Australia's enduring forest dispute may best be characterised as a community conflict over the use and management of forest resources. Australian communities embody a heterogeneous assemblage of forest users, who hold in common the forest areas under contention albeit with competing and conflicting aspirations regarding forest use. It is for that reason that I consider these forests *common property resources* (CPRs) and adopt a commons approach for the purposes of this thesis. More specifically, a socio-ecological commons perspective derived from open systems theory (OST) will be introduced as this thesis' theoretical framework, the guiding principles of which are explored in some detail. I then move on to justify my case study method and design and present the rationale underpinning my means of investigating the case study data.

### The Framing of the Western Australian Regional Forest Agreement Western Australia's South-West Forests – A Common Property Resource?

A common property resource (common pool resource or a commons) is generally defined as a natural or human-made resource "in which one user's use [subtraction/appropriation] of this resource diminishes the ability of others to use it ... and in which use is limited to a definable community of users ..." (Selsky & Memon, 1995, p.260). In other words, subtractability and non-trivial excludability are CPR key characteristics (Ostrom et al., 1994). CPRs are usually subject to multiple, overlapping, and often uncoordinated uses by a diverse range of stakeholders. These stakeholders are thought to be acting in an economically rational fashion. This is to say that at every opportunity they act to increase or indeed maximise individual resource appropriation. This individual pursuit of maximum appropriation can lead to CPRs being caught in a vicious trap of overexploitation, a tendency exacerbated within today's globalised economic settings. Current social, cultural, and institutional arrangements in many countries are responsible for an ever increasing commodification of natural resources and in their spiralling trade within the world's exchange economies (Selsky & Creahan, As a result, today's mélange of common property resources and utility 1996).

maximising behaviour of an increasing number of economic agents is rapidly increasing the likelihood of what Hardin (1968) coined the *tragedy of the commons*. This tragedy is essentially an economic paradox caused by the "apparent conflict between individual rationality and group rationality" (Deadman, 1999, p.160), a situation in which resource overuse occurs due to an individual economic rationality, which proves irrational at the group level.

Are the forest areas in Western Australia's south-west a CPR? At first glance, these forest areas do not fall within the above CPR definition because, in a strict sense, many forest uses (e.g., apiary, tourism) are not subtractable uses. In fact, one could argue that merely asymmetric subtraction (Selsky, 1999) occurs by users of the timber industry while groups like apiarists and seed collectors engage in what one could consider passive uses. Also, other users such as tourists and local residents often exercise what Selsky and Memon (1997) call amenity rights. Amenity rights and values represent in many cases a social resource not only for recreation purposes and aesthetic reasons but also for ethical considerations such as the protection of existence value and bequest value. Amenity use can nevertheless be seen as a form of resource consumption even though subtraction may not be measurable or does not necessarily apply. Thus, shared amenity values can give rise to an amenity commons in that conflict arising over dis-amenities may be indicative of the existence of perceived de facto rights that have been violated (Selsky & Memon, 1997). In terms of subtraction it can be argued that the active/subtractive use of the forest resource (i.e., logging) by the timber industry is mutually exclusive to the passive/amenity use of other user groups. I would therefore make the case for quasi-symmetric subtraction by all users, as timber harvesting prevents alternative uses and vice versa and for these reasons consider the WA forest areas to fall within the CPR definition.

There is also a worthwhile distinction to be made between simple, single-use CPRs and messy or complex CPRs (CCPRs) (after Selsky & Memon, 1995; Selsky & Memon, 2000), for the WA RFA forests appear to fall into the latter category. CCPRs, as opposed to simple, single-use CPRs, exhibit features of multiple, overlapping, and potentially conflicting uses and user groups, volatility in uses and institutional arrangements, and variances between de jure and de facto property rights (Selsky & Memon, 1995). The CCPR framework is useful because it allows accounting for the de facto status of CPRs notwithstanding official property rights regimes and other legal and institutional arrangements governing the resource. The CCPR concept extends beyond conventional commons theory which treats the commons itself as the unit of analysis (Selsky & Memon, 2000), being constrained by its focus on internal processes and therefore often lacking external context (see Goldman, 1997). In contrast, CCPRs are addressed as part of a wider unit of analysis (a resource system) (see Selsky & Memon, 2000)) and with a wider focus on outside dynamics and interactions affecting the commons. The CCPR framework therefore lends itself to commons issues that are rich in context and feature complex stakeholder dynamics (e.g., patterns of action and decision-making, recognition of users rights etc.). At this point, I venture to suggest that the forest areas specified under the WA RFA exhibit discernible CCPR features. This assertion will be supported in the following chapters, which will produce ample evidence of the complex and rich context(s) surrounding the dispute over the WA's forest resources. Beforehand, however, I shall describe the commons framework and its theoretical evolution.

#### The Commons Framework

The contemporary commons framework is based on Hardin (1968). Although Hardin's focus was placed on open access resources, his observations are equally applicable to the study on common property resources, which today represents a growing body of interdisciplinary research. Many forms of CPR management, ranging from complete state control to privatisation, have been called for by academics and politicians alike (see Ostrom, 1990). To this day, however, no one system has been found to be universally appropriate (Deadman, 1999). More recently, studies have extended the original framework acknowledging the limitations of Hardin's theoretical and ethical proposals (for instance see Bromley & Cernea, 1989; Feeny et al., 1990). This new literature advocates that more emphasis be placed on collaboration and co-management arrangements in the context of CCPRs. Within the field of social ecology - akin to, yet distinct from the Bookchin tradition - similar calls have been made, advocating a more holistic commons approach for the sustainable management of resources in communities (Selsky, 1999). The term holistic is understood here as the treatment of resource issues based on a whole social system perspective as opposed to traditionally segmental views (Selsky & Creahan, 1996), which implies the need to consider the

contextual richness of CPR settings.<sup>2</sup> The inter-system orientation of the socioecological perspective allows for attention to be directed to the entire "network of relations" (Selsky, 1999, p.4) among CPR stakeholder groups and individual social actors whose geography and interests overlap. Thus, this school of thought lends itself to the analysis of complex human systems such as organisations, government, or society at large.

A more holistic or more complete approach towards CPR management and governance is of general interest to political decision makers dealing with resource conflicts. For instance, a more complete social system perspective may enable authorities to widen and enlighten entrenched views, help overcome polarised positions and gridlocks, and be a driving force in a more deliberative political process that pays attention to the "voices and values of non-dominant actors in public policy forums" (Selsky & Memon, 1997, p.260). These qualities render the socio-ecological perspective applicable to the issue of resource governance and environmental policy-making and thus germane to this thesis.

Another contribution from social ecology to this thesis lies in its focus on behavioural responses of human systems to environmental change. Environmental change has become a key characteristic of modern life, marked by increasing levels of environmental turbulence in the form of interdependence, complexity, and uncertainty (Trist et al., 1997). CCPRs are thought to emerge in response to environmental turbulence (Barton & Selsky, 1998), which is of significance to the case of the WA RFA. The fate of WA's forests was decided upon within turbulent settings with turbulence increasing in response to the decisions that had been made. In that sense, the forest areas in WA could be considered a CCPR, a proposition to be tested in this thesis. In what follows, I shall expand further on the socio-ecological perspective for its relevance to the WA RFA and elaborate on the concept's theoretical heritage.

#### Theoretical Underpinnings of the Socio-Ecological Commons Framework

Social ecology represents a branch of open systems theory (Emery & Trist, 1973; Trist, 1977; Emery, 1997b). In general terms, systems theory serves as a conceptual

<sup>&</sup>lt;sup>2</sup> It will be shown at a later stage that this definition may need further broadening to account for socioecological complexities.

foundation for the practice of systems thinking, providing a coherent set of explanations of how systems operate. Systems thinking complements rational-analytical thinking, by aiding the understanding of the causal relationships between the parts of a system, which are based on a fundamental set of notions which determine that system's behaviour (Ackoff, 1991). The term *system* represents a grouping of component parts that individually establish relationships with each other and that interact with their environment both as individuals and as a collective (unitas multiplex) (Emery & Purser, 1996). Systems have the capacity to change over time, either by slow evolution or rapid transition. System behaviour, or system principle (after Angyal, 1941/1981), is determined by both the system and its environment. The system principle expresses the unique relation between the entity and the environment (Emery, 1997b).

Systems theory is branched into various fields including hard systems theory (HST), soft systems theory (SST), and cybernetic approaches. HST and cybernetics were largely employed for the further development of classical theories in behavioural sciences and social structure. Both approaches, however, are thought to fall short when relating systems to their environments (Rowe, 1989; McCall & Kaplan, 1990). In contrast, SST treats system environment relations explicitly, focusing on system regulation and the promotion of change within systems operating within changing environments. System change occurs through processes of environmental learning, leading to self-renewal or autopiesis (Churchman, 1971). This can be understood as a learning-based resilience.

The system-environment relationship, or more specifically, the importance of system openness/closedness to the environment was first highlighted by von Bertalanffy (1940; 1950), whose work gave rise to open systems thinking, a soft systems approach. Von Bertalanffy observed that organisms operate as thermodynamically open systems with their environments for the selective exchange of energy and matter in order to maintain/attain stability (negentropy). This concept of a system-environment relationship was used by Emery and Trist (1965) to describe purposeful human systems, emphasising the interconnectedness within, as well as between, systems and their environment. This concept, also known as the Emery-Trist Systems Paradigm (Babüroglu, 1992), forms the foundation of open systems theory (OST).

Within OST human systems are seen as living and purposeful systems, which are described as having the following characteristics: (a) being concrete, (b) interacting with the environment, (c) possessing key attributes of life in general, and (d) being defined primarily in terms of the human element (Ackoff & Emery, 1981). The functions of human systems revolve around:

- adaptation (dynamic adjustment to environmental changes);
- regulation (establishment of mechanisms to control behaviour);
- communication (parts must network to transmit information);
- transformation (adaptation process requires system response); and
- renewal (entropy can only be escaped through renewal).

(Ackoff & Emery, 1981)

When these functions work effectively, human systems can be purposeful (Miller, 1978) and regulate their behaviour based on a set of core values (Ackoff & Emery, 1981). People are considered to be active agents and to be displaying will, capable of changing both their own behaviour and their environment. However, there are obvious limits to this notion due to the social embeddedness of human actors.

The term *environment* (understood here as both social and physical)<sup>3</sup> is defined as extended social fields, affecting the behaviour of all systems within it. These social fields are ascribed a causal texture, which represents the complex dynamic nature of the environment (Emery & Trist, 1965). Originally, four types of environmental textures were identified by Emery & Trist (1965) as shown in Table 2.1. The range of environmental textures was subsequently widened to include the temporary state of hyperturbulence (McCann & Selsky, 1984) and vortical environments (Babüroglu, 1988) in an attempt to describe the emergence of environmental complexity and turbulence in the second half of the twentieth century.

<sup>&</sup>lt;sup>3</sup> In this thesis, the term *environment* is used in a holistic, contextual sense. To clarify, systems comprise sub-systems, which again can comprise sub-systems, and so on. Thus, system-environment relations ought to be seen in the context of the system in focus, as systems form a part of the environment of their sub-systems. Also, social environments are seen from within an ecological perspective, meaning in terms of inter-relationships between various social spheres. Depending on context, an environment can therefore be socio-political, socio-cultural, socio-economic, etc. They all form a part of a larger socioecological environment.

Type I environments rarely exist given that random access to resources may only be found in nomadic (e.g., Aboriginal) and traditional farming cultures. Type II environments are perceived as ideal for system stability because they represent the "most long lasting and adaptive option yet tried by the human race" (Emery, 1995, p.4). However, the birth of industrialisation and the recent development of the global economy have caused the destruction of the Type II environment. Hence today, Type III, and in the Western world Type IV environments, are most prevalent (Trist et al., 1997). These environments are characterised by high degrees of interconnectivity, complexity, and competition, which are all characteristics of globalised economies.

Environment Type	Features	System Response (reactive)
Type I: Placid, random	Stable Low interconnection	Tactics
Type II: Placid, clustered	Stable Some legitimate connections	Strategies
Type III: Disturbed, reactive	Action causes reactions Environmental change	Competition
Type IV: Turbulent	Action causes multiple reactions Highly dynamic environment	Collaboration
Hyperturbulence	Partially overloaded (sub-) systems	Partitioning (social enclave/vortex)
Type V: Vortex	Beyond management	Surrender?

 Table 2.1: Environmental Textures and Corresponding System Responses

 (based on Selsky, 1999, pers. com.)

Within OST, system-environment interrelations are regarded as mutually determining and governed by laws. These laws are described as potentially lawful connections (L), which - when known - aid the understanding of system behaviour. It is recognised, however, that there are limits to our empirical understanding of these laws as their complexity defies reductionist measurement (Trist, 1997), implying a larger reality beyond the measurable. Figure 2.1 below illustrates how the functions of systems act upon the environment.

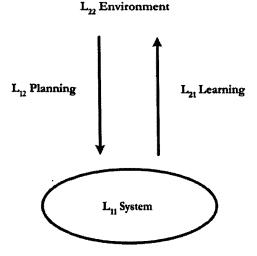


Figure 2.1: An Open System and the Connections to Its Environment (based on Emery, 1997b, p.9) – This diagram illustrates system-environment relations, depicting learning and planning as the transactional connections between open systems and their environments.

Here, subscript 1 refers to the system, and subscript 2 refers to the environment. The notation L<sub>11</sub> represents internal system processes and interdependencies and as such refers to the intrinsic nature of the system.  $L_{22}$  represents the intrinsic nature of the environment, which is defined by "processes through which parts of the environment become related to each other" (Emery & Trist, 1965, p.22). It is these interdependencies between parts of the environment that give the environment its causal texture.  $L_{12}$  and  $L_{21}$  refer to the exchange between the system and its environment - or the area of transactional dependencies - and represent system planning and learning respectively. System learning occurs as the environment acts upon the system, which in turn has impacts on the system's planning processes (Emery & Trist, 1965). The relation between a system and its environment can be described as an interplay between system autonomy, internally governed action, and homonomous integration, a sense of belonging and interconnectedness (Angyal, 1965). A balance between autonomy and integration is important as life occurs between systems and their environment (Emery, 1997b), which highlights the need for human systems to be both inward  $(L_{11})$  as well as outward  $(L_{22})$  looking and to adapt to change within and outside. Indeed, contextual learning and planning, the centrality of which will be highlighted in Chapter Seven, are integral to system survival.

Human system-environment relations are complex, compounded by the non-linear or non-probabilistic, and at times even chaotic, behaviour of human systems. Human behaviour is difficult to predict and thus difficult to manage within environments of high connectivity and high rates of change. In these environments discernible patterns in human systems' behaviour can rarely be found. As illustrated in Table 2.1, human systems respond to certain environmental textures, yet at the risk of responding inappropriately and/or leading to unintentional consequences, again affecting environmental textures (see Cavaleri & Obloj, 1993). This phenomenon can be considered natural, as shown in Figure 2.2, since "[t]he radius of the effects of human actions intervening in a system's design or performance is often greater than the radius of human predictions of possible effects" (Cavaleri & Obloj, 1993, p.68). Nonetheless, despite their naturalness, unintended consequences create problems for those responsible for the management of complex human systems.

Unintended consequences can be problematic, especially in light of a human tendency to respond inappropriately to environmental changes. A sufficiently large sequence of inappropriate responses can lead to turbulence or even more chaotic textures (in a natural resource context this may mean unforeseen changes, for instance, in regional micro-climates due to land-clearing, salinity, and erosion). Such changes in turn impact on the functioning of the system. For instance, in the extreme case of emerging Type V environments learning (L<sub>21</sub>) and planning (L<sub>12</sub>) are likely to slow down and ultimately freeze while the environmental processes (L<sub>22</sub>) may gain more and more in complexity. This can trigger so-called inappropriate first order responses like superficiality, segmentation, and dissociation which are considered typical for Type IV environments (for a detailed description of active responses see Crombie (1997), on passive responses see Emery (1997a)). However, this merely exacerbates the nature and effects of these Type V environments, which in turn causes second order responses such as polarisation and freezing of the system (cocoon). Consequently, system planning (L12) and learning (L<sub>21</sub>) become intra-dependent, aiding the polarisation process and ultimately causing the system to lose all influence over the environment (stalemate) or leading to a stance of totally ignoring environmental (outside) information (dogmatism). Both responses are mutually re-enforcing. The problem often lies in the mental models employed, which if widely shared with others can lead to systemic blind spots within that group. These can render a system ineffective in thinking (metanoia) for dealing with environmental changes (Emery & Trist, 1965; Emery, 1997b; Trist et al., 1997).

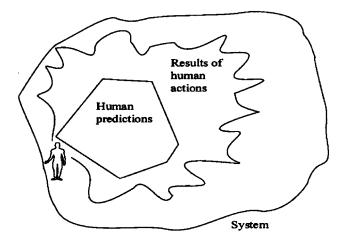


Figure 2.2: The Origins of Unintended Consequences (adopted from Cavaleri & Obloj, 1993, p.69)

As a means of overcoming maladaptive system responses OST promotes synthetic, ecological learning. The term *ecological* includes the whole environment, both social and physical, thus, the socio-ecological perspective. Ecological learning applies to human behaviour and the environment and relates back to the earlier cited need to look inward and outward so as to create a capacity for the active adaptation of changing systems within changing environments. Underlying this approach is the world hypothesis of *contextualism* (see Pepper, 1942), which assumes a whole changing over time within a changing context of the whole (Emery, 1995). This perspective is in contrast to static worldviews employing root metaphors such as *mechanism* or *organicism* (Emery, 1997b).

OST focuses on organisational structures, which are understood as environments (econiches) in their own right determining system and sub-system behaviour as well as system-environment relations. Two types of organisational structures for human systems are identified, termed design principle 1 (DP1) and design principle 2 (DP2). These design principles have originally been developed for organisational settings, yet are equally applicable to larger human systems. DP1 is based on the *redundancy of parts*, meaning that there are generally more people (parts) than are required. Typical for this design principle are the separation of the levels of responsibility and control from the levels of planning and work (e.g., Fordism). The DP1 structure is thus supervisory in nature, relying on dominant hierarchies and bureaucracies which regard people as redundant or expendable parts of the system (Emery, 1967). DP1 is the most common organisational structure within Type III and Type IV environments and are, due to their structure, prone to environmental shocks and maladaptive responses, often lacking

required response capabilities. In contrast, DP2 structures, which are based on the *redundancy of functions*, equip an individual with the maximum possible amount of skills and functions so as to locate the level of responsibility at the same level where work or planning are being done (Emery, 1967). DP2 structures are collaborative arrangements, which encourage cooperation and learning towards shared goals and are essentially democratic in structure and governance. Systems such as these are typical for Type II environments but outperform DP1 structures in more turbulent Type III and Type IV conditions for they possess greater environmental sensitivity and are therefore more adaptive. Adaptability results from intrinsically motivated learning, which allows systems to gain intimate knowledge about their environment and its textures (Emery, 1997b).

It was the aim of this section to demonstrate how system behaviour and systemenvironment relations are conceptualised within OST. For this study focuses on stakeholder relations within a defined natural resource setting, the WA RFA will be investigated in light of this systems perspective. In Chapter Seven I will expand on a number of aspects pertaining to OST informing an ensuing systems analysis of the RFA process and its governing structures. The question now is, however, how the socioecological insights derived from OST can be applied to the CPR problematique of the WA RFA. This question I will turn to in the following section.

### The Application of Social Ecology to the Western Australian Regional Forest Agreement

For the purposes of this study I have adopted the behavioural model for complex CPR systems developed by Selsky and Memon (1995) (see Figure 2.3). This model focuses on "whole-system behaviour" which allows for the analysis of both "the natural resource system itself and the multiple sources and consequences of impacts on it over time" (Selsky & Memon, 1995, p.263). I have used this model as a tool for the investigation of the WA RFA, directing attention to the CPR's environment and the behaviours of, and dynamics between, CPR stakeholder groups (sub-systems).

The Selsky and Memon model helps identify stakeholders and their interactions with a CCPR system. The model, as argued by Selsky and Memon (1995), is an extension of previous conceptual behaviour models such as those by Ostrom (1990) and Oakerson (1992). It describes management arrangements that govern a natural resource within a

broader societal context. The resource itself is subject to a sub-system of institutional arrangements, which are both structural and functional in nature. For the purposes of this study these arrangements include (a) users and uses, (b) values and attitudes, and (c) economic, political, and legal arrangements. However, other components could be added. Emergent use and emergent management patterns are the intervening (mediating) variables within the behavioural model. These patterns are said to arise out of policy-making and planning as well as differing degrees of policy compliance. In the Western Australian case, there is a plurality of forest stakeholder groups and forest uses, which, consistent with the paradigm of CPR theory, have an aggregate impact on the forest resource. This means that the composition of institutional arrangements in this complex CPR system have not only defined the state of that system but have also produced emergent patterns of resource use and management (here, these could be the changes in forest use and management brought about by the RFA process). Emergent patterns produce outcomes with a blend of intended and unintended consequences (both detectable and undetectable), which necessitate monitoring and evaluation (where possible) against benchmarks for sustainability (e.g., ecologically sustainable forest management principles, CAR reserve systems, and other RFA outcomes which - as will be explored later on - were promised in the National Forest Policy Statement).

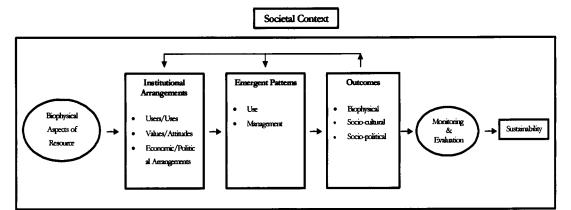


Figure 2.3: Behavioural Model for a CCPR System (based on Selsky & Memon, 1995, p.265)

The Selsky & Memon (1995) model allows recognition of potential divergence between policy intent and actual outcome (i.e., impact on the resource) and analysis of "aggregate patterns ... that characterize complex CPR systems" (Selsky & Memon, 1995, p.266). Outcomes within the CPR system can be biophysical (e.g., ecological change), sociocultural (e.g., economic, human health, ethics), and socio-political (e.g., policy acceptance). They represent the result of emergent patterns as opposed to that of institutional arrangements (especially when considered from a systemic perspective) (Selsky & Memon, 1995). To illustrate this point, the clearfelling of native forest or old growth logging in general may be legal in Western Australia and may even be considered economically efficient by some analysts but could prove unacceptable to conservationists and local residents.



The socio-ecological perspective is applied to the case of the WA RFA via the adoption of the Selsky and Memon (1995) model, serving conceptual purposes but also as a structural tool used for the composition of this thesis. Accordingly and as foreshadowed in Chapter One, Chapter Three commences with

the description of the biophysical and socio-economic aspects of the natural resource in focus (i.e., the forest areas covered under the WA RFA), perceived here as both a natural and social commons.

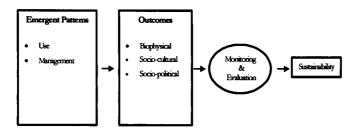
This is followed by a review of the history of the timber industry, forest management, forest policy, and the evolution of the conflict over forest use. This review outlines the grown institutional arrangements that governed the State's forest resources prior to the WA RFA, (a) providing a historical perspective on the forest users and their respective

Institutional Arrangements

- Users/Uses
- Values/Attitudes
- Economic/Political Arrangements

forest uses, (b) affording insights into changes in values and attitudes pertaining to forests, (c) illustrating changes in technology relevant to forest management and forest logging, and (d) describing changes to economic, political, and legal arrangements. This is followed by an analysis of the WA RFA in Chapters Five and Six. In these chapters I investigate stakeholders' perceptions of the participatory and scientific

nature of WA RFA. This policy process is considered a part of the institutional arrangements governing the forest resource as it affected the commons (a) through the introduction of changes to the institutional arrangements (e.g., new forest policy and management) but also (b) by being affected through changes occurring outside the WA RFA (e.g., value shifts).



Finally, in Chapter Seven the emergent patterns and outcomes of the WA RFA will be evaluated, and their social and political sustainability will be

assessed. Both description and analysis of the RFA will occur concurrently, and more detail on how I will proceed is provided below.

#### Methods

This thesis is primarily integrative in orientation. I investigate stakeholders' perceptions of the RFA process and its outcomes, aiming at synthesising the gathered information to develop a detailed understanding of the issues central to this environmental policy process. As this study deals with perceptions, values, and attitudes I decided to employ the case study research method, which I perceive as a qualitative research design that lends itself to an investigation such as this. The case study method has proved useful within social sciences in the assessment of experiences and attitudes (Miles & Huberman, 1984). This thesis, as I shall explain shortly, relies predominantly on interview data. Therefore, the treatment of the WA RFA as a case study is deemed appropriate because of the project's exploratory nature (see Yin, 1984; Tsoukas, 1989; Parkhe, 1993; Yin, 1993; Easton, 1994), examining stakeholders' recollections (interviews relying on participants' memories), attitudes, and values (Yin, 1994) in the context of government decision-making processes with little or no control over events and outcomes. Also, due to a plurality of views held among RFA stakeholders only little could be known about what particular research participants would think about the RFA process and its outcomes. Finally, the events studied were contemporary in the sense that they took place fairly recently, and their effects are still being felt politically as well as operationally by the various RFA stakeholder groups. However, events subsequent to the WA RFA have overtaken the agreement in 2001 for they shifted the focus of debate to the 2004 Forest Management Plan.

The research design chosen for this study is based on grounded theory, a method of comparative analysis (Glaser, 1998) used predominantly for qualitative research. Briefly stated, grounded theory is a problem-oriented endeavour and refers to the systematic

generation of data that itself is systematically obtained from social research (Strauss & Corbin, 1990; Glaser, 1998). The generation of robust data can then be used to generate theories, which can be elaborated through the construction of plausible models and justified in terms of their explanatory coherence. An iterative process was employed for the purpose of data generation, data assessment, and synthesis; iteration referring here to a process of constant refinement of methods of inquiry and problem definition.

In agreement with Haig (1999) I would readily admit to the fact that this project probably in common with many scientific inquiries - began with an ill-structured problem, and that this ill-structured problem became more clearly defined throughout the inquiry. Haig (1999) contends that a problem is ill-structured to the extent that it lacks the constraints required for its solution and suggests that the basic task of scientific inquiry is to better structure research problems by building in the various required constraints as the research proceeds. My acknowledgement of the need for structural betterment has been a driving force during this research project.

The data used for the purposes of this thesis originated from three discrete data sources; namely RFA-related literature, interviews with RFA stakeholders, and RFA-related media content. The data sources and the respective data collection methods are described below.

#### Data Sources and Data Collection

#### <u>Literature Review</u>

The literature review was focused on RFA-related material, covering specific information on the forest areas in the south-west, the science surrounding their management as well as historical and other contextual data pertaining to the RFA. The literature was used in conjunction with interview data and media content to compare the data sets as well as to fill existing information gaps.

In most cases, the literature was readily available from university libraries, government departments, research institutions, and on-line databases. The electronic databases I used for data collection included Expanded Academic ASAP International, APAIS, ISI, ELIXIR, Heritage and Environment, and STREAMLINE. The literature search was

also facilitated through co-operation and resource sharing among a network of scholars, which proved to be of great help.

RFA related material from Australian government sources was obtained via the State and Federal HANSARD search engines, the then official RFA website (www.rfa.gov.au) or directly from the respective government departments. Database searches were carried out using a wide range of keywords that were characteristic for the (Western Australian) RFA debate; these included:

- Regional Forest Agreement (RFA);
- Deferred Forest Agreement (DFA);
- native forests;
- old growth;
- comprehensive, adequate and representative (CAR) reserve system;
- Western Australia;

- timber industry;
- public participation;
- National Forest Policy Statement (NFPS);
- comprehensive regional assessment (CRA); and
- Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-Committee (JANIS

The higher the level of intersection between keywords the more relevant the sources were to this thesis.

The literature review covered a variety of data sources including government publications, parliamentary proceedings, scholarly and research publications, working and discussion papers, conference proceedings, legal documents, legislative bills, theses, and grey literature (i.e., non-reviewed and often not readily available). This diverse range of information sources helped prevent biased use, and collection, of data as inconsistencies were identifiable. The literature review was ongoing for the entirety of the research project to (a) monitor changes within the area of research and (b) maintain the relevance of this study.

#### <u>Interviews</u>

Interview data formed the most crucial information component gathered for this thesis. This is because it was the interview data that allowed insights into RFA stakeholders' perceptions, attitudes, and values, and their analysis was my principal objective. The interview data also proved the most difficult to obtain. Constrained by time, finances, and physical distances I carried out a total of 59 face-to-face interviews and two telephone interviews, and 58 of which I tape-recorded and transcribed verbatim. Once transcripts were completed they were returned to the interviewees, offering the opportunity for comment and editorial feedback. The return and finalisation of transcripts was often delayed due to research participants changing jobs, re-locating, high workloads, or simply forgetting about the transcripts. Overall, the interview period stretched from December 1999 to October 2002 and involved travels within Western Australia as well as to Queensland, Tasmania, Victoria, and the Australian Capital Territory (ACT).

The interviews comprised of two parts, one being structured the other open-ended.<sup>4</sup> Structured interview questions were focused on participants' involvement in the process and to specific events relating to the RFA process. Some questions were specifically tailored to the roles and functions assumed by participants in the process (e.g., scientists were queried about scientific aspects of the process whereas timber workers were asked questions relating to industry-relevant issues). Open-ended questions were used to gain insights into participants' views on, and perceptions of, procedural aspects of the RFA and process outcomes. On average, interview durations were between 40 minutes and one hour, but occasionally interviews lasted up to two hours.

I employed what is known as snowball sampling as my sampling method, a technique described in detail by Goodman (1961) and Babbie (1992). Essentially, snowball sampling uses a set of initial interview participants to suggest additional names to be interviewed for the project in question. This is how a snowball of participants emerges. Adequacy of sampling size can be determined by a perceivable closure of the participant network. In other words, a saturation point is reached at which fewer and fewer new names are being suggested.

In this study the snowballing process commenced via the identification of five potential research participants. This form of purposive sampling involved judgements concerning the suitability of individual research participants. Suitability was dependent on the participant's willingness<sup>5</sup> and ability to participate and the role an individual

<sup>&</sup>lt;sup>4</sup> The interview schedule is listed in Appendix 1.

<sup>&</sup>lt;sup>5</sup> Participants' availability depended here on their willingness to co-operate, work commitments, and permission to partake in a research exercise such as this. It should also be noted that I approached two

played within the RFA process. The latter criterion required individuals to have been *recognised actors* in the literature, newspapers, or on-line news groups in connection with the WA RFA. All members of that initial group, which comprised members from government departments, science, and the conservation movement, agreed to participate. These opening interviews provided the basis for further interviews as research participants suggested names of potential candidates. Consequently, the circle of research participants to be considered for this study was successively widened, leading to further inquiries and the pursuit of a wider spectrum of people (main and peripheral actors) and issues, which is characteristic for the iterative nature of a study such as this.

The research participants of this study were not intended to reflect WA's forest stakeholder community statistically. Instead, the idea was to capture a wide range of views on, and perceptions of, the WA RFA process that would be reflective of the multiplicity of discourses during the RFA process. Snowballing enabled me to attain a large selection of discourses as research participants made frequent reference to their discursive opponents in the forest debate. This in turn gave me the opportunity to pursue individuals with alternative perspectives. In the end, this study was able to draw on input from 59 research participants. This group of people comprised of one representative from the tourism industry, 12 scientists, 13 non-scientific employees of government departments, six politicians, one apiary representative, three timber mill owners/managers, one timber worker union representative, one softwood plantation owner, one Indigenous Noongar community spokesperson, three local council members, one local timber company manager, three timber industry representatives, ten environmental/heritage non-government organisation (NGO) members, one forest protester, and two members of the general public who were actively involved during the RFA's public consultation process. Interview data represents the only primary source of this study and thus features most prominently in this thesis.

#### Print, Radio, and Television Media Content

I decided to include media content for a variety of reasons. Firstly, international media research (Parlour & Schatzow, 1978; Kepplinger & Roth, 1979; Hoffman, 1996;

senior public servants (State and Federal) who were central to the RFA process. However, they did not participate in the project.

Ranthum, 1996) indicates that the media in recent years "have played an important role in influencing public opinion about various environmental issues" (Bengston et al., 1999, p.183) and have had an impact on political agenda setting (Downs, 1973; Solesbury, 1976; Schoenfeld et al., 1979; Protess et al., 1987). In fact, the mass media have become an important source for many people about many issues including the environment (Fortner et al., 1991; Wilson, 1995). Figure 2.4 illustrates the role the media serves in the forum of public debate.

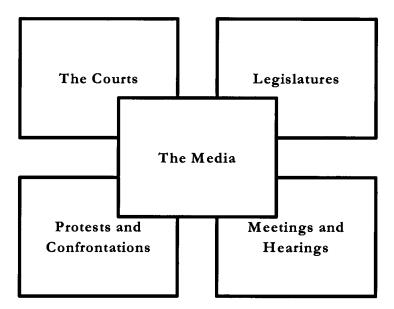


Figure 2.4: Forums for Public Debates About Natural Resource Policy and Management

(adopted from Bengston & Fan, 1999, p.79)

Secondly – based on personal observation and a preliminary analysis of the WA RFA – the media seemed to play a pivotal role throughout the WA RFA process, providing information on various aspects of the debate. This included information about protests and confrontations, meetings and hearings, court proceedings, and parliamentary debates but also personal views from members of the Western Australian public.

Thirdly, as mentioned earlier, I included media content for the sake of completeness, using the media as an information source. However, the media also played a contested role during the RFA process. A number of interviewees commented on the selective and biased media coverage of events during the WA RFA process and the way in which the media raised the public profile of the WA RFA and accentuated the involvement of

Western Australian celebrities in the forest debate. These issues I will cover in more detail in Chapter Seven.

#### Data Analysis and Sense-Making

I utilised the method of discourse analysis for the treatment of the case study data. My decision to employ an approach such as this was in response to two aspects. Firstly, I was searching for a technique that would not only fit my case study design but also mesh with the theoretical approach chosen for this thesis (i.e., social ecology), which places emphasis, following the OST tradition, on adaptive learning. Secondly, I was inspired by the work done by Butteriss, Wolfenden, and Goodridge (2001) who advocate the use of discourse analysis as a means of improving the understanding of plural perspectives in natural resource disputes, and their approach will provide the basis for the method of discourse analysis employed for the purposes of this study.

The brief summation of Australia's forest debate provided in Chapter One hinted at a plurality of conflicting views and attitudes towards forest matters, which were generally poorly understood by political decision makers. Butteriss et al. (2001) promote discourse analysis as an effective tool for the unearthing of views, prejudices, and assumptions held by people, which is what I hoped to achieve through the study of RFA stakeholder discourses. Butteriss et al. (2001) recognise the potential for problems relating to biases and filtering arising out of their exclusive use of secondary data (i.e., media content) in their work and encouraged the empirical testing of the significance of such problems.<sup>6</sup> I was able to follow this call in this study through the use of primary (interviews) and secondary data (RFA-related literature, media content).

In the following section I provide an overview of definitions for discourse and discourse analysis and survey a range of literature on discourse analysis theory relevant to this field of research. I then move on to describe the discourse analysis method chosen for this study and provide detail on its application to this project.

<sup>&</sup>lt;sup>6</sup>This relates to issue of objectivity/reliability of media content mentioned earlier.

#### Discourse Analysis

Men [people] are the producers of their conceptions

(Marx and Engels cited in Arthur, 1974, p.47)

The term *discourse analysis* is very ambiguous, and its study represents a hybrid field of enquiry (Burr, 1995) rich in history and esoteric jargon.<sup>7</sup> The roots of discourse analysis are with linguistics dating back to the scholars of ancient Greece and Rome (Cook, 1989). More recently, discourse analysis has been undertaken in a vast field of disciplines such as anthropology, philosophy, semiotics, poetics, psychology, sociology, literary criticism, and mass communication research (van Dijk, 1985e). Therefore, many definitions exist for discourse and discourse analysis. In a linguistic sense, discourse can simply be described as any sustained stretch of speech or sequence of individual sentences (Carlson, 1952), the totality of things written and read, spoken and heard (Myerson & Rydin, 1996), or as a collection of stories, myths, scripts, narratives, legends, and sagas (Putnam et al., 1996). To many authors, however, discourse is more than just language.

For language to be recognised it must involve an *appropriate* way of thinking, valuing, acting, and interacting at the *right* times, with the *right* objects, at the *right* places (Gee, 1999). Discourse, therefore, not only comprises of language in the written or spoken form (languages in use) but also *other stuff* (Gee, 1999), or Discourse with a capital D (Foucault, 1985). Gee (1999, p.18) explains it this way:

If you put language, action, interaction, valued beliefs, symbols, objects, tools, and places together in such a way that others recognize you as a particular type of who (identity) engaged in a particular type of what (activity) here and now, then you have pulled off a **D**iscourse ... (emphasis added)

<sup>&</sup>lt;sup>7</sup>Detailed accounts of the theoretical evolution, epistemological heritage, and broader applications of discourse analysis can be found in van Dijk's (1985a; 1985b; 1985c; 1985d) four volume review of approaches to discourse analysis; Mills' (1997) introduction to discourse, focusing on feminist, poststructuralist, and postmodern work; Ortony's (1993) work on metaphors; the general introduction to discourse analysis theory and method by Gee (1999); and the work by Myerson and Rydin (1996) and Dryzek (1997) on environmental discourse.

Of importance to this thesis is the other stuff, as I sought RFA stakeholders' perceptions, mind-sets, paradigms, silent assumptions, and beliefs as expressed within the many RFA discourses. For these reasons I have adopted Dryzek's (1997, p.8) more constructionist designation of discourse who describes it as a "shared way of apprehending the world." Within social constructionism discourse is seen as a product of a shared version of reality (subjectivity) between interlocutors. Here, non-overlapping discourses render communication ineffectual, as people would quite literally find the utterances of others to be incomprehensible (Demeritt, 1994; Dryzek, 1997) and perceive them as a foreign language, if a language at all. Even more, without discourse knowledge could not exist (Lacan, 1977; cited in Burton & Carlen, 1979) nor could it be shared in the absence of external validation, as it cannot be self-referential (Burton & Carlen, 1979), and without discourse learning and problem solving would be very difficult to imagine (Dryzek, 1997). As is detectable in Dryzek's (1997) interpretation of discourse, it is relativism that characterises the constructionist approach towards discourse analysis, for speech and expressions are not regarded as fact but merely as reflections of subjective impressions of external facts. This is why discourse analysis is said to have "displaced epistemology" (Burton & Carlen, 1979, p.15) as it is more concerned about modes of knowing than the origins of knowledge, moving away from concepts of absoluteness and fact towards subjectivity and perception. This means that normative and positivistic notions that reality can be described with great precision in an unambiguous and testable fashion are being rejected (for a list on assumptions of positivism see Lakoff, 1993). It is due to this non-normative character of discourse analysis (Foucault, 1972) that the so-called privilege to conventionality is being denied (Burton & Carlen, 1979). Language is viewed as "a reality-creating social practice" (Fowler, 1985, p.62), being reflexive or reciprocal (Durnati & Goodwin, 1992; Gumperz & Levinson, 1996), simultaneously reflecting and construing reality (Gee, 1999).

Indeed, reality is seen as a social construct and, therefore, it is argued that "there is no single correct reading of the external world within discourse analysis" (Manning, 1979, p.660). However, truth and reality are not only socially constructed or created but also contextual (Agar, 1994; Clark, 1996), a product of language (see Fowler, 1985), as well as political (see Saussure, 1974; Lacan, 1975; Foucault, 1978; Dryzek, 1997). This essentially means that what is perceived to be true or real can vary just as meaning and content of discourse can change in response to contextual changes (e.g., temporal,

cultural, geographical) and that discourse itself can be determined by motives to specific ends (i.e., *discourses for courses*).

The discourse analysis method is described in the literature as a useful tool, inter alia, for critical reflection (Luks, 1998), the detection of norms and ideologies (Manning, 1979), the exposure and analysis of power relations (Foucault, 1978; Putnam et al., 1996), the improvement of communication (Luks, 1998) and organisational effectiveness (Morgan, 1986), the sense-making of unfamiliar environments (Ortony, 1993), and the formulation of new ideas and concepts reflective of newly gained knowledge and values (Butteriss, 2002). I concur with these characterisations of discourse analysis, which, to my mind, describe this method as a tool used for the search of contextual meaning(s) beyond the boundaries of the written and spoken word. For that reason, I adopted Stubbs' (1983) interpretation of discourse analysis for the purposes of this study who defines this approach as an attempt to examine the use of language in wider social contexts, the interrelationships between language and society, and the interactive or dialogic properties of everyday communication.

#### Discourse Analysis Method

The use of discourse analysis in this study aligns this research to other work done in the area of public policy development (see for instance Fischer & Forester, 1993; Dryzek, 1997; Meppem, 2000). The approach chosen here was designed to investigate WA RFA stakeholders' perceptions of (a) the participative nature of the RFA and (b) the treatment of science, scientists, and scientific data throughout that process. The insights gained into the plurality of stakeholder perspectives were then used for the construction of a *synthesised reality* of the WA RFA, creating a meta-narrative from plural perspectives. This means that the data derived from this study was used to develop a coherent, stakeholder-informed account of this environmental policy process as a means of identifying perceived strengths and weaknesses of the process and its outcomes.

It is important to note that many discourse analysis methods exist; yet, none of them can be considered uniquely right. Gee (1999) asserts that discourse analysts, to suit specific research problems, have devised various approaches to discourse analysis. In essence, there is no one-best-way of doing discourse analysis. Methods are flexible, and in fact it is considered normal and acceptable for them to be adapted, changed, and altered to specific issues and contexts (Gee, 1999). In Chapter One, I stated this thesis' objectives and made it explicit that this study seeks to identify the lessons that can be learned from the RFA process. Thus, this research is not an objective truth seeking exercise but an exploratory and integrative approach based on arguability and relativism (subjectivism) because the question is not whether what I would find is true or not but rather what could be learned from the analysis of the data. Yet, as will be shown below this research does not rely purely on the plausibility of its findings.

This research project was methodologically constrained by the issue of confidentiality. Confidentiality was a study condition imposed by the Committee for the Conduct of Ethical Research at Edith Cowan University because of perceived sensitivities surrounding the topic of this thesis. Not just data but also the identity of research participants was in itself regarded as sensitive information. As a consequence, good housekeeping and physical security measures needed to be introduced to prevent the leakage of confidential information and to legitimate the research process (Kelman, 1972). Also, my research methods needed to contain certain safeguards (dejeopardising techniques (after Lee, 1993)) to prevent the identification of research participants. The employment of particular safeguards, which are described in this section, had implications for the analysis and presentation of the research data in this thesis. Therefore, the procedural steps outlined below need to be seen in light of this study condition.

As mentioned previously, a total of 59 interviews was conducted, and 58 interviews were tape-recorded and transcribed verbatim. The transcribed interviews formed a database of approximately 274 000 words, which was imported into QSR NVivo 1.3 (1999), a qualitative data analysis computer software programme that I used to organise and code the interview data. From the interview data selections were made of phrases and entire sentences, although occasionally speech elements such as adjectives, adverbs, past participles, and nouns were also considered. Term selection was focused on evaluative statements, personal observations, expressions of feelings and emotions, historical accounts, quantifications, hopes, and predictions. Overall, my aim was to analyse the interview data on the sentence level (provided sentences did not contain identifying information) to leave intact as much of research participants' statements as possible<sup>8</sup>. This in turn enabled me to (a) minimise author intervention and the risk of selectiveness, (b) enable participants to tell their story, and (c) allow for the transfer of openness and transparency to the reader. In contrast, an analysis solely focused on metaphors, for example, would have meant the possible loss of valuable context and harboured the risk of simply putting my story over.

Over a period of 19 months I analysed the interview data via visual coding and analytic deduction, searching for discursive themes and patterns. This involved the repeated reading of the interview transcripts, a process which offered much opportunity for reflection on the data and ultimately helped with the identification of information gaps and cases of data overrepresentation. This led to additional interviews being conducted and necessitated the adjustment of the coding system I had employed and the themes I had developed. Emerging thematic groups were organised and structured with the help of the computer software. I used the software for the development of a coding system employing so-called *nodes*. Each node represented a thematic group, which selected sections from the imported transcripts were assigned to.

The interview schedule, presenting the structured part of each interview (see Appendix 1), provided the initial coding structure for the interview data. Each interview question was given a node, and quotations of all respective interviewee responses were listed under these nodes. The semi-structured nature of the interviews meant that unstructured questions, follow-up questions, tangents, or interjections were leading to the development of additional nodes and at times to the adjustment of the interview schedule to incorporate newly gained information. Node searches were then carried out with the use of the software, which produced lists of quotations taken from the interview data for all nodes that were developed. For example, the interview question "What are your views on the RFA process in terms of community involvement?" was assigned the node name *Participatory Nature of RFA – General Comments*. Then, all statements made by research participants pertaining to the participatory nature of the WA RFA were coded using that particular node. Afterwards, a node search for

<sup>&</sup>lt;sup>8</sup> It needs to be recognised that the form of discourse analysis employed for the purposes of this study is not a linguistic exercise. In other words, an in-depth analysis of interview material at the semiotic and semantic levels is neither intended nor to be expected.

quotations for RFA Participatory Nature of RFA – General Comments produced a data set similar to that shown in Textbox 2.1.

Node Search Results for Node 'Participatory Nature of RFA – General Comments' Document 'Interviewee 1', 2 passages, 123 characters. Section 0, Paragraph 60, 50 characters. strong participatory role played by that local community Document 'Interviewee 2', 2 passages, 123 characters Section 0, Paragraph 60, 73 characters. it was not a participatory process ` Document 'Interviewee 3', 8 passages, 1511 characters. Section 0, Paragraph 80, 25 characters.

Textbox 2.1: Example of a Node Search Result in QSR NVivo

The node search results shown below demonstrate the wide range of issues raised by RFA stakeholders in response to the interview question on community involvement in the WA RFA. In this example some individuals focused on structural aspects of the RFA process whereas others made more general comments and observations. Varied responses were characteristic for most of the interviews conducted.

The variety of stakeholder responses required the subdivision and refinement of the thematic groups. However, on occasion categories needed to be kept sufficiently broad in order to minimise privacy risks. Through a process of iteration broad thematic groups were divided into more refined subcategories. For instance, node category *RFA Public participation* was subdivided into categories such as:

- participatory nature of RFA- general comments;
- access to process;
- power to influence process and outcomes;
- structural characteristics to promote constructive interactions;
- access to information;
- facilitation of constructive personal behaviours;
- adequate analysis; and
- enabling of social conditions necessary for future processes.

New nodes were then assigned to the established subcategories and additional node searches were carried out. The then refined search results were compiled into *collages* (see Textbox 2.2), a device Butteriss et al. (2001) refer to as *rhetorical landscapes* or what Myerson and Rydin (1996) call *environets*.

The industry very much felt that they were given token acknowledgement in the whole RFA process. **They did not have ownership of it**. They were not consulted as much or as often or as in depth as they should have been or could have been.

So when you came to drawing the lines on the map you said: Hang on, this group here, not only are they prepared to have that area protected, they are prepared to maintain it and work on it. Therefore, there was a strong participatory role played by that local community.

It's very much a top-down process with timelines that look like they seek to meet their political objectives in terms of elections rather than delivering things to people that are meaningful on the ground.

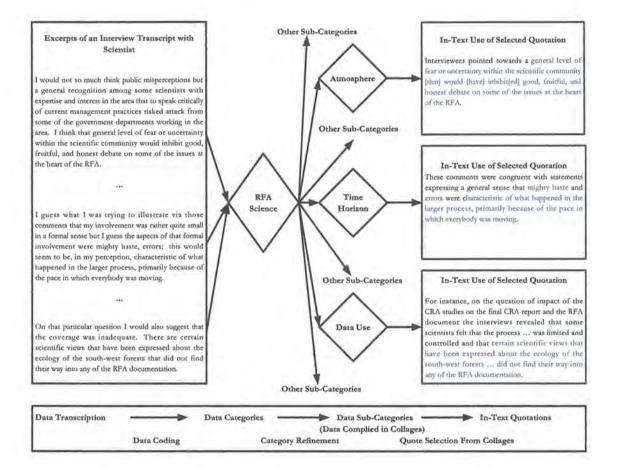
# Textbox 2.2: Example of Collage for Node "Participatory Nature of RFA - General Comments"

Each collage represented a thematic group, depicting randomly placed quotations taken from that specific interview data subset. Randomisation was used to allow the scanning of stakeholder information without superimposed structures and hierarchies. The technique also helped forestall the possibility of deductive disclosure (Lee, 1993). The collage shown in Textbox 2.2 depicts node search results for a thematic group with node name *Participatory Nature of RFA – General Comments*. The collages were used as information pools for the in-text presentation<sup>9</sup> of the interview data via parentheses and direct speech throughout the thesis complimented with, and compared to, data derived from RFA-related literature and media content. Text fragments shown in bold type represent text selections made for in-text use. The paragraphs (or parts of) from which

<sup>&</sup>lt;sup>9</sup> The text shown in square brackets [] denote editorial changes, which either represent the removal of identifiers or alterations of grammatical, but not contextual, nature. Text shown in parentheses are additional quotes used to either signify the strength of data categories, to indicate the variety of stakeholder responses, or to simply allow for the inclusion of larger interview data segments. The use of blanks "... " denotes minor text omissions for grammatical/structural reasons. Colour-coding (as shown in Textbox 2.2 was used for in-text direct speech and parentheses, a technique described later on in Chapter Four.

text sections were lifted are also shown in the collages as a means of providing context and transparency to the reader. All collages used for the purposes of this thesis can be found in a series of electronic appendices (see CD-ROM), reference to which is made in the relevant sections throughout.

A complete overview on the four-step process from interview transcription to the intext use of selected and categorised interview data fragments is provided in Figure 2.5.



#### Figure 2.5: A Depiction of the Data Analysis Process

The illustration depicts three excerpts taken from an interview transcript. The data were selected from an interview with a member of the scientific community who was commenting on the science of the WA RFA. The interview data excerpts – via the data coding process – were selected for inclusion into the category RFA Science. Through category refinement, the RFA Science node was then broken down into numerous thematic subcategories (shown here are Atmosphere, Time Horizon, and Data Use). The

content of these categories was then listed within node-specific collages, which provided the data sources for verbatim in-text quotations throughout the thesis.

Citations taken from the interview transcripts appear in colour-coding, the various colours denoting the different affiliations of research participants (e.g., government, science, etc.) but primarily serving as a means of maintaining anonymity in the interview data. Colour-coding permitted the use of direct quotes taken from the interview data, providing a general indication of the participant's personal/professional context but with no specific reference to the information source. Interview data could therefore be used verbatim and did not need to be paraphrased. This way I hoped to preserve the originality of the interview data to construct a meta-narrative of the WA RFA.

The coding system I employed involved RFA-specific informant groupings. However, a description of these groupings will only become meaningful to the reader once I have provided the necessary background to, and context(s) of, the WA RFA. This background information I will present in Chapter Three, and a full description of the coding system will therefore need to wait until Chapter Four.

#### **Rigour and Validity Issues**

At this point I shall comment on the rigour of the methods outlined above. Many criteria have been developed for the assessment of the trustworthiness and value of qualitative research (see for instance Marshall, 1990; Miles & Huberman, 1993); however, all largely cover very similar ground. For the ensuing discussion I will address three distinct but related inquiry elements, which, according to Patton (1990), the credibility issue for qualitative research depends on. These inquiry elements are:

- rigorous techniques;
- researcher credibility; and
- philosophical belief in the phenomenological paradigm.

#### **Rigorous Techniques**

The issue of rigour relates to the establishment of a study's truth value, meaning the applicability, consistency, and neutrality of a research project (Lincoln & Guba, 1985).

The tools I employed to strengthen the credibility of this study were clustering, categorisation, triangulation, and checks for representativeness, which Miles and Huberman (1993) refer to as means of verification of conclusions.

Clustering was employed, as will be described in more detail in Chapter Four, for the partitioning of the group of informants and used primarily as a means of depersonalising the interview data. Clustering was based on the question of who goes together with whom? and thus involved a search for commonalities and points of overlap among the individuals within that group of informants. Clustering also helped to give contextual meaning to the interview transcripts, a point clarified by Platt (1981, p.53): "A document's meaning cannot be understood unless one knows what genre it belongs to, and what this implies for its interpretation." The clusters I devised expressed professional/philosophical allegiances of stakeholders, visually to be differentiated via colour-codes for each cluster. The use of clusters was based on assumptions about the homogeneity of RFA stakeholders' expectations of, and sentiments towards, the WA RFA. The validity of these assumptions was tested throughout this thesis via constant reference to the interview data, the literature, and media content and as part of an analysis of group homogeneity/heterogeneity in Chapter Seven. In other words, the clusters were tentative in nature, working hypotheses to be tested against the case study data.

Data categorisations I used in response to a severe data overload (see Miles & Huberman, 1984), which was a product of the large number of interviews conducted as well as the richness of RFA-related literature and media content. Essentially, the use of categories made the data more manageable. Emerging themes were subject to continual scepticism (Ross & Lepper, 1980) to minimise the possibility of employing superimposed structures. Here, scepticism refers to the search for both data corroboration and disconfirming evidence to either substantiate themes or devise new themes reflective of data plurality. The parenthetical presentation of the case study data and the use of direct speech provided a means through which the presentation of a *total* discursive field image became possible; by this I mean the conveying of participants' realities in either *strong thematic groups* in cases of data corroboration or weak thematic groups where data was disconfirming (data outliers). The use of parentheses and direct speech thus permitted both the comprehensive display of plural and conflicting

perspectives and methodological transparency to the reader. I made the conscious attempt to treat all stakeholder discourses as equally valid and their selection as value free and non-political despite the political nature of the topic. No single discourse was to be seen as better, more worthwhile, valid or true and each discourse to be considered justified and valid within its context. While some discourses may have dominated and attained what Butteriss (2002) calls *begemonic status*, this was not to make this discourse a good or better discourse. The aim was to accurately define and describe events and accounts of the WA RFA, and I was wanting to attain research findings that would "be credible to the constructors of the original multiple realities" (Lincoln & Guba, 1985, p.296). Constant reference to other information sources also helped maintain a balanced perspective.

I employed data triangulation as a means of supporting the rigour of this study. Three different data sources, namely interview data, RFA-related literature, and media content, were used to describe the same process or aspects of it. This technique, which has been fruitfully applied to social science inquiries for many years (Marshall & Rossman, 1995), helped corroborate, elaborate, and illuminate the case of the WA RFA. The method helped me check for internal data consistency via the validation of interview information with publicly available data sources (Patton, 1990). For instance, it could be tested whether evidence given at parliamentary inquiries could corroborate interviewee responses, providing insights which enabled me to monitor the quality of the interview data. In addition, the conducting of interviews permitted within-data-triangulation. The tapping into a heterogeneous group of philosophically opposed stakeholders afforded me access to multiple accounts of the same policy process, in turn enabling a more balanced data analysis and thus contributing to the credibility of the findings. The issue of informant representativeness (Miles & Huberman, 1984) I did not address statistically. Instead, with the use of snowball sampling I intended to achieve discursive saturation, meaning the inclusion of additional interview data to a point where no new data could be obtained. In other words, I intended to exhaust the discourse variety and that way hoped to achieve a fair and balanced representation of the RFA discourse community. The representativeness of events and activities (Miles & Huberman, 1984) studied was to be ascertained through the detailed description of the historically grown forest conflict and of other contextual information pertinent to the WA RFA. In so doing, strong sentiments expressed during interviews could be put into context due to

external data richness, which in turn helped minimise the risk of overweighing dramatic events.

#### **Researcher Credibility**

Under this heading I intend to address the issue of how I, the researcher, may have affected the credibility of the research findings and explain the steps taken to prevent undue influence. My own institutional affiliation with Edith Cowan University I viewed as being potentially problematic in light of the topic of this thesis. This is because a number of university staff were actively involved in the WA RFA and played a part in the developments leading up to this process. Some of these involvements were rather adversarial in nature, aspects of which were well covered in the local media and thus public knowledge. Therefore, I needed to be prepared to overcome both potential inhouse biases towards the WA RFA, which might have affected my own judgement, and possible/probable biases of RFA stakeholders towards the institution and staff members, based on which research participants might have declined to participate or limited their degree of cooperation (e.g., strongly filtered interview responses).

External biases I intended to overcome by clearly stating the aims of my research project and methods involved to potential research participants as shown on the consent form signed by all research participants (see Appendices 2 and 3). This was to ensure that my mandate was unambiguous for informants (Miles & Huberman, 1984) and to attain a sense of trust, which Lincoln and Guba (1986) describe as an important dimension of methodological rigour. I also provided full disclosure of my supervisory arrangements and personal focus on the research topic – as stated in Chapter One – with the aim to work against doubt over ulterior motives and bias. Copies of the thesis proposal were made available to potential participants on request.

Potential in-house biases I attempted to overcome by seeking both internal and external views to challenge and critically question my analyses. This thesis' Chapters Five and Six were presented respectively at two international conferences (Brueckner, 2002a, 2002b) and at a number of seminars at Perth-based universities. The feedback collected helped me remain theory-minded (Patton, 1990) and aided critical reflection on assumptions and inferences made. During the data analysis I frequently sought

feedback from experienced scholars, who I asked to play devils' advocate (Marshall & Rossman, 1995) to critically question my approach and findings.

The inclusion of key stakeholders, peripheral stakeholders, and former stakeholders into the group of research participants helped avoid elite biases (Miles & Huberman, 1984) and allowed for consideration to be given to dissidents with alternative perspectives. Informant cooption (Miles & Huberman, 1984), referring here to the provision of historical and background information by research participants, was a means through which I also hoped to achieve bias avoidance. I remained neutral throughout the course of the WA RFA from 1997 to 1999, neither becoming actively involved in the process nor liaising with any of the RFA stakeholder groups. However, I did not distance myself from the process and its aftermath as I attended rallies, seminars, lectures, and public meetings as an observer, yet without *turning native* (Marshall & Rossman, 1995), to gain a feeling for, and understanding of, the players and the various paradigms, views, and ambitions at work.

#### Philosophical Belief in the Phenomenological Paradigm

In this section I shall explain and defend the value and appropriateness of the qualitative approach chosen for this study. I stated earlier that this research does not aim at the generation of unassailable certainties and truths. This thesis is about perspectives and the development of perspectives. I employed a qualitative approach for I meant to produce credible, balanced, and useful information applicable to debates on environmental policy making via an investigation of emotionally charged and contextrich data of a recently completed environmental policy process. The issue here was learning and context-bound extrapolation (Patton, 1990), which is why I did not think that quantitative techniques were suitable for the analysis of the case in hand. Qualitative research is established and recognised across many scientific disciplines (Miles & Huberman, 1993; Marshall & Rossman, 1995). Yet, I am aware of the, albeit diminishing, intensity of the debate between (some of) the so-called *hard* and *soft* sciences (see for instance Lincoln & Guba, 1985, 1986).<sup>10</sup> At issue in these debates are usually concerns about objectivity, generalisability, and replicability, and it is these concerns I now wish to turn to.

<sup>&</sup>lt;sup>10</sup> This issue is addressed in more detail in Chapter Six.

Objectivity is the cornerstone of positivistic (hard) science. It has been recognised, however, that the objectivity mandate in quantitative research cannot easily be transferred to qualitative inquiries (Guba, 1981). In fact, there is a recognition within the qualitative research community that subjectivity is inevitable (Peshkin, 1988). This is why calls have been made to have this positivistic mandate replaced "with a mandate to be balanced, fair and conscientious in taking account of multiple perspectives, multiple interests, and multiple realities" (Patton, 1990, p.481). This is what gave rise to a new (different) scientific protocol for qualitative research, which demands full disclosure of the research methods employed, well documented research processes, transparency of possible biases, and an open description of limitations (Patton, 1990; Miles & Huberman, 1993). I hope to have demonstrated in earlier sections that with the techniques I employed throughout this study and the research details provided I have fulfilled these requirements. The issue of detailed documentation I shall address below.

Generalisability is also problematic within qualitative research (Patton, 1990), some say impossible (Marshall & Rossman, 1995) for contextual variation of social phenomena over time does not allow for significant empirical generalisations. Certainly, qualitative research findings are context-bound, but full and detailed descriptions of studies' richness allow for the identification of other cases with similar contextual settings to which research findings may apply. In other words, the transferability of research findings can be achieved when sufficient detail can assist the reader in seeing that potential for transfer (Marshall & Rossman, 1995). This thesis deals in depth with the case of the WA RFA, providing a full description of the RFA process, its participants, their underlying beliefs and values, the historical development of the forest conflict, and the resource system under contention. Based on that information context-bound extrapolations can be made from the findings of this study and transferred to resource conflict settings and environmental policy-making processes of similar contextual complexity.

The scientific hallmark of replicablility, as would have been detectable in the above section on generalisability, is one of the most difficult to master within qualitative research (Miles & Huberman, 1984; Marshall & Rossman, 1995) largely due to reasons of social complexity and dynamism. This is why a new technology of reporting has come of age within qualitative research aiming at the verification of qualitative methods

and research findings. This new methodological canon is generally referred to as research documentation or auditing (Miles & Huberman, 1984, 1993), an approach which requires authors to lay open the logic and chosen approach of the research they are reporting on. Auditing usually involves the compilation of a diary, a research companion containing field notes, observations, comments, hunches, procedures, methodological decisions, and underlying rationales, which should enable "another researcher ... [to] follow that audit trial and [to] verify the accuracy and legitimacy of [those] procedures" (Miles & Huberman, 1984, p.244). Throughout the three and a half years of this study I have compiled handwritten notes on this research project, documented key aspects of weekly discussions had with members of my supervisory panel and conversations with colleagues and external advisors, noted experiences had in interview situations, relevant lectures, and conferences; all representing information typical of that contained in a research diary. Due to the confidentiality condition imposed on this study, however, this information cannot be used for auditing purposes because it cannot be made publicly available. The same is true for this research's raw data (i.e., interview transcripts) which are stored electronically and in hardcopy in an undisclosed appendix. Both research notes and interview transcripts contain identifiers, which if made publicly available, would enable deductive disclosure by third parties. Moreover, the anonymisation of this study's large datasets I considered for technical reasons unpractical as data manipulation during software-based coding operations cannot not be carried out and would have required time-intensive data exports and reimports. I am aware that my inability to divulge research-related information might weaken the methodological strength of this research project but primary consideration needed to be given to the protection of the identity of research informants. Yet, I believe I have given sufficient detail on the procedural aspects of this study and provided for adequate methodological transparency to offset any confidentiality-related data concealments. Also, in relation to the treatment of the interview data I am confident that the use of appended collages and extensive in-text quotations will compensate the reader for the barred access to this study's raw data.

Finally, I would like to comment on the issue of ethical conduct, especially as it relates to data and informant confidentiality. This study has been approved by the Committee for the Conduct of Ethical Research at Edith Cowan University. Based on the conditions imposed on this research project all interviewees were briefed in detail about the aims and purposes of this research project, possible ramifications stemming from their involvement in the research were discussed, and all forms of data use were fully disclosed. Informed (written) consent was sought from all research participants for the conducting of both face-to-face and telephone interviews (see Appendices 2 and 3). Informants were given the opportunity to review and edit the interview transcripts and provided with the option to either bar or authorise the release of the data for research/publication purposes (Appendix 4). The interview data was not made available to any third parties. The exceptions were instances where written consent could be obtained from informants for the data disclosure to the members of my supervisory panel (see Appendices 2 and 3). All interview data was kept securely under lock and key for the entirety of the research project, and all electronic databases were password protected and encrypted. All data will be stored that way for another five years until 2008. Then a decision will be made whether to continue with secure storage or to choose the destruction of all files, audio-tapes, and other data carriers. Public access to the interview data is not going to be granted at any future stage.

#### Conclusion

In this chapter I provided a rationale for the adoption of the socio-ecological commons framework and presented details on the workings of open systems theory from which social ecology is derived. Moreover, I demonstrated the applicability of this systems approach to the case of the WA RFA and provided arguments in support of the adoption of the Selsky & Memon (1995) model for CCPRs as a sense-making and structural tool for the purposes of this thesis.

I introduced my research design and defended my decision to employ a case study format and the adoption of grounded theory. I elaborated on the study's three distinct data sources chosen, namely interviews, RFA-related literature, and media content and provided details about the data collection process. Subsequently, I presented my rationale for choosing a constructionist adaptation of discourse analysis and described the method I devised and its application. Finally, I discussed validity issues and ethical concerns surrounding this research and the methods employed.

## **Chapter Three**

# The Historical Contexts of the Western Australian Regional Forest Agreement

#### Introduction

The aim of this chapter is to put this study of the WA RFA into perspective. Based on primary and secondary literature, I will provide a general overview of the ecological, historical, social, political, and economic contexts of the RFA against which the process ought to be seen regionally and nationally. I will provide the reader with a brief description of the WA RFA forest areas, sketching the region's geography and commenting on its ecological, social, and economic make-up. This review is kept general, however, and does not contain any detailed analyses. Subsequently, I will present a historical review of the rise of the WA timber industry and forestry in the State to afford the reader insights into the established patterns of forest utilisation and management and to offer a background of understanding of the issues surrounding the RFA debate. In addition, I will elaborate on the rise of environmentalism and the evolution of conflict over forest utilisation, particularly in relation to forest management, clearfelling, old growth, and woodchipping and their influence on the history of the RFA.

#### Description of the RFA Forest Area

#### A Glance at the Making of a Continent

Hot, dry and flat, Australia is not a forested land

(Recher, 1981)

Australia today is a single-country continent which forms a part of Oceania between the Indian Ocean and the South Pacific Ocean. The world's smallest and driest continent originally formed a part of the Gondwana landmass, which during the Cretaceous period approximately 135 million years ago started to break apart (White, 1994b). Since the separation from Antarctica some 100 million years ago, Australia developed a distinctive ecology over a considerable geological timeframe (McLoughlin, 2001). The evolution of the country's flora and fauna is attributed to changes in climate and rising then falling sea levels which caused the eventual separation of Tasmania and New Guinea from the mainland 10 000 to 15 000 years ago (Breidahl, 1987; Vickers-Rich & Rich, 1993; State of the Environment Advisory Council, 1996). More recently – geologically speaking – evolutionary changes occurred, which coincided with the arrival of humans 40 000 to 100 000 years ago and the increase in the incidence of fire, which is also thought to be related to the drying of the land (White, 1994b). The Australian continent has been described as geologically stable since the Cretaceous period – some 65 million years – but to have been subject to persistent weathering and erosion (National Forest Inventory, 1998). These changes coincided with the decline of the Gondwanan forests, which have largely been replaced by sclerophyllous forests (White, 1994a). Australia has a total land area of 7 617 930 km<sup>2</sup> of which no more than 13 per cent are covered by trees. Only a quarter of that area is classified as forested area, which represents five per cent of Australia's land mass (Mercer, 1995)<sup>11</sup>, which explains why Australia is considered the least forested continent (State of the Environment Advisory Council, 1996).

Western Australia – a State of 3 million km<sup>2</sup> in size – has about 2.4 million ha of forest (Resource Assessment Commission, 1992), which represents less than one per cent of the State's landmass. Forest occurrence in WA can be viewed as being restricted to two botanical districts (after Beard, 1981a), the Gardner in the Kimberley and the Darling in the State's south-west; the latter essentially represents the WA RFA area, as shown in Figure 3.1. The Darling botanical district is made up of the Swan Coastal Plain (Drummond sub-district), the northern jarrah forest (Dale sub-district), the southern jarrah forest (Menzies sub-district), and the karri forest (Warren sub-district) (Beard, 1981a, 1982). This region features, in contrast to the tropical Gardner district, a Mediterranean climate with warm dry summers and mild wet winters with occasional frost (for more detail on climate refer to Gentilli, 1989). The original forest extent in the southern forest region prior to European settlement in the late 1820s is believed to

<sup>&</sup>lt;sup>11</sup> Forests – according to the National Forest Policy Statement (Commonwealth of Australia, 1992a, p. 47) - are defined as "an area, incorporating all living and non-living components, that is dominated by trees having usually a single stem and a mature or potentially mature stand height exceeding two metres and with existing or potential crown cover of overstorey strata about equal to or greater than 20 per cent."

have been in the vicinity of 4 million ha, of which 2.6 million ha remain today (Government of Western Australia, 1998).<sup>12</sup>

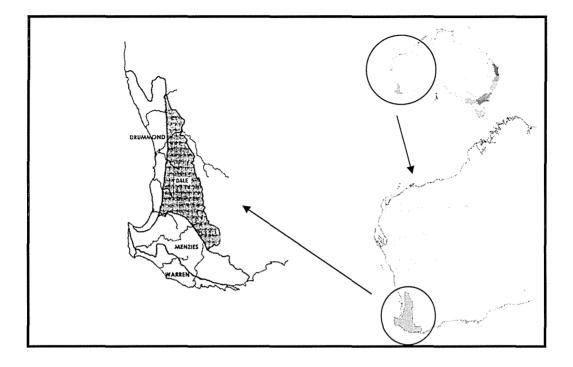


Figure 3.1: Locality Map – South-Western Botanical Province (after Beard, 1981b; adapted from Hopper, 1992; Environment Australia, 1999) *The WA RFA Region* 

#### The Geography and Ecology of the WA RFA Region

The WA RFA region (see Figure 3.2) covers about 4.25 million ha of public and private land. The region's eastern boundary roughly follows Albany highway (a direct route between the city of Perth and the town of Albany) while the western boundary runs along the Darling Range<sup>13</sup> turning coastward towards Cape Naturaliste. In the North, the region starts near Gingin and stretches down to the South Coast near Denmark (Commonwealth of Australia, 2000a) The coastal plain is excluded from the WA RFA region. The private land – 1.87 million ha (44 per cent) – is largely cleared and used for

 $<sup>^{12}</sup>$  As is detectable in the discrepancy between the figures cited in this paragraph for existing forest extent (i.e., 2.4 and 2.6 million ha), the accuracy of these figures is contested. This will be subject of further discussion in Chapter Six.

<sup>&</sup>lt;sup>13</sup> The Darling Range (scarp) is at the edge of the Western Plateau, extending 322 km parallel with the southwest coast and rising to 582 m.

agriculture, horticulture, viticulture, grazing, dairy, and other uses (Commonwealth of Australia and Government of Western Australia, 1998a).

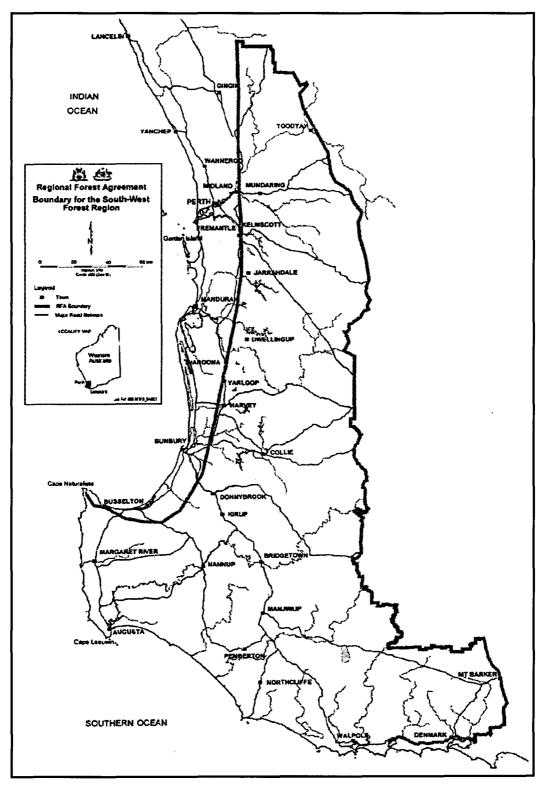


Figure 3.2: Western Australian RFA Region (Commonwealth of Australia and Government of Western Australia, 1998c, p. 57)

The remaining 2.38 million ha (56 per cent) is public land and is predominantly covered by native forest and some tree plantations. In 1998, the public land in the south-west region featured 745 000 ha of formal nature reserves and 314 900 ha of informal nature reserves (Commonwealth of Australia and Government of Western Australia, 1998a). The reserve estate has been extended following the completion of the RFA.

The region's tall forest formations are found in the south-west corner of the State where annual rainfall exceeds 600 mm (Department of Conservation and Land Management, 1992a). Jarrah (*Eucalyptus marginata*), karri (*E. diversicolor*), and marri (red gum) (*Corymbia calophylla*)<sup>14</sup> are the dominant tree species in the region. All are endemic to Western Australia. The most extensive forest in the region, however, signifies what is sometimes referred to as the Jarrah Forest. The Jarrah Forest (see Plate 3.1) is classified as open forest in the north of the region and tall forest in the south (Dell & Havel, 1989). The main jarrah belt is approximately 80 km wide and stretches 550 km from north to south. It is situated to the west of the 600 mm isohyet with its largest formations in the high rainfall zone along the plateau and scarp of the Darling Range (Calder, 1980; Dell & Havel, 1989). Height and density of the jarrah forest decrease from the south to the north and west to the east due to diminishing rainfall and edaphic effects (for more information on jarrah distribution in relation to climate and soils refer to Smith, 1974; Beard, 1979, 1981a, 1982; Gentilli, 1989); logging also explains some of the changes in the density of the jarrah forest (Recher, 2003, pers. com.).

While jarrah has a distribution over a wide range of soil, topographic, and climatic conditions (Department of Conservation and Land Management, 1992a), the occurrence of karri is restricted to the moister and more fertile (younger) soils in the extreme south-west corner of the State within the 1100 mm isohyet (Bradshaw & Lush, 1981). The karri area (see Plate 3.2) stretches along the Warren, Blackwood, and Donnelly rivers, from Karridale through Nannup to Pemberton, Walpole, and Denmark with isolated stands in the Porongorups near Albany (Department of Conservation and Land Management, 1992a). With its occurrence being related to the presence of moist soils karri is largely found in incised valleys, on red earths, and along valleys and rivers. On slopes karri grows in mixture with marri, on ridges it is replaced by jarrah (Commonwealth of Australia and Government of Western Australia, 1998a).

<sup>&</sup>lt;sup>14</sup> Formerly Eucalyptus calophylla.



Plate 3.1: Jarrah Old Growth Forest North-East of Collie (Preston) (Photo: Simon Judd)



Plate 3.2: Karri Forest Near Pemberton (Hawke Block) (Photo: Simon Judd)

Marri grows in association with both jarrah and karri, predominantly, however, on fertile and lighter, sandy soils. While found mainly to the west of the 600 mm isohyet, the specie has a wide distribution across the south-west of WA, stretching from the Murchison River in the north to Bremer Bay on the south coast (Wardell-Johnson, 2000). In the past, marri was commonly regarded a weed for it grew in competition with jarrah and karri, which were (and still are) favoured over marri for sawn timber production. With the introduction of woodchipping in WA in the late 1960s, marri became recognised as a merchantable tree species (Schuster, 1980). In recent years, marri also gained recognition in the context of furniture production.

Three species of tingle (a) red tingle (E. jacksonii), (b) yellow tingle (E. guilfoylet), and (c) Rates tingle (E. brevistylis) form sub-formations of the southern karri forest. On the eastern edge of the jarrah forest, woodlands are largely made up of wandoo (E. wandoo) and powderbark wandoo (E. accedens), and to the north and west of the jarrah forest, tuarts (E. gomphocephalus) form woodlands especially on the western coastal plain. Yarri (blackbutt) (E. patens), bullich (E. megacarpa), and flooded gum (E. rudis) represent some of the several other eucalypt species that grow in association with the principal forest species (see Bradshaw & Lush, 1981; Dell et al., 1989; Abbott & Loneragan, 1996). Most softwood and hardwood plantations in the region consist of exotic species such as Pinus radiata, Pinus pinaster, and Tasmanian blue gum (Eucalyptus globulus) respectively (Department of Conservation and Land Management, 1992a).

Finally, the southern forest region is also a significant water catchment area with 22 river systems as well as substantial groundwater resources and high-yielding aquifers, which together form the bulk of the water supply for the Perth metropolitan area (Department of Conservation and Land Management, 1987a).

#### Scientific Knowledge of the WA RFA Region

There is much controversy about the scientific knowledge and thus the management of the south-western forest region. In terms of biodiversity, the Darling district is regarded species rich with numerous centres of endemism (largely local small-scale endemism) (e.g. Hopkins et al., 1983) In fact, the south-western Mediterranean climate regions are estimated to contain 8000 species, with three quarters endemic (Hopper et al., 1996). Occurrences of relictual flora and fauna like the tingles, the sunset frog (*Spicospina*)

*flammocaerulea*) and the honey possum (*Tarsipes rostratus*) are considered common (see Dell et al., 1989). Development, commercial forest uses, mining, climate change, fire, the spread of pathogens, and inappropriate management regimes are some of the potential threats to the biodiversity in this region.

Overall, however, there is scientific dispute over the ecological vulnerability of the region. It is held among members of the Western Australian science community that substantial knowledge gaps exist about species occurrence and the ecological processes governing the region's forest ecosystems (e.g. Wardell-Johnson et al., 1989b; Wardell-Johnson & Nichols, 1991; Calver et al., 1996). The extent of existing scientific knowledge about the forest region is questioned, and concerns are raised about poorly understood ecosystem interconnections, processes, and vulnerabilities in the face of diminishing rainfall in WA's south-west (CSIRO, 1996) and other perceived threats to flora and fauna.

Perceived knowledge deficits are attributed, inter alia, to customarily tree-centric research programmes and forest management regimes in the State. In expounding, the southern forest area has historically been seen as a homogenous landscape dominated by merchantable tree species (i.e., jarrah and karri). Yet, in recent years more sophisticated research has led to an increased understanding of the richness, rarity, and endemism of species within WA's forest estate (e.g. Wardell-Johnson et al., 1989a; Hopper et al., 1992). Nonetheless, the State's forest areas, as is evident in Figure 3.3, continue to be seen by the State's forest department as largely homogenous landscapes and to be treated with broadscale management prescriptions, which are regarded by some as insensitive to the heterogeneity of the forest landscape (Wardell-Johnson & Horwitz, 1996). The scientific disagreements surrounding forest management will be examined in more detail in Chapter Six.

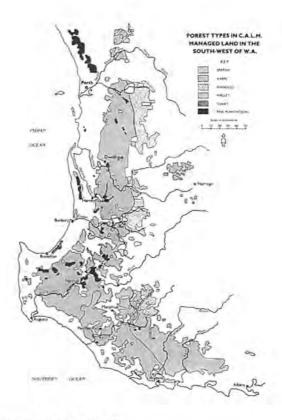


Figure 3.3: Forest Management Areas (Department of Conservation and Land Management, 1992a, p.3)

#### Socio-Economic Data of the WA RFA Region

The south-west region has an estimated population of 188 000<sup>15</sup> people (Australian Bureau of Statistics, 2000) with only a few population centres over 1000 people (e.g., Margaret River, Bridgetown, and Manjimup). Sources of employment within the region are found in mining, timber cutting and milling, agriculture, tourism, apiary, floriculture, native seed collection, and others. Viticulture has also become a significant industry in the State's south-west. In terms of economic significance, the region's overall contribution to the State's employment was 19.2 per cent in 1998 with the timber industry employing approximately 20 000 people either directly or indirectly, accounting for flow-on employment such as fuel, transport, and engineering (Commonwealth of Australia and Government of Western Australia, 1998a). Industry data from 1996 indicates that forestry in conjunction with agriculture and fishing contributed 10.4 per cent to the State's GDP of \$55 billion<sup>16</sup> (Treasury Department of Western Australia,

<sup>&</sup>lt;sup>15</sup> This figure includes the populations of the cities of Bunbury and Mandurah, which lie just outside the RFA region.

<sup>&</sup>lt;sup>16</sup> Currency shown in Australian dollars.

2003, pers. com.) and that export earnings from wood and wood-based products were valued at \$123 million per annum (Australian Bureau of Statistics, 1998).

In summary, the RFA area features a wealth of unique and diverse flora and fauna and contributes significantly to the State's economy. The region, which is governed by complex ecological processes, is impacted upon to varying degrees by many overlapping and at times conflicting anthropogenic demands such as mining, agriculture, tourism, recreation, and timber production Timber production is of principal interest here as the commercial use of timber is at the core of the RFA process, the focal point of this thesis. In what follows, I will draw attention to the history of timber usage and review the rise of the timber industry and forestry in Western Australia.

#### History of Western Australian Timber Usage and Forestry

#### The Evolution of an Industry

The cutting of native timber in the south-west of Western Australia immediately followed British settlement in 1826 (Nunn, 1957; Heberle, 1997) and accelerated after the establishment of the Swan River Colony in 1829 (Dargavel, 1995). In the early days of the colony, land was being cleared for pastoral and agricultural purposes, and the timber attained was being used for a variety of purposes including housing, fencing, and furniture making, bridges, and boat building (Rule, 1967). Nevertheless, the quantities of timber initially extracted are said to have been relatively low (Carron, 1985).

Very quickly hardwood timber (essentially jarrah)<sup>17</sup> was recognised as a potential export commodity, especially because of the seemingly inexhaustible volumes available and its superior quality (Calder, 1980; Mills, 1988; Cresswell, 1989). Exports of pit sawn timber started in 1831 (Heberle, 1997), and sawmilling started in 1833 with the establishment of the colony's first sawmill at Mount Eliza (Robertson, 1956), known today as Kings Park. Hardwood exports were seen as a means of stemming imports and reducing the ever growing trade deficit of the young colony (Carron, 1985). At that time, timber extraction went largely unchecked. While licenses were required for timber cutting in certain areas, regulations for forest conservation were few and difficult to enforce

<sup>&</sup>lt;sup>17</sup> Jarrah was then known as Swan River mahogany and not called by its native name *jarrah* before the mid-1840s (Carron, 1985).

(Education and Lands and Surveys Departments of Western Australia, 1979). In fact, measures by the colonial authorities rarely contemplated anything beyond the registration of timber falling operators (Robertson, 1959).

Capital was required for the establishment of an export oriented timber industry, particularly for the handling and transport of large logs, and for port facilities. Expertise and skills for timber seasoning and kiln drying were also necessary (Carron, 1985; Mills, 1989). In 1849, as a means to increase timber production among other reasons, Governor Fitzgerald applied for the colony to become a penal colony, as it was hoped that convict labour, adding to the labour force, would improve communications and help realise the timber production potential of the colony's forests (Calder, 1980; Mills, 1988; Cresswell, 1989; Mills, 1989); this was acceded to by Britain. The convict system lasted until 1868, and the expansion of the public-works programme afforded the development of trade to England, India, and South Africa. Yet, the focal point of timber production at the time remained local usage (Carron, 1985).

In the late 1860s, concession and license negotiations were being held between the colony's government and its business entrepreneurs in an attempt to create a more attractive environment for business and to stimulate much needed investment into the industry (Bosworth & Brad, 1997). Following negotiations, the governor of the colony, Governor Weld, decided to grant exclusive rights to cut timber and to exempt enterprises from export duties in return for license and sawyer's fees (Robertson, 1959). These and further agreements, known as the Canning, Jarrahdale, and Lockeville or Ballarat concessions (Robertson, 1959), fostered the establishment of large mills, first in Canning, Jarrahdale and Lockeville, and later in Vasse, Denmark, Karridale, and Collie (Education and Lands and Surveys Departments of Western Australia, 1979; Dargavel, 1995). The resulting generation of colonial capital allowed for greater mechanisation of the forest industry and hence an increase in timber exports. The late 1870s and early 1880s saw a slow wave of infrastructure creation using native hardwoods in the form of railway lines, tramways, and landing jetties (Calder, 1980; Carron, 1985; Mills, 1989; Bosworth & Brad, 1997).

Towards the late 1880s, these developments attracted further British capital, which in conjunction with initially reluctant increases in the government's public-works spending

led to more sawmills and railway systems being built and more cutting concessions being granted. Between 1893 and 1902, the boom years, existing sawmills were expanded and new timber towns were established along the newly built train lines. These settlements included towns like Yarloop, Mornington, Waroona, Wellington, and Greenbushes (Education and Lands and Surveys Departments of Western Australia, 1979). The expansion of infrastructure also gained pace with the discovery of gold at Kalgoorlie and Coolgardie (Calder, 1980; Carron, 1985; Mills, 1989).

Following the boom period of the 1890s a drop in the paving wood trade caused a slump in the then overcapitalised timber industry with falling export prices and profit levels (Calder, 1980; Dargavel, 1995). This in turn led to fierce competition between timber companies and a growth in unrestrained and wasteful cutting in an attempt to maintain or improve market position. In 1902, one year after the proclamation of the Australian Federation, the pressure resulting from the strong competition in the industry led to the amalgamation of eight of the State's largest timber companies, which were to form the Millars' Karri and Jarrah Forest Company, also known as the Combine, accounting for over 70 per cent of the WA's timber exports (Cresswell, 1989). The merger involved Millar's Karri and Jarrah Pty. Ltd., Jarrahdale Forests and Railways Ltd., M.C. Davies Karri and Jarrah Co. Ltd., Gill McDowell Jarrah Ltd., The Imperial Jarrah Wood Corporation, The Jarrah Wood and Sawmilling Co. Ltd., and The Westralian Jarrah Forests Ltd (Thomas, 1939). Notably, two other large timber companies, Whittaker Brothers and Bunnings Brothers, were not part of the merger, as they were primarily focused on local markets for structural timber (Mills, 1989). However, these two companies were to dominate timber milling in WA in the period leading up to the WA RFA. In the ensuing years, partly due to the expansion of the railway system, the timber industry recovered and expanded until World War I with a peak in production in 1913 (Forests Department, 1969).

# The Dawn of Forest Management

During the 1870s and 1880s, concerns were raised about indiscriminate timber cutting (Education and Lands and Surveys Departments of Western Australia, 1979). However, authorities did little to ensure conservation (Carron, 1985). A Royal Commission in 1877 marked the first, but somewhat self-contradictory, inquiry into timber export regulations and export encouragement, as well as the conservation of Western

Australian forests (Robertson, 1959; Carron, 1985; Dargavel & Boutland, 1988; Bosworth & Brad, 1997). The fact that no report was made by the Commission may be indicative of the prevailing attitudes towards forest conservation at the time (on this point refer to Robertson, 1959). In 1878, a Select Committee of the Legislative Council recommended changes to license fees and hewing practices to reduce waste; these changes were not welcomed by the industry (Robertson, 1956, 1959; Calder, 1980). Subsequent reports by then Surveyor-General Malcolm Fraser (1882) and botanist Baron Ferdinand von Müller (1822 (possibly wrongly dated); 1879)<sup>18</sup> highlighted the need for forest preservation. Both cautioned against the uncontrolled use and abuse of forest resources and suggested conservancy measures and administrative control, especially in relation to minimum tree size and fire damage. In 1883, J.S. Harris was appointed to the position of Forest Ranger. However, the appointment could "scarcely be held to signify an important innovation in forest protection policy" (Robertson, 1959, p.7). It was not until 1894/95 that, due to concerns raised by some members of parliament, the WA government decided to employ a Forest Conservator, by the name of J. Ednie-Brown, as head of the Woods and Forests Department (Calder, 1980), a branch of the Department of Lands and Surveys (Carron, 1985).

Ednie-Brown's gravest mistake as Conservator, according to Robertson (1956), was his miscalculation of the colony's forest extent, as it (a) made forest resources seem infinite and (b) undermined his own forest conservation proposals. In his reports (1896; 1899; cited in Robertson, 1959) Ednie-Brown stated that the principal forest surface equated to over 8 million ha, a figure that was to be accepted for 20 years and to form the basis for government policy. Not surprisingly, most of Ednie-Brown's attempts to curtail destructive tree cutting and hewing practices were opposed by a hostile industry and lacked support from a rather unsympathetic government (Mills, 1989). His recommendations rarely led to changes in existing regulations relating to forest management as primacy was given to agriculture at the time (Education and Lands and Surveys Departments of Western Australia, 1979).

Although Ednie-Brown was successful in pushing through the establishment of the Woods and Forests Department in 1896, timber licenses were still granted by the Lands

<sup>&</sup>lt;sup>18</sup> As cited by Carron (1985) and Mills (1989). Judging from reports by Robertson (1959) and the era of von Müller (1883) is likely to be the correct date.

Department, which also controlled the licenses (Robertson, 1959). The Conservator also worked on the drafting of the Crown Lands Timber Bill, which meant to improve working conditions, impose girth falling restrictions, and introduce the appraisement principle.<sup>19</sup> However, when the Land Act was introduced by government in 1898<sup>20</sup>, it did little more than limit lease areas to 30 000 ha, in order to prevent speculation on timber concessions by timber companies (Carron, 1985). Robertson (1959) describes it as an Act that led to a more ruthless exploitation of the forest resources and more effective alienation of prime timber land to agriculturalists. Still, despite many setbacks, when Ednie-Brown died in 1899 he had successfully started softwood plantings, established a forests department, and laid the foundation for a legislative framework for forestry, which in turn paved the way for the Forests Act in years to come.

The time following Ednie-Brown's death was marked by 17 years of diminutive interest in forest management by successive governments. Despite a Royal Commission on Forestry in 1903<sup>21</sup> and the appointment of a Forests Advisory Board in 1905, which ceased in 1908, little change occurred in WA's forests and the regulative framework that governed their use (Robertson, 1959; Carron, 1985). In March 1916, C.E. Lane Poole was appointed as Inspector-General (later Conservator) to professionally head the Forests Department. His key role was in the drafting of legislation in relation to forest protection measures and the raising of public awareness of the need for balanced forest exploitation and conservation. His work led to the passing of the Forests Act in 1918/19 by the State Parliament, signifying a "change from laissez-faire conditions to organised forestry" (Carron, 1985, p.146).

The Act included the dedication of State forests, the limiting of the cutting of prime timber for forest production, the introduction of the perpetual yield principle, the increase in softwood plantings for local demand, and a mandate for forest regeneration.

<sup>&</sup>lt;sup>19</sup> This meant that rent would be charged on timber leases based upon the quantity and value of the timber available as well as the comparative advantages owing to conditions surrounding (Robertson, 1959).

<sup>&</sup>lt;sup>20</sup> Wrongly dated by Bosworth and Brad (1997).

<sup>&</sup>lt;sup>21</sup> The Commission's report (Royal Commission on Forestry, 1903) led to the introduction of mill permits and a royalty system (Education and Lands and Surveys Departments of Western Australia, 1979), which were implemented under the Land Amendment Bill of 1904 (Mills, 1989; Bosworth & Brad, 1997) (for more detail on WA legislation in relation to forests refer to Dargavel et al., 1987).

Since 1919, steps were also taken to devote a portion of the State revenue from timber to the maintenance of the forest estate (Government of Western Australia and Paterson Brokensha Pty Ltd, 1956); and it was from the 1920s that reliable records were kept of timber cutting operations (Heberle, 1997). In addition, Lane Poole acknowledged the need for greater training in professional forestry, which resulted in a training school being instituted for this purpose at Ludlow (Bosworth & Brad, 1997). Nationally, the advent of modern forestry was marked by the establishment of the Australian Forestry School in Canberra in 1927 (Carron, 1985).

Despite these seemingly radical changes, true reform of forestry practices remained difficult to achieve, especially in terms of conservation, as forested land at the time was still considered a target for farming and settlements. The suitability of jarrah country for farming, however, was long disputed by the Forests Department (Bosworth & Brad, 1997). The Conservator's efforts to conserve parts of the State's declining tuart, jarrah, and karri forests (Carron, 1985) collided with the post-World War I Group Settlement Scheme of the then Premier James Mitchell, who parcelled out areas around Denmark, Nannup, Margaret River, Balingup, and Donnybrook to returned soldiers (Bosworth & Brad, 1997). Lane Poole's initiatives also met opposition from agriculturalists, the timber industry, and many members of parliament. Disquiet also grew among small sawmillers who felt increasingly disadvantaged by stricter controls and regulations (Dargavel, 1995). Lane Poole was also in battle with large concession holders over the regulation of leases and the payment of royalties, the combination of which – in the absence of support and success – led to his resignation in October 1921 (Calder, 1986); Carron, 1985).

Lane Poole's five years of service changed the State's forest policy forever, and the notion of infinite timber supplies was abandoned (Robertson, 1956, 1959). S.L. Kessell, who was appointed Conservator three years after Lane Poole's departure, continued the work of his predecessor, and indeed, the 1920s – following another Royal Commission inquiry in 1922 (Royal Commission on Forestry, 1922) - saw many native forest areas declared as State Forests and many forest management operations brought under the control of formal working plans. State Forests and managed lands covered an area of 400 000 ha by 1929 (Carron, 1985). By the end of the 1920s, the target figure of 1.2 million ha for forest dedication, as set by the Interstate Conference at Hobart in 1920,

was almost met by WA<sup>22</sup> (Forests Department, 1969). During the 1930s, the Forests Department was also focused on fire management and re-planting activities, which were assisted by unemployment relief work programmes during the depressed years of that decade (Calder, 1980). By 1940, WA was renowned for its Forests Department's fire-protection organisation and methods (Carron, 1985), and Mundaring State Forest became a model for water catchment protection in the whole country (Bosworth & Brad, 1997).

World War II disrupted many of the State's industries, including the timber industry, as many men enlisted to fight abroad (Carron, 1985; Dargavel, 1995). The annual timber cut nearly halved, and timber was then used primarily for domestic fire and industrial charcoal (e.g., charcoal was used as a substitute for rationed petroleum), the supply of which had to be provided by a Prisoners of War reinforced labour force (Calder, 1980). Export of timber was substantially reduced as most transport capacities were reserved for war supplies (Cresswell, 1989).

# The Post-War Era

Following World War II waves of war-displaced citizens and returning soldiers generated a new housing boom in WA, pushing local demand for native timbers, particularly plywood made from karri and jarrah, which effectively limited timber exports (Government of Western Australia and Paterson Brokensha Pty Ltd, 1956). The wartime-affected and hence under-resourced timber industry struggled to meet local demand at that time (Cresswell, 1989). However, with the help of government subsidies new saw mills were established in areas like Northcliffe, Donnelly River, and Shannon, and much neglected infrastructure was repaired or renewed. In addition, the arrival of American technology in the form of bulldozers, diesel trucks, and chainsaws greatly helped the timber industry to meet the unprecedented boom in local demand, marking the beginning of a new era for it (Robertson, 1956; Forests Department, 1969; Calder, 1980; Cresswell, 1989); still, this technology also meant increases in capital intensity for the industry, a transition many small to medium-sized operators were unable to undergo (Dargavel & Boutland, 1988). This was also the time when Bunnings Brothers, specialising in timber for housing, emerged as the largest player in the State's

<sup>&</sup>lt;sup>22</sup> The national target of 20 million ha was not met before 1965 (Dargavel, 1995).

industry. By the mid-1950s, WA had a fully recovered and indeed thriving timber industry (Forests Department, 1969; Bosworth & Brad, 1997), largely enabled by a combination of very high local demand due to the post-war housing boom, immigration labour programmes, and government subsidies.

The task of the Forests Department proved rather difficult in the early post-war years due to a lack of qualified staff in the ranks and poor funding. Since 1944 the department had been in control of the milling of all species in Crown Forests (Robertson, 1959). The department also needed to extend the State's existing firecontrol programme, continue with afforestation efforts<sup>23</sup>, and contain the rapid land clearing. Land clearing resulted from the government's immigration and settlement policies and caused the burning of much good timber on newly established paddocks (Bosworth & Brad, 1997). High demand for timber resources during those years also highlighted the need for more accurate forest inventories and careful planning by the Forests Department (Robertson, 1959), which started to take advantage of the wartime invention of aerial photography (Forests Department, 1969; Calder, 1980). The Department argued that current forest production represented a "far greater output than the forests of the State can maintain" (Forests Department, 1953, p.1) and therefore stressed in its annual reports of the early 1950s the need for greater emphasis to be placed by government on reforestation efforts and forest management to stem overcutting and maintain forest productivity (see for instance Forests Department, 1952; 1953).

The staffing issue was addressed by the State's fourth Royal Commission into forests in 1951, which had a mandate to investigate all phases of forestry, the timber industry, and timber trade. The Commission's report endorsed the principles laid down in the 1918 Forests Act and, inter alia, recommended the strengthening of the Forests Department through the recruitment of professional foresters, the increase of funding for the Department (this had implications for the levels of royalties which were to be set), and increases in the planting of conifers (see Rodger, 1952). While initially there was little government support for the implementation of the Commission's recommendations,

<sup>&</sup>lt;sup>23</sup> Early afforestation efforts date back as far as 1897, using coniferous softwoods (*Pinus pinaster* (for sandy or coastal soils) and *Pinus radiata* (for moister soils)) for the establishment of plantations in order to reduce local import dependence.

during the mid-1950s and early 1960s under Conservator A.C. Harris changes were slowly being implemented, particularly in the area of conifer plantings (Carron, 1985). These developments were helped by amendments to the 1918 Forests Act in 1954 through the Forests Act Amendment Act and the lifting of Commonwealth-imposed wartime import and export restrictions on the State in 1957. These restrictions had placed tremendous strains on State-Commonwealth relations in the post-war years as they were hampering WA's trade expansion (Carron, 1985). The role of the Forests Department was further strengthened after the 1961 Royal Commission into bushfires after a devastating fire in the summer of 1960/61, as a wide-ranging suite of recommendations by the Commission highlighted the department's staffing and equipment needs, which were acceded to by government (Stewart, n.d.).

# Economic Boom and Environmental Change

The late 1960s and 1970s posed new challenges to the Forests Department in the form of jarrah dieback<sup>24</sup> and the advent of woodchipping and bauxite mining. First discoveries of dying jarrah trees in the 1920s did not trigger a response by foresters at the time because these incidents seemed isolated (Education and Lands and Surveys Departments of Western Australia, 1979). Towards the late 1960s the pathogenic nature of the fungus responsible for jarrah dieback and its effects on native flora had become more than apparent with vast tracts of jarrah country infected, threatening a whole suite of forest values. Today, over a third of affected forest areas are so severely degraded that they were termed graveyard sites (Abbott & Christensen, 1994).<sup>25</sup> These discoveries prompted large-scale forest quarantine operations and the establishment of co-ordinated research programmes involving mining companies, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Forests Department, and universities (Carron, 1985). Although over 30 years of research into the disease have led to an understanding of how the disease is spread, viable control measures have not been found.

<sup>&</sup>lt;sup>24</sup> Jarrah dieback is caused by the root-rot fungus *Phytophthora cinnamomi*, which has had a catastrophic impact on the biota of a number of south-west Australian ecosystems. As many as 2000 of the estimated 9000 native plant species in the south-west of WA are susceptible to, and often killed by, dieback disease (Department of Conservation and Land Management, 2003).

<sup>&</sup>lt;sup>25</sup> The use of the term *graveyard sites* is considered inappropriate by conservation groups as it is seen to preclude the protection of dieback-infected areas.

The spread of jarrah dieback was also found to be associated with the rapid expansion of bauxite mining in WA. In the mid-1960s, it was discovered that the spread of the pathogen was aided by earthmoving activities, principally those associated with bauxite mining (the rate of spread is estimated to be an additional three hectares to any hectare of land mined (Calder, 1980)). Bauxite mining in WA is largely conducted by Alcoa Australia which commenced mining operations in the mineral-rich jarrah forests along the Darling Scarp at a time when mining on the whole began to flourish in the State. Reasons behind this boom was primarily WA's very mineral-rich topography. Furthermore, successive WA State governments have shown a strong commitment to self-development in the name of State prosperity. Such commitment is mirrored in the terms and regulations that generally govern mining operations in WA (for instance see Mining Act 1978). Finally, world commodity prices for bauxite and alumina were favourable during that time. All of these factors led to the rapid expansion of bauxite (and other) mining operations not only in WA but Australia-wide. In fact, mining was so successful that more than half of the area of WA's State Forests were under mineral lease and claim by 1970 (Forests Department, 1976). However, numerous problems were associated with open cut mining which included, as already mentioned, the spreading of jarrah dieback, water catchment salination due to broad-scale clearing of land to be mined, unsuccessful restoration and rehabilitation programmes after mining, and, especially, the potential loss of a wide range of forest values since areas of prime forest were the most mineral-rich (on these points see for instance Peck et al., 1977; Institute of Foresters of Australia - Western Australian Division, 1980; Steering Committee for Research on Land Use and Water Supply, 1984; Wykes, 1985; Croton & Bari, 1997). These matters were raised by the Forests Department in front of a 1970 Committee of Inquiry into the Mining Act of 1904. This Committee effectively prevented a further expansion of forest areas under lease or claim, and co-operative approaches for damage minimisation were sought between various government departments and the mining industry. Despite the long-term effects on soil and forest resources bauxite mining in WA was predicted to continue for another 70 years (Calder, 1980).

The introduction of woodchipping to WA could to some extent be considered a Forests Department initiative. This is because it was the Forests Department who alerted the State Parliament in its annual report of 1960 to large quantities of forest residues

(predominantly marri)<sup>26</sup>, which - whilst unsuitable for timber conversion - were considered appropriate as raw material for pulping (Forests Department, 1960). After eight years of research into the matter and in response to growing Japanese interest, licenses were granted for woodchip exports to Japan. The Wood Chipping Industry Agreement Act (1969) between the State government and W.A. Chip and Pulp Company Ltd and Bunnings Timber Holdings Ltd laid the ground for an industry established around Bunbury, which was to be the export harbour (Calder, 1980). The species approved for export were jarrah, karri, and marri largely sourced from the Manjimup-Pemberton district. Production of woodchips began in Manjimup in September 1975 (Dargavel, 1995). The environmental impacts of woodchip operations (especially salt problems) were initially found by the authorities to be of no great concern despite a growing public disquiet over woodchipping (Calder, 1980; Carron, 1985). Indeed, the Forests Department welcomed the commencement of woodchipping operations, citing improvements in resource utilisation and in suitability tests for logs of questionable sawmilling quality as well as facilitation of regeneration treatments following harvesting operations (The Parliament of the Commonwealth of Australia, 1981). In later years, however, and as will be shown at a later point, changing public sentiment towards forests and forest utilisation was to place woodchipping at the centre of hostile public debate and intense scrutiny (Calder, 1980).

The timber industry suffered from a severe recession throughout the late 1960s and early 1970s with a fall in exports and a drop in local demand (Bosworth & Brad, 1997). Ever since, employment has been decreasing in the industry (Thompson & Tracy, 1995) as the economic importance of the industry to the State in terms export earnings and employment started to diminish, heralding a period of capital intensification (i.e. mechanisation) in the industry in the pursuit of efficiency and international competitiveness. A decline in resource availability was also contributing to the industry's downturn. This was partly due to mining operations on forested land (Carron, 1985) but also due to a growing environmental awareness which changed the public's perception of forests in Western Australia, resulting in more emphasis being placed on forest conservation and reserves formation.

<sup>&</sup>lt;sup>26</sup> Largely considered a *weed* by timber interests (Calder, 1980).

In WA, changes in public sentiment were initially met with strong State government resistance. Still, with a brief for forest conservation the Reserves Advisory Council was appointed by government in 1969, which passed a number of recommendations in relation to nature reserves that were implemented by government. Mounting public pressure partially resulted in the election of the Tonkin State government in 1971, which adopted more conservation-minded policies in subsequent years (Rundle, 1996). For instance, 1971 saw the establishment of the Environmental Protection Authority (EPA) in the State, which was also concerned with the improvement of environmental quality. The EPA set up the Conservation Through Reserves Committee (CTRC) in 1972, the work of which culminated in the establishment of environmental management priority areas and significant amendments being made to the Forests Act in 1976 (Carron, 1985; Rundle, 1996). The Act allowed the establishment of Forest Parks within State Forests for the purposes of flora and fauna conservation as well as recreation. Other changes included the approval of multiple use of forests (see Parliament of Western Australia, 1976). In these changing contexts the responsibilities of the Forests Department were substantially widened, which at the time included flora conservation, forest recreation, wood production, the control of timber rights, and generally the management of State Forests and other Crown Land.

The Department detailed its management policies in its 1977 General Working Plan (Forests Department, 1977; see also Forests Department, n.d.) in which it formalised multiple use strategies in view of the de facto elimination of single purpose use of forest lands (The Parliament of the Commonwealth of Australia, 1981). Key issues of the plan revolved around (a) water catchment management strategies, looking at relationships between forest cover and salinity of water supplies<sup>27</sup>, (b) wood production with a view to providing sufficient levels of supply in the short-term with the longer term objective of reducing hardwood volumes, (c) the increase of softwood plantings and sawlog production (Forests Department, 1977) to delay the State's heavy dependence upon imported timber (Evidence given to the Senate Standing Committee on Trade and Commerce by the Forests Department, 1981), and (d) improvements in the operations under the woodchipping agreement. The designation of priority areas for biological

<sup>&</sup>lt;sup>27</sup> Water production takes prior place to all other forest uses, recognising that State Forests contain the State's major catchment areas and that water supplies require prudent management in view of growing population growth (1976).

preservation was approved by government in the early 1980s and formally included by the Forests Department in its 1980 Land Use Management Plan (Forests Department, 1980) and General Working Plan No. 87 in 1982 (Forests Department, 1982). These changes also facilitated the expansion of facilities for active and passive forest recreation, the demand for which had been on the rise since the early 1960s (Carron, 1985).

# The Rise of Super-Departments

In the absence of a national forest policy, forest management and policy have traditionally been the domains of state governments and their respective departments and agencies. In the 1980s, with the widening of the administrative tasks of the states' forests departments new super-departments emerged, assuming the much larger role of public land management and conservation agencies (Mercer, 1995). In Victoria, for instance, the Department of Conservation, Forests and Lands (later known as the Department of Conservation and Natural Resources) was formed in 1984, and similar administrative changes occurred in New South Wales in subsequent years. In Western Australia, with the proclamation of The Conservation and Land Management Act ( (No 126) of 1984) the Department of Conservation and Land Management (CALM) was established in March 1985 by the Burke Labor Government, bringing together the Forests Department, National Parks Authority, and the Wildlife Section of Department of Fisheries and Wildlife with two controlling bodies; The Lands and Forest Commission (LFC) and the National Parks and Nature Conservation Authority (NPNCA). A Forest Production Council (FPC) was also established to advise the Minister on issues pertaining to production from State forest and timber reserves.

CALM continued the work of the Forests Department and immediately undertook a complete review of forest management practices and strategies for timber production (Thompson & Tracy, 1995), the results of which were published in the department's Timber Strategy (Department of Conservation and Land Management, 1987c), its Regional Management Plan (Department of Conservation and Land Management, 1987a), and Conservation, Environmental Protection, and Recreation Strategies (Department of Conservation and Land Management, 1987a), and Conservation and Land Management, 1987b) in 1987. One important outcome of the timber review was the increase of timber royalties by more than 100 per cent, quoting public opinion that the timber industry "should pay its own way"

(Department of Conservation and Land Management, 1987c, p.4). The new price structures were based on a rotational system of pricing, which created a significant price differential between first, second, and third grade logs and promised improved commercial viability of sawing degraded logs. However, the new system meant that because of inadequate log size parameters at the time for karri and jarrah, according to CALM, an increase in old growth logging above sustained yield in the short-term was necessary to attain the correct age distribution and the correct volume of trees in the long-term (Department of Conservation and Land Management, 1987c). The logic of this strategy gained EPA approval for the short-term (Environmental Protection Authority, 1988) but it gave rise to much hostility and conflict in ensuing years (Thompson & Tracy, 1995), as will be shown in later sections.

# The Evolution of Conflict over Australian Forests and the Genesis of the RFA

The description of the history of forestry and forest production in Western Australia from the late 1980s onwards needs to become more national in scope and requires more emphasis to be placed on the rise of environmentalism in the context of a mounting opposition to a perceived excessive forest utilisation and forest mis-management between the 1960s and the 1990s. This warrants a closer examination of the rapid growth of environmental movements in Australia and their impact on forest policy. In particular, central to this discussion is the issue of conflict for it was conflict that set the agenda for a national forest policy framework and paved the way for the national RFA process.

## Birth of a Conflict: Forest Industrialisation and Social Change

The previous section foreshadowed a change in public sentiment towards forest management and utilisation in Australia at the beginning of the 1960s. This period was marked by an intensification of industrial forest exploitation in Australia and coincided with the emergence of new cultural and social values. The efforts of groups like the peace movement, the women's movement, and the Club of Rome (see Meadows et al., 1972; Mesarovic & Pestel, 1974) aided the social re-definition of environmental values and gave rise to the conservation theme, calling for the protection of native flora and fauna. These value shifts triggered public disquiet to numerous environmental issues, and a wave of conservation groups formed across the country, raising the number from

approximately 50 conservation societies in 1950 to over 200 by 1970 (Dargavel, 1995). In particular, it was The Wilderness Society and the Australian Conservation Foundation that, in conjunction with local conservation groups, helped bring the forests to the fore within Australian politics (Dargavel, 1995). Conservation groups also received input from many Europeans who - dissatisfied with the economic and political reality at the time - arrived on Australia's shores as part of the hippie movement and various migration schemes. Numerous alternative settlements formed around the country based around small scale industries, as happened in Denmark, in Western Australia's south-west (Bosworth & Brad, 1997).

Although many environmental conflicts existed and still do exist in Australia, it was the forest issue - which is well documented (see for instance Carron, 1985; Australian Conservation Foundation, 1987; Dargavel, 1995; Mercer, 1995) - that proved to be among the most contentious. Indeed, the national debate on forests has always been highly polarised and acrimonious over the last 30 years. Arguments of ecological crisis, species extinction, and threats to biological diversity from meeting timber demands, stemming imports, employment, and trade balance improvements became symbols of the conflict (Resource Assessment Commission, 1992; Dargavel, 1995). A more detailed list of the key issues dividing the conservation movement and the forest industry are listed in Table 3.1 (based on Australian Conservation Foundation, 1987; Chindarsi, 1997; National Association of Forest Industries, 1997, 2002). It is important to note that the issues listed below are broad in scope and that issues raised at state and regional levels were dealing with very specific forest management issues. Some of these issues together with the scientific disputes surrounding the forest debate will be addressed in Chapter Six.

These essentially philosophical/ideological differences rooted in self-interest, value conflicts, and uncertainty (Cullen, 1986) became more entrenched over the years, and, despite many efforts at State and Commonwealth levels, little progress had been made to resolve the conflict. Indeed, by the late 1980s the debate stalemated with both sides arguing best science and leaving the public in doubt as to whom they should believe. What had changed, however, was the intensity of the forest debate, which dramatically increased with the decline in both log volumes and employment levels in the timber industry (see Australian Bureau of Agricultural and Resource Economics, 1990, 1998;

National Forest Inventory, 1998)<sup>28</sup> coinciding with a growth in conservation reserves and mounting opposition to woodchip exports; this is what fuelled the *jobs versus trees* dichotomy. Essentially, timber resource allocations and availability forecasts had progressively become more political, and by the mid-1980s the forest debate represented the country's single most controversial environmental issue with interest groups from both sides of the debate placing immense pressure on the States and the Commonwealth to endorse their respective views.

# Table 3.1: Dominant Viewpoints in the Forest Debate

Conservation Movement	<u>Timber Industry</u>
<ul> <li>Australian native forests are overcut and logged uneconomically</li> <li>Loss of wilderness due to logging</li> <li>Loss of flora and fauna due to logging</li> <li>Decline of water quality due to clearfelling</li> <li>Loss of biodiversity due to logging</li> <li>Logging of old growth is unsustainable</li> <li>Loss of quality of life due to logging</li> <li>Industry is out of step with community aspirations and values</li> <li>Expansion of plantations is needed but not at the expense of native forest clearing</li> <li>Silvicultural prescriptions are unsustainable</li> <li>More National Parks are needed to protect forest values</li> </ul>	<ul> <li>Contributes to national economy</li> <li>Significant source of employment</li> <li>Source of State revenue</li> <li>Needed for forest fire prevention</li> <li>Stemming national trade deficit</li> <li>Preventing rise of imports</li> <li>Industry is not woodchip driven</li> <li>Plantations will never be a viable substitute to native timbers</li> <li>Multiple forest use has lower environmental impact than most other land uses</li> <li>Forest management for timber production is sustainable</li> <li>National Parks unnecessarily lock up timber resources, and enough parks already exist</li> </ul>

# State-Commonwealth Relations

Numerous intergovernmental factors contributed to the complexity of the forest debate. There is a well documented history of the regularly arising tensions between the Commonwealth and the States and Territories over constitutional rights relating to environmental policy matters (e.g. Davis, 1989; Economou, 1992; Carron, 1993; Kellow, 1996; Dargavel, 1998; Lane, 1999; Slee, 2001). These tensions were rooted in the fact that the Commonwealth holds External Affairs and Trade Powers on the basis of S.51 (XXIX) of the Constitution, which were extensively exercised by the Commonwealth in

<sup>&</sup>lt;sup>28</sup> For information on the decline of the economic importance of the native hardwood industry also refer to Clark (1995), Dargavel (1995), and Resource Assessment Commission (1992).

a number of environmental and World Heritage disputes around the country (e.g., Fraser Island, Franklin River, Coronation Hill) and were reinforced by High Court decisions (e.g., Murphyores Inc. Pty Ltd vs The Commonwealth (1976), The Commonwealth vs. Tasmania [1983]). The dominant role of the Commonwealth was felt particularly in Tasmania after the Lake Pedder dispute in the 1970s in the context of the Dams Affair and the conflict over logging in the State's Lemonthyme and Southern Forests area (Carron, 1993). The ability of the Commonwealth to intervene in what were essentially localised resource disputes was perceived by green groups as an effective means to overrule State's environmental planning and management decisions. Hence, the involvement of the Commonwealth in environmental policy matters was regularly sought by conservationists (Lane, 1999) and resisted by the States.

This recourse of environmentalists to the Commonwealth was also chosen in relation to the issue of granting woodchip export licenses. Timber extraction and other aspects of forest management were generally dealt with by State forestry legislation, which in many States was quite old (e.g., Forestry Act 1916 (NSW), Forests Act 1918 (WA), Forests Act 1958 (Vic)) (for further detail on legislation refer to Bartlett, 1999). The export of woodchips, however, was regulated by the Export Control Act of 1982, which granted powers to the Commonwealth to limit woodchip exports. The authority to limit export licenses was applicable if the extraction of timber was seen to be in conflict with other pieces of Federal legislation. This legislation included the Environment Protection (Impact of Proposals) Act 1974, Australian Heritage Commission Act 1975, World Heritage Properties Conservation Act 1983, and the Endangered Species Protection Act 1992 (on this point see Tribe, 1998; Slee, 2001). This meant that the Commonwealth could effectively veto attempts by State governments to expand woodchip export operations, which in turn placed additional strains on historically already fractious State-Commonwealth relations.<sup>29</sup> Towards the late 1980s, these legal and constitutional Commonwealth powers proved politically precarious for the Federal Government, especially in view of the recurring need to grant woodchip export licenses by the 31<sup>st</sup> of December each year as export licenses expired and needed to be renewed on an annual basis.

<sup>&</sup>lt;sup>29</sup> This also relates to the powers of the *arms* of government such as the Australian Heritage Commission, which were being criticised for politicising their role in the context of woodchip export license renewals.

The Inter-Governmental Agreement on the Environment (IGAE), which was signed in 1992, sought to resolve inter-governmental tensions by committing all governments to an agreement on their respective roles in environmental matters. The IGAE essentially reduced the Commonwealth's natural resource-related powers and responsibilities to that of a watchdog and facilitator by restricting its role to (as listed by Lane, 1999):

- representing national interest;
- assisting resolution of transboundary issues;
- promoting co-operative approaches to assessment and standard setting; and
- concern for its own environmental responsibilities arising from Commonwealth actions and decisions.

These self-imposed restrictions on Commonwealth powers, however, were criticised by political commentators and environmentalists, as the new role of the Commonwealth was seen to be narrower than its legal responsibilities, and it was considered to be a political cost cutting exercise (Toyne, 1994; Sackville, 1995), leaving environmental matters to the States and their often poorly funded environmental agencies. Nevertheless, the States welcomed this new consensus-based approach, which dictates Australian environmental policy-making to this day.

# The Changing International Context

As noted by Dargavel (1998), the Australian forest debate was occurring also amid a changing international context, which saw an – albeit slow – international movement towards ecologically sustainable development. The publication of the Brundtland Commission Report in 1987 (World Commission on Environment and Development, 1987) and the Earth Summit in Rio de Janeiro in 1992 (see United Nations Conference on Environment and Development, 1992) changed the political rhetoric internationally. Australia became a signatory to the Rio Declaration (United Nations - General Assembly, 1992b) and signed the Convention on Biological Diversity (United Nations - General Assembly, 1992a), Agenda 21 (United Nations Division for Sustainable Development, 1992), and the Global Statement of Principles on Forests (United Nations - General Assembly, 1992d). Later, in 1994, Australia joined the Montreal Process Working Group, which was working on the development and implementation

of internationally agreed criteria and indicators for sustainable forest management (see Appendix 5 for a complete list of RFA-relevant conventions and treaties).

These international developments also triggered a political response within Australia, resulting in the formation of various Ecologically Sustainable Development Working Groups (in relation to forests refer to Ecologically Sustainable Development Working Group on Forest Use, 1991) and the release of the National Strategy for Ecologically Sustainable Development (NSESD) (Commonwealth of Australia, 1993) and the National Greenhouse Response Strategy (NGRS) (Commonwealth of Australia, 1992b).<sup>30</sup> Both strategies, merely signifying an expression of governmental intent in regards to sustainability (Wilkenfeld et al., 1995; Kinrade, 1997), were unable, however, to defuse the Federal Government's problems in relation to native forests, particularly in view of the mounting disquiet over woodchip export license renewals and a planned Resource Security Legislation, which met staunch opposition from conservation groups and was eventually blocked by the Federal Senate. In short, it became clear that by the turn of the decade a national policy framework was needed to solve the forest issue.

## Australia's National Forest Policy

The idea of a national forest policy framework was not new as its desirability had already been acknowledged in 1964 by the forest sector's ministerial council and members of the Institute of Foresters of Australia (IFA). Since then, attempts to formulate a policy were made at the Forestry and Wood-based Industries Development Conference (FORWOOD) in 1974 and again in 1986 by the Australian Forestry Council (Australian Forestry Council - Standing Committee on Forestry, 1986), but both failed to result in the formulation of a policy framework (see Bartlett, 1999). A draft strategy was eventually being produced by a Standing Committee in 1987, which was comprised of the heads of the Federal and State governments' forest services. In addition, by an Act of Parliament in July 1989 (The Resource Assessment Commission Act 1989), the Commonwealth initiated the National Forest and Timber Inquiry, which was to be conducted by the Resource Assessment Commission (RAC) with a brief for a broad scale investigation into forest matters (for a review of the RAC process refer to Stewart

<sup>&</sup>lt;sup>30</sup> On the implications of ecologically sustainable development (ESD) and ecologically sustainable forest management (ESFM) for Australia refer to McDonald (1999).

& McColl, 1994; Economou, 1996).<sup>31</sup> The appointment of the RAC was seen by many as the "arrival of the environment as a policy issue of some national importance" (Economou, 1996, p. 13) during a period that was being marked by strong governmental commitment to growth and economic development. Thus, the environment posed a major political challenge to the Federal Labor Government's industry and economic objectives of the time (Stewart & McColl, 1994).

The task of the Commission was to identify, and to arrive at, use options for Australia's native forest and timber resources. For this purpose, the national native forest extent and forest locations were documented for the first time, and attempts were made to assess ecological and economic forest values and to identify use-option trade-offs. After nearly three years of hearings, submissions, and commissioned studies the RAC handed down its report, which was welcomed by both sides of the forest debate despite much acrimony during the inquiry. Among a vast suite of recommendations such as those pertaining to old growth logging, the Commission proposed the safeguarding of as much of the national forest estate as possible and the formulation of a national forest policy (see Resource Assessment Commission, 1992). This call was acceded to, and the Council of Australian Governments announced in December 1992 that a National Forest Policy Statement (NFPS) had been formulated and signed by the Commonwealth and all States and Territories, with the exception of Tasmania.<sup>32</sup>

After 28 years in the making, the NFPS document (Commonwealth of Australia, 1992a) represented a joint-agreement in response to a wide range of reports which were produced over a number of years by the Ecologically Sustainable Development Working Group on Forest Use (1991), the National Plantations Advisory Committee (1991), and

<sup>&</sup>lt;sup>31</sup> In total, the RAC conducted inquiries into three highly controversial resource issues, forests being only one component. The other two inquiries focused on mining in the Kakadu conservation zone and the management of coastal zone resources. The administrative functions of the RAC were terminated by the Federal Government at the end of 1993 without a public explanation (Stewart & McColl, 1994). It was speculated that the Ecologically Sustainable Development Working Groups were used strategically to undermine the RAC.

<sup>&</sup>lt;sup>32</sup> Tasmania did not sign before 1995 in part due to strong industry opposition towards the proposed bioregional treatment of the State under the RFA process. It is interesting to note, therefore, that the Tasmanian Scoping Agreement - also signed in 1995 - treated Tasmania as one single bioregion even though some ecologists believe it to comprise seven biogeographical regions (Dargavel, 1998).

the Resource Assessment Commission's Forest and Timber Inquiry (1992). The NFPS was also building on the 1983 Commonwealth-initiated National Conservation Strategy for Australia (Commonwealth of Australia, 1983), and the 1986 Australian Forestry Council's National Forest Strategy (Australian Forestry Council - Standing Committee on Forestry, 1986) and was informed through a nationally distributed public discussion paper termed *Forests For Australia* (Commonwealth of Australia, 1990) issued in May 1990.

The NFPS document gave - albeit vague - expression to the IGAE and incorporated many of the RAC recommendations, employing the language of a shared vision between the undersigning governments in relation to the ecologically sustainable management of Australia's forests and spelling out broad qualitative goals for the management of the Australian native forest estate under 11 headings, as shown in Textbox 3.1. Despite the wide scope of the agreement three aspects were to form the core of the policy framework, (a) forest conservation through a comprehensive, adequate, and representative (CAR)<sup>33</sup> network of reserve systems (also protection of old growth and wilderness values), (b) ecologically sustainable forest management (ESFM), and (c) development of sustainable and internationally competitive native timber production. The importance of these objectives ought to be seen in light of the controversy surrounding the forest debate, in that they promised predictability, stability, and certainty for both conservation and timber interests, in turn allowing governments to minimise the political and electoral weight of the forest issue. Therefore, the NFPS was portrayed as a mechanism through which - once operationalised - a true win-situation could be attained for all sides concerned.

## 1. Conservation

Maintenance of an extensive and permanent native forest estate and protection of forest values including ecological diversity, heritage, and indigenous values.

### 2. Wood production and industry development

Development of internationally competitive and ecologically sustainable wood production and wood products industries emphasising value-adding and the expansion of wood products manufacturing.

### 3. Intergovernmental agreements

Integrated and co-ordinated decision-making by the Commonwealth and the States and improved interaction between forest management agencies.

<sup>&</sup>lt;sup>33</sup> For CAR reserve principles see Appendix 7.

## 4. Private native forests

Maintenance of the private native forest estate in an ecologically sustainable manner to complement the commercial and nature conservation values of public native forests.

#### 5. Plantations

Expansion of commercial softwood and hardwood plantations for the formation of an additional and viable wood resource for industry and the rehabilitation and restoration of degraded land.

### 6. Water supply and catchment management

Ensuring protection of high quality water supplies from forested land and protection of catchment values.

#### 7. Tourism and other economic and social opportunities

Sustainable forest management for multiple forest use, including use by forest-based industries such as tourism and recreation.

## 8. Employment, workforce education and training

Expansion of employment opportunities and skill base in the forest sector.

### 9. Public awareness, education and involvement

Promotion of community understanding of and support for ecologically sustainable forest management and provision of opportunities for effective participation and decision-making.

#### 10. Research and development

Increase of forest research and development and the expansion and integration of knowledge to inform forest management, conservation, and forest product development.

#### 11. International responsibilities

Promotion of sustainable forest use and management outside Australia and fulfilment of international obligations.

**Textbox 3.1: The Qualitative Goals of the National Forest Policy Statement** (see Commonwealth of Australia, 1992a)

## The Format of the RFA Process

The RFA processes that emanated from the NFPS were intended to implement and carry out the promises made under the NFPS.<sup>34</sup> Nationally, RFAs were to be arrived at via a four-tiered process (see Figure 3.4). RFA processes were to commence with the delineation of RFA areas as part of what was referred to as Deferred Forest Assessments (DFA). DFAs represented interim arrangements to "ensure that options for a CAR reserve system [were] not foreclosed by logging activities whilst ... RFA process[es] [were] completed" and "to minimise the social and economic impacts of deferring areas" (Department of Agriculture Fisheries & Forestry Australia, 2002, Section 11). In other words, DFAs resulted (this was not always the case) in a moratorium on logging in forest areas that were set aside until RFAs could be finalised.

<sup>&</sup>lt;sup>34</sup> Detailed information on the proposed RFA format can be found in the Commonwealth Position Paper (Commonwealth of Australia, 1995b).

Following the DFA process individual scoping agreements were to be formulated for each of the delineated RFA regions, "... identifying government obligations, regional objectives and interests and broad forest uses ... [as well as specifying] arrangements for managing the process, including details on timing, methodology, data requirements, consultative mechanisms, and administrative and management requirements" (Commonwealth of Australia, 1995b, Executive Summary).<sup>35</sup>

The second stage was to involve the Commonwealth and the State governments concerned in jointly identifying and assessing forest values during comprehensive regional assessments (CRAs). These assessments were to give consideration to "environmental and heritage values [in relation to governmental obligations], economic opportunities and social impacts of resource use options, and industry and community aspirations, and taking particular account of Aboriginal and Torres Strait Islander concerns" (Commonwealth of Australia, 1995b, Executive Summary). Information needed for the assessment work could be drawn from already existing data or, alternatively, could either be obtained via State processes that were accredited under the IGAE or obtained jointly or independently by the governments concerned. All assessments were to be carried out consistent with various national and international conventions and treaties respective governments were obliged to consider (such as Native Title Act 1993 and Convention on Biological Diversity 1992).<sup>36</sup> In this context, of particular interest were the proposed environment and heritage assessment projects for they necessitated the development of specific assessment criteria. It was decided that heritage assessment work should be closely modelled on the work done previously in Western Australia between the Australian Heritage Commission (AHC) and the State's Department for Conservation and Land Management in what became known as the Southern Forest Heritage Assessment (Australian Heritage Commission and the Department of Conservation and Land Management, 1992b, 1992d, 1992c, 1992a; Purdie & Cavanagh, 1993), which was described by the Resource Assessment Commission as "an example of successful Commonwealth-State cooperation" (Resource Assessment Commission, 1992, Section 17.53).<sup>37</sup> Environmental values were

<sup>&</sup>lt;sup>35</sup> For details on issues covered in Scoping Agreements refer to Appendix 6.

<sup>&</sup>lt;sup>36</sup> For more details on RFA-related Acts, policies, and conventions see Appendix 5.

<sup>&</sup>lt;sup>37</sup> It needs to be recognised, however, that the co-operative nature of the Southern Forest Heritage Assessment is contested.

to be assessed subject to nationally agreed criteria for the development of comprehensive, adequate, and representative reserve systems.

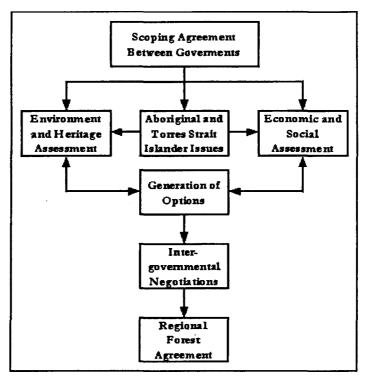


Figure 3.4: The Regional Forest Agreement Process (Commonwealth of Australia, 1995b)

The third stage of the RFA process was to integrate the results from the various environment, heritage, economic, and social assessment projects and provide the basis for the generation of forest resource use options. This integration phase was to draw also on input from local governments, industry, unions, regional economic development organisations, conservation groups and other interested parties (Commonwealth of Australia, 1995b) and lead to the formulation of draft agreements.

The fourth and final stage of the process was to involve the Commonwealth and the State concerned to formulate a regional forest agreement in light of the options negotiated during the integration phase. These agreements were to spell out the details for forest management and use arrangements in the delineated RFA areas and contain agreed details on the duration of the agreement, its implementation, and provisions for review.

## The Operationalisation of the National Forest Policy Statement (1992 – 1997)

The signing of the NFPS was followed by two years during which there was little political movement towards RFAs. Two issues may serve as an explanation here. Firstly, problems arose out of the fact that the objectives spelled out under the NFPS required an unprecedented degree of co-operation and information sharing between traditionally adversarial governments and their respective departments (see Dargavel, 1998). Thus, the potential for conflict was high. Secondly, the development of the national reserve criteria required by the NFPS was initiated by an inter-governmental Technical Working Group in 1993. This group comprised of representatives from State forest management and conservation agencies and the CSIRO and worked under a Steering Committee of the Australia and New Zealand Environment and Conservation Council (ANZECC) and the Ministerial Council on Forestry, Fisheries and Aquaculture (MCFFA). It also involved the Australian Forestry Council (AFC) and a Commonwealth Scientific Advisory Group (for detail on criteria development refer to Kirkpatrick, 1998a). Again, this highly bureaucratic process was very protracted, as agreement on conservation criteria could not be reached by all States.

The consequent delays not only resulted in the breach of the proposed timelines for criteria development but also in the Commonwealth being taken to court by the Tasmanian Conservation Trust over the renewal of woodchip export licenses. With some sense of urgency the Commonwealth developed a set of its own conservation criteria in 1995 (Commonwealth of Australia, 1995a), which again were rejected by some of the States. An agreement on nationally acceptable criteria was eventually reached in 1997 following a review of the draft indicators by bureaucratic experts.<sup>38</sup> What followed was the release of what is known as the JANIS Report (Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-Committee, 1997). The JANIS document outlined National Forest Reserve Criteria in relation to biodiversity, old growth, and wilderness protection as follows:<sup>39</sup>

<sup>&</sup>lt;sup>38</sup> Kirkpatrick (1998a) argues that the strength of the draft criteria was substantially lessened through the use of socio-economic provisos (e.g., "where practical"), the deletion of conservation conditions for private lands and others, shifting the emphasis from nature conservation to economic pragmatism and thus casting doubt over the scientific credibility of the revised document. This issue will be addressed in Chapter Six.

<sup>&</sup>lt;sup>39</sup> For a detailed list of CAR reserve criteria refer to Appendix 8.

**Biodiversity:** Protection of 15 per cent of the pre-1750 (pre European settlement) distribution of each forest ecosystem and at least 60 per cent of forest areas which are recognised as vulnerable.

Old growth Forest: General protection of 60 per cent of identified old-growth forest and complete protection where old-growth forest is rare or depleted within a forest ecosystem.

Wilderness: Protection of at least 90 per cent of high-quality wilderness areas.

During the time of the national reserve criteria development (1992 – 1995), largely in response to political inactivity, the conservation movement organised nationally coordinated campaigns through the newly formed National Forest Summit to bring the forest issue back on the political agenda. These campaign activities served to trigger a resurgence in the level of community concern about native forest logging but also to increase the polarisation between conservationists and timber interests (Bain, 1995a). By late 1994 the forest issue was making news headlines once more, forcing the hand of the Commonwealth government to seriously address the matter.

In early 1995, tensions also grew within the Federal Cabinet. Then, David Beddall – Minister for Resources in the Keating Labor Government – granted an expansion of woodchip export licenses (Gordon et al., 1994; cited in Lane, 1999).<sup>40</sup> The expansion of licenses was granted against the advice of the AHC and John Faulkner, then Federal Minister for the Environment, and against the wishes of the Prime Minister (PM) and senior Labor backbenchers. Consequently, this decision angered members of the Labor party as well as environmentalists and resulted in the aforementioned court challenge by the Tasmanian Conservation Trust. Environmentalists protested nation-wide, calling for these additional export licenses to be handed back and demanding the protection of

<sup>&</sup>lt;sup>40</sup> Fractious inter-Cabinet relations were not new to the Federal Government. In fact, Cabinet tensions were a permanent feature throughout the Hawke government era in the late 1980s. Then, acrimony arose over numerous land-use issues between Environment Minister Graham Richardson and a coterie of prodevelopment ministers such as the Industry and Technology Minister John Button, Resources Minister Peter Cook, and Finance Minister Peter Walsh, proving problematic for Labor party consensus-based politics (Economou, 1996).

further forest areas. The issue of woodchip export licenses struck a sensitive nerve with the conservation movement, especially as the Hawke Labor government had promised in 1990 to suspend woodchipping by the year 2000. This promise was amended in the NFPS in 1992 assuring instead to "phase-out woodchipping in favour of downstream processing" (Cadman, 1994, p. 29). In 1994/95, however, no signs of any industry transition towards downstream processing were visible, and instead new woodchip export licenses were granted.

In 1995, in an attempt to improve government-green movement relations Labor Prime Minister Paul Keating proposed to set aside 509 high conservation value (HCV) forest areas. This proposal attracted strong condemnation from the timber industry, which quickly mobilised its workforce to blockade Parliament House in Canberra (Hutchings, 1995). Timber interests were also angered by the AHC's refusal to grant the roll-over of numerous carryover coupes for which valid woodchip export licenses existed the previous year. In the past, roll-overs were a routine procedure, and therefore the AHC decision received strong criticism from the timber industry and from the unions who argued that circumstances had not changed on the ground and who thus saw the refusal to be politically motivated (Australian Workers Union (AWU), 2000, pers. com.). When the forest dispute reached its zenith in late 1995 the Keating Labor Government expedited DFAs around the country, promising the deferral of approximately six million ha of HCV forests, imposing export restrictions for woodchips, and initiating an extensive media campaign to announce the commencement of RFA processes nationally (Faulkner & Beddall, 1995). The forest deferrals and woodchip export restrictions triggered much criticism from timber industry groups, who saw in the Federal Government's DFA process a bowing to green pressure and viewed the exercise as unnecessary and harmful to the industry (Bain, 1995c, 1995b). In the end, with the exception of the Western Australian case (at least at that point in time) the Commonwealth reneged on its promise of a moratorium on logging in deferred forest areas in many of the States, consequently generating disquiet among conservationists. The outcome of the federal election in 1996 saw the election of the Howard Coalition Government, which meant that the completion of the RFA processes was now in the hands of a right-wing political party.

# The Western Australian RFA Process

Nationally, most of the DFAs were completed in late 1995 (see Forests Taskforce, 1995b; Forests Taskforce, 1995a) while the Keating Commonwealth Government was still in power. In WA, both the Deferred Forest Agreement (Commonwealth of Australia and Government of Western Australia, 1996a) and the Scoping Agreement (Commonwealth of Australia and Government of Western Australia, 1996b) were signed by the newly elected Howard Commonwealth Government and the Court State Government in 1996 to signal the beginning of WA's RFA process. Before describing the WA RFA process, however, I will direct attention to events in WA between 1980 and 1996. This period saw an emergence of acrimonious forest stakeholder dynamics in the State, which were to influence the nature of the WA RFA debate and thus form a part of the background against which the RFA process was to advance.

# The Lead-Up to the WA RFA Process (1980-1996)

In Western Australia, the 1980s were marked by political controversy over forests and the economic future of the native timber industry. While the industry was facing a severe recession with low log prices, little resource supply security, and hence little investment, public conflict raged over wood production in State forest areas. Environmentalists campaigned heavily for the protection of native forest areas, resulting in the creation of numerous National Parks such as the Shannon National Park in 1984. These campaigns also resulted in the publication of several proposals and reviews such as Jarrah Reserve (Conservation Council of WA, 1980), Karri at the Crossroads (Conservation Council of WA et al., 1982), and The Timber Industry of Western Australia (Campaign to Save Native Forests (W.A.) & Workers Information and Resource Centre, 1984).

When the Department of Conservation and Land Management was formed in 1985, forests were still high on the conservationists' agenda. The agency's formation was controversial for conservation groups saw a conflict of interest and a pro-timber industry bias in the department (Campaign to Save Native Forests (W.A.) et al., 1987). They were especially concerned that the department's responsibilities covered both forest conservation and forest exploitation, the latter being a source of departmental revenue. Controversy erupted also when CALM invited public comments on its earlier mentioned Timber Strategy in 1987 (Department of Conservation and Land Management, 1987c). The Strategy was being criticised by conservation groups because harvest levels for jarrah and karri were set at what they perceived to be unsustainable levels and meant an increase in the logging of old growth forest in the short term. Furthermore, CALM's Forest Management Plan of 1988 (Department of Conservation and Land Management, 1988a), which incorporated the Timber Strategy of 1987, essentially overturned previous forest management plans (e.g. Forests Department, 1982) which had envisaged a gradual reduction in log volumes.

Adding fuel to the forest debate, W.A. Chip and Pulp Co. Pty Ltd (WACAP) applied for an additional woodchip export license in 1987 to expand their existing operations in Western Australia. The timing of the application was regarded by environmentalists to have been deliberate (Campaign to Save Native Forests (W.A.) et al., 1987). WACAP's environmental impact statement (EIS), which formed part of their license application, was reviewed by the Commonwealth Department of the Arts, Sports, the Environment, Tourism and Territories in 1988, and it was recommended – as a condition for license approval – that a study be conducted jointly by CALM and the AHC to "identify areas of exceptional science and fauna, additional high value old growth forest, and implement management plans for these areas" (Thompson & Tracy, 1995, p.8). Despite initial resistance by CALM (see Department of Conservation and Land Management, 1988b), the joint-assessment project commenced in September 1990 and culminated in the release of the aforementioned Southern Forests Heritage Value Assessment reports (Australian Heritage Commission and the Department of Conservation and Land Management, 1992b, 1992d, 1992c, 1992a).

In 1992, further conflict arose when CALM moved to amend its 1987 Forest Management Plans and Timber Strategy (Department of Conservation and Land Management, 1992b), essentially proposing the logging of all unprotected old growth over a period of 40 years – primarily for woodchips – and to manage all State Forests on a multiple use basis with a focus on timber production. The amendments proposed by CALM not only led to friction between CALM and conservationists but also to a schism between CALM and the EPA, which became involved through the public appeals process (see Environmental Protection Authority, 1992). The resulting EPA-CALM relations created a counter-productive climate of distrust and suspicion "beyond reasonable proportions" (Barnett, 1992, p. 33; cited in Thompson & Tracy, 1995). Tos

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Barnett was called in by Jim McGinty, who was just newly appointed to the post of Minister for the Environment after the resignation of Robert Pearce in the then WA Labor Government, to form a one-man Appeals Committee to resolve the matter. His subsequent report (Barnett, 1992) recommended, inter alia:

- the maintenance of the 1987 timber harvest levels;
- an extension of the reserve system;
- the formation of wildlife corridors; and
- an inquiry into CALM's public accountability.

Despite the recommendations made in the Barnett report, the Ministerial Conditions (Minister for the Environment, 1992) placed on CALM by McGinty largely reflected CALM's management proposals. Nevertheless, harvest levels were frozen at 1987 levels for a period of six months. Following this six months period, the Minister for the Environment was then required to rule on future harvest levels based on recommendations made by an expert scientific and administrative committee that was to be appointed to report on the implementations of the CALM management proposals.

Such a committee was formed in 1993 with Timothy Meagher as residing Chair under the newly elected Liberal/National Parties Coalition Government of WA. The new Minister for the Environment, Kevin Minson, essentially rejected most of the recommendations made by Barnett the previous year in favour of those made by the Meagher Committee (see Minson, 1993), which largely concurred with CALM's amendment plans, stating that conservation values were not at risk from continued timber harvesting; still, the allowable cut for jarrah was reduced by 30 000 m<sup>3</sup>/yr to 490 000 m<sup>3</sup>/yr, which was below the figures proposed by CALM in 1987 (Meagher, 1993). As will be shown later, the Meagher Committee was not to be the last inquiry into sustainable harvest levels.<sup>41</sup> Nevertheless, the Meagher report formed the basis for CALM's 1994 -2003 Forest Management Plan (see Department of Conservation and Land Management, 1994), which – as is important to note – was still subject to McGinty's Ministerial Conditions.

During the Western Australian DFA process in 1994 and 1995 conservation groups were involved in nominating HCV forest blocks, using grants money handed out by the

<sup>&</sup>lt;sup>41</sup> Chapter Six will also be dealing with this issue in more depth.

Commonwealth's Environment Australia (Conservation Council of WA, 1994, 1995b). Delineated forest areas were then meant to be protected through a moratorium on logging until agreement had been reached between the Commonwealth and the State in form of an RFA. However, the final WA DFA and Scoping Agreement did not include the HCV recommendations made by conservation groups. Instead, the documents endorsed CALM's interim protection proposals including their controversial road and riparian reserve proposal (on this point compare Conservation Council of WA, 1994, 1995b; Department of Conservation and Land Management, 1995; Forests Taskforce, 1995b, 1995a; Commonwealth of Australia and Government of Western Australia, 1996b). The WA DFA did not set aside any forest areas for biodiversity and wilderness protection but deferred old growth karri and jarrah forest areas from logging (see Forests Taskforce, 1995b).

The DFA outcome not only attracted condemnation from conservationists (Western Australian Forest Alliance and Conservation Council of WA, 2000, pers. com.) but also from scientific bodies (National Biodiversity Council and Royal Society of Western Australia), who questioned the scientific credibility of the DFA process (see Hobbs, 1996; McKenzie et al., 1996; National Biodiversity Council, 1996; Rundle, 1996; Trayler et al., 1996). Nationally, timber interests also voiced concerns over the DFA process. While supportive of the scientific basis of the DFAs (National Association of Forest Industries, 1995), the process was seen as a pursuit by the Federal Government to meet conservationists' objectives (Forest Protection Society, 2000, pers. com.). DFA criteria were regarded as excessive with undue economic and social cost and believed to have a direct negative impact on jobs and the viability of many country towns, discouraging new investments into the sector (National Association of Forest Industries, 1995). WA's timber industry, however, seemed to have largely accepted the DFA process and indeed welcomed its outcome. In fact, the DFA was used by the industry sector to promote the image of a responsible and sustainable industry, which supports a process that "guarantees that the key conservation element of sustainable forest management no threat to key forest values in the regions - has been achieved" (Forest Industries, n.d., p.18).

In summary, the developments of preceding years in WA make apparent that the State's RFA process commenced in a climate of deleterious stakeholder relations and distrust

between conservationists, the timber industry, and government (departments), setting the scene for potentially volatile stakeholder deliberations.

# From Scoping Agreement to Process Conclusion (1996-1999)

The Western Australian RFA followed the prescribed process outlined previously.<sup>42</sup> When the process commenced in late 1996, a Steering Committee was appointed, which was comprised of officials from the Commonwealth (Department of Prime Minister and Cabinet (PM&C) and its Forest Task Force, Department of Primary Industries and Energy (DPIE), which is now Agriculture, Forestry and Fisheries Australia (AFFA), and Environment Australia (EA)), and the State (Department of Premier and Cabinet, Department of Conservation and Land Management, and the Department of Minerals and Energy (DME)) to oversee and coordinate the process. Based on knowledge gaps identified through the DFA process and further deliberations on information needs CRA projects were scoped and commissioned by the Steering Committee for the purpose of options development.

All CRA projects (see Appendix 10) were then coalesced in a two-volume report (Commonwealth of Australia and Government of Western Australia, 1998a, 1998b) to provide the basis for the Community Consultation Paper (Commonwealth of Australia and Government of Western Australia, 1998c), which was developed during the integration and options development phase and released in 1998. Both governments strongly emphasised the participatory nature of the RFA process, and stressed that the public was to be consulted through a wide range of mechanisms. Consultation occurred via publication of CRA reports and information kits, an information line, a video and newsletters, fortnightly RFA updates published in the State's daily newspaper as well as local papers, and a RFA internet website. In addition, three consultative reference groups were formed (Stakeholder Reference Group (SRG), Aboriginal Noongar Action Group (NAG), and a State Agreement Acts Committee), community heritage workshops and public meetings were convened, and surveys and interviews were being conducted as part of the CRA social assessment component. Expert opinions were sought via workshops, expert panels, and the commissioning of CRA research projects. Despite these mechanisms the participative nature of the WA RFA process was being criticised by various interest groups. For example, environment groups like the

<sup>&</sup>lt;sup>42</sup> For details on management structure of the WA RFA refer to Appendix 9.

Conservation Council, the Wilderness Society, and the Western Australian Forest Alliance (WAFA) refused to be part of the RFA process for they considered it to be insufficiently participative (Western Australian Forest Alliance and Conservation Council of WA, 2000, pers. com.). Similar criticisms were also voiced by SRG members, scientists, and numerous members of the public who participated in the RFA process (see for instance Booth, 1998; Capp, 1998a); however, opposition to the process was, while in the public domain, still isolated.

The WA RFA process stretched over a period of three years from 1997 to 1999, although it was meant to be finalised in December 1997 (see Commonwealth of Australia and Government of Western Australia, 1996b). During that time numerous controversies arose nationally and at the State level, which meant that - thanks to much media attention - public interest in the RFA grew steadily. Nationally, for instance, the Federal Senate debate over the Regional Forest Agreements Bill, 1998 (see Senate Rural and Regional Affairs and Transport Legislation Committee, 1999) sparked public interest and controversy as did well publicised tensions between Federal and State Ministers in relation to the WA RFA (see for instance Mallabone, 1998c). In WA, the forest debate intensified after a RFA symposium convened by the National Trust of Australia (WA), which enabled a public insight into the scientific controversy surrounding the WA RFA (see National Trust of Australia (WA), 1997). Furthermore, the publication of critical RFA-related reports by the WA Standing Committee on Ecologically Sustainable Development (1998b; 1998c; 1998a; 1999) and the newly erupted dispute between the EPA and CALM in relation to CALM's compliance with the Ministerial Conditions placed on its 1994-2003 Forest Management Plan by Minister McGinty in 1992 (see Department of Conservation and Land Management, 1998; Environmental Protection Authority, 1998; Irying, 1998) served to capture the interest of the public.

Conservation groups ran large media campaigns for the protection of all of WA's remaining old growth forests, the cessation of large-scale clearfelling, and reductions in woodchip volumes. Also, consumer boycotts were organised of local retailers and merchants associated with old growth logging. The efforts by conservation groups were enhanced by an increasingly more vocal involvement of West Australian music (e.g., John Butler), literary (e.g., Tim Winton), sport (e.g., Mick Malthouse), and business (e.g.,

Liz Davenport) celebrities in the RFA process (see Malpeli, 1998; Harvey, 1999). The engagement of prominent Western Australians in turn helped the forest debate to become a mainstream issue, resulting in more political pressure being placed on the The emerging anti-logging Federal and State governments and their agencies. sentiment, as was identified by the WA RFA's Social Assessment Unit (Social Assessment Unit, 1999), was strongly criticised by WA's timber industry and timberdependent rural communities. Industry proponents - drawing support from the Institute of Foresters of Australia (especially the WA section) (e.g. Spriggins, 1999) expressed a sense of betrayal by metropolitan Western Australians, who in their view had fallen victim to extremist green propaganda and misinformation (see for instance Perkins & Rechichi, 1999). "City people! Don't kill our communities" became slogans for many marches, rallies, and meetings convened throughout the south-west of the State by groups like the Forest Protection Society (later known as Timber Communities Australia), the Australian Workers' Union, and the Forest Industries Federation (WA). These protests gave expression to the fears of the timber industry and its workers regarding job losses, declines in export, and rural economic downturns and were calls for more balance and fairness in the RFA debate and an immediate finalisation of the process (see for instance Rechichi, 1998b).

After nearly two and a half years into the process a public consultation paper Towards a Regional Forest Agreement (Commonwealth of Australia and Government of Western Australia, 1998c) was released, inviting comments and input from stakeholders and the general public on a selection of forest reserve and use options. It was emphasised that the paper was "not to be seen as predetermining the outcomes of the RFA process", and government assurances were given that "comments received during the public consultation period would be considered before negotiating the final RFA" (see Commonwealth of Australia and Government of Western Australia, 1998c, p. 1). Due to the high profile the RFA had gained public interest was strong when the RFA Public Consultation Paper was released, and more than 30 000 public submissions were received; an unprecedented number of public responses. A large number of interest groups (e.g., local shire councils, conservation groups, and tourism associations) represented in the SRG and members of the public voiced their concerns about a range of process-related aspects as well as the choice of, and scientific basis for, reserve and forest use options proposed for adoption (see for instance Baile et al., 1998; Coalition of Organisations and Individuals Embracing Western Australian Industry, 1998; Western Australian Municipal Association on behalf of Western Australian Local Government, 1998; Western Australian Tourism Commission, 1998). Despite mounting public disquiet about the proposed RFA outcomes, the Commonwealth and the WA State government signed the WA RFA in May 1999, without providing further opportunity for public comment,<sup>43</sup> although a "Draft RFA" was promised in the State's Scoping Agreement (Commonwealth of Australia and Government of Western Australia, 1996b, p.1). The failure to provide a Draft RFA and the governments' decision to continue old growth forest logging triggered immense public hostility to the WA RFA, especially among environmental groups - albeit an additional 55 000 ha of old growth were protected under the RFA agreement (see The State of Western Australia and the Commonwealth of Australia, 1999). It is important to note that the cessation of old growth logging - according to a number of public polls (e.g. Westpoll, 1998; AMR: Quantum Harris, 1999) - was supported by the majority of West Australians. Consequently, a plethora of petitions, protests, and mass rallies were initiated with the support of prominent West Australians in an attempt to compel the government to reconsider the RFA (Wainwright, 1999). Also, the coalition State government became increasingly divided over the forest issue, leading to coalition backbenchers crossing the floor in State Parliament (Grove, 1999) and the formation of a new conservative proforest party (Liberals for Forests) staffed by former Liberal party supporters (Irying, 1999). Only eight weeks after the original agreement had been signed, in response to public pressure and coalition-internal conflict over old growth forest logging, WA's Premier Richard Court announced amendments to the original RFA, reserving additional so-called forest icon blocks. This meant that further areas of tingle and karri old growth were protected from logging.

The Premier's decision to amend the original agreement then sparked fierce opposition from industry groups who felt they had been sold out (Armstrong, 1999e; Martin, 1999a). The Commonwealth threatened to dishonour the agreement (Martin, 1999c), and conservationists also vowed to continue their protest campaigns as the amendments did not bring about an end to old growth logging (Martin, 1999a; Tan-Van Baren, 1999).

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<sup>&</sup>lt;sup>43</sup> The government did eventually publish an analysis of the public submissions following the finalisation of the WA RFA (see Commonwealth and Western Australian Regional Forest Agreement (RFA) Steering Committee, 1999).

Subsequently, the RFA debate escalated, causing a great division within and among political parties, the scientific community, and rural communities and leading to further mass protests and even triggering violence directed against government employees and environmentalists. The RFA debate continued for several months following the amendments made in July 1999, fuelled by continued forest blockades and protest by conservation groups and a social fallout in timber towns in the State's south-west. Mill closures and concomitant job losses were seen by many timber workers to have been caused by the RFA amendments, amplified by the Commonwealth's subsequent decision to withdraw funding from industry restructuring agreements (Burns & Grove, 1999; Martin, 1999b). At the State election in early 2001, the conservative Court Coalition Government lost office, arguably in part because of the RFA.

In toto, the forest conflict had not been resolved by the RFA but arguably increased the venom in the forest debate. Despite much time and money spent and the persuasive rhetoric of best science, community involvement, and conflict resolution the WA RFA seemingly failed to both provide a process and deliver an outcome that was acceptable by RFA participants and the broader public.

### Conclusion

In this chapter I provided insights into the anatomy of the (Western) Australian forest dispute and conveyed an understanding of the dynamics at work prior to, and throughout, the WA RFA process. I elaborated on the ecology of the forest region under dispute, explained its social and economic significance, and sketched the history of forest utilisation and management in WA.

I discussed the political developments which have led to the formulation of a national forest policy and paved the way for the RFA processes nationally. In this chapter I also introduced the key protagonists of the WA forest debate and described the dynamics among WA's forest stakeholders and their impact on the WA RFA debate. Finally, I gave a brief overview of the WA RFA and provided details on the process and its outcomes.

In this chapter I intended to deliver context not only to situate the RFA case study but also for the introduction of a methodological tool yet to be advanced. In Chapter Two I alluded to colour-coding for the in-text use of interview data but did not elaborate further for I considered it to be context-specific. The necessary background information has now been provided, and thus I will turn to the issue of colour coding in the following chapter. I will also deal with stakeholder expectations on the RFA process as a means of contextualising further the WA RFA case study. Chapter Four.

# **Chapter Four**

# The RFA Discourse Community and Stakeholder Expectations

### Introduction

As foreshadowed in previous chapters, it is my aim to gain insights into the Western Australian RFA process based on RFA stakeholders' perceptions of its outcomes as well as their understanding of the prevailing dynamics over the three year duration of the RFA. First, however, it is essential to shed light on the expectations that were placed by the various RFA stakeholders both on the process and on the outcomes. The objectives of the RFA processes were spelled out in the NFPS, and this chapter will examine how the NFPS and contemporaneous government rhetoric were interpreted by RFA stakeholders and whether stakeholders differed in terms of their expectations of the process and of the process outcomes.

Also important in connection with the ensuing data analysis is the identification of the RFA discourse community. With the term *discourse community* I am referring to those stakeholder groups and individuals who shaped the various RFA discourses in Western Australia throughout the RFA process and formed a part of the institutional arrangements (after Selsky & Memon, 1995) governing the RFA forest areas. As described in Chapter Two, I employed snowball sampling in order to obtain a representative discourse community. However, as it was necessary to protect the identities of research participants, I decided to partition the RFA discourse community into five discrete groups giving each group a unique code for the purposes of the data analysis. Presented below is the underlying rationale used for the stakeholder delineation and the method I used for the development of stakeholder categories. These categories formed the basis for the analysis of stakeholder expectations of the Western Australian RFA and for subsequent analyses throughout the thesis.

### Mapping of the RFA Discourse Community

The systems perspective employed in this study is germane to analyses of discrete groups (i.e., systems and their sub-systems) and the interactions and dynamics within

and between various groups Therefore, I chose an approach that allowed research participants to form their own (sub)systems through a process of self-identification. This meant that research participants were essentially categorising themselves during the interview process by way of stating their memberships, affiliations, and/or the capacities in which they were being interviewed at the beginning of the interview. A total of five broad stakeholder categories emerged from the interview data, namely (see also Table 4.1):

- Environment Groups;
- Timber Industry/Industry Groups/Unions;
- Government/Departments/Political Parties;
- Stakeholder Reference Group/General Public, and
- Scientific Community.

In what follows, I shall explain my reasons for maintaining these participant clusters throughout this thesis and elaborate on their appropriateness for the purposes of this study.

Dichotomous rural-urban constellations are quite common within natural resource conflict settings (see for instance Overdevest, 2000). Consequently, one finds that conflict communities are frequently clustered into rural groups and urban groups. Admittedly, the Western Australian RFA displayed features not dissimilar to a ruralurban dualism exemplified by jobs versus trees discourses. Yet, a discourse mapping such as this would have proven too simplistic for the WA experience. The historical review presented in Chapter Three made apparent that the conflict that erupted over native forest use represented a clash between governments (state and federal), conservationists, timber industry interests, and other resource-based industries. In particular, timber industries and conservation groups featured as the main protagonists in the forest debate, and various government reports and policy documents attest to the duration and intensity of the conflict between these two factions (see Commonwealth of Australia, 1990; Resource Assessment Commission, 1990; Commonwealth of Australia, 1992a; Resource Assessment Commission, 1992). Reference is made to these opposing factions in terms of a simple dichotomy between those who advocate increased forest conservation and those who promote commercial forest access and utilisation. The forces for conservation were a variety of environment groups whereas forest use

advocates were largely union and industry based. For these reasons, I included an *environment* category as well as an *industry* category for the purposes of this study.

In Chapter Three I showed that the forest dispute became increasingly politicised over the last 20 years. Governments at both the federal and state levels often found themselves either being attacked by, or adjudicating between, forest stakeholder factions and being called upon to find a solution to the conflict. The RFA process itself was presented as a Commonwealth-driven political solution to the forest conflict. The integral role of various governments in the process is irrefutable, guaranteeing that a *government* category would be applicable. This category includes the respective bureaucracies of the Commonwealth and State governments as well as members from both houses of government at the Commonwealth and the State level. Commonwealth and State departments and agencies were included in the one *government* category for they were entrusted to operationalise the terms of the National Forest Policy Statement and to be in charge of the RFA processes in the various states around the country. In this regard a certain degree of organisational congruency between governments and their respective departments/agencies was assumed.

Science was used to describe the fourth category, which is justifiable in light of the fact that the RFA process was meant to be scientific in nature and that much of the historical conflict in relation to forest use and conservation was also - at least in part scientifically grounded. Scientists were called upon in connection with the RFA (as was also done in earlier processes but in a far less systematic way) to develop benchmarks for forest reservation, guidelines for sustainable forest management, and to collect and analyse data based on which an agreement on forest use and reservation could be reached. Given the role assigned to science and scientists for the purposes of the WA RFA a separate science stakeholder category seemed highly appropriate.

Other RFA stakeholders I assigned to a more general, fifth category called *Stakeholder Reference Group*. Included in this group are Indigenous groups, apiarists, the tourism industry, wildflower pickers, seed collectors, local councils, and also concerned (active) citizens.

Environment Groups	Timber Industry/Union	Government/ Agencies	Science Community	Stakeholder Reference Group
	Whitakers Timber Products	Department of	Consultation project for the RFA	Represented W.A.
WA Forest Alliance	Wesfarmers Ltd.	Federal Environmental Protection Agency	National Working Groups, which led to JANIS criteria	WA Tourism Commission
Conservation Council of Western Australia.	Australian Workers Union	Department of Minerals and Energy (WA)	Technical Committee	Attend some of the Stakeholders Reference Groups
[I have] gone to major protests, support people in forest camps	Forest Industries Federation	Department of Conservation and Land Management (WA)	Involved in interim Forest Agreement arrangements	Western Timber Cooperative and RFA Stakeholder Group
Environmental movement	Blueleaf Corporation	Independent candidate for Parliament (WA)	Research scientist	We were called stakeholders
Wilderness Society	Donelly Timber Company	Department of Environment and Heritage	ESFM expert panel in Western Australia	Attended all meetings of Stakeholder Reference Group
	Small saw mill operator	Member of Parliament (WA)	Reviewed submission to the RFA.	Noongar Action Group
	Timber Communities Australia	Labor Party shadow Minister (WA)	Freelance botanist	Shire President
	Bushmills Timber	Department of Conservation and Land Management (WA)	Department of	National Trust of Australia (WA)
		Forest Task Force with the Department of Prime Minister and Cabinet.	Ecologically Sustainable Forest Management Panel	Senior [University] lecturer [who] attended public meeting
		Department of Conservation and Land Management (WA)	Western Australian Museum	Regional Tourism Association
		Department of Environmental Protection	Contracted to provide a report on disturbance ecology	Walpole-Nornalup National Park Association
		Legislative Council of the West Australian Parliament	Western Australian Museum (WA)	Shire President
		Parks Australia within Environment Australia	Forestry Working Group in the ESD process	
		Political group called Liberals for Forests (WA)	Biodiversity Advisory Council	
		Australian Heritage Commission	Endangered Species Advisory Council	
		Environmental Protection Authority (WA)	National Biodiversity Council	
			Department of Conservation and Land Management (WA)	
			Department of Conservation and Land Management (WA)	
			Expert on vegetation mapping	

### Table 4.1: Partitioned WA RFA Stakeholder Community<sup>44</sup>

<sup>&</sup>lt;sup>44</sup> Some responses have been edited so as to prevent the identification of research participants.

Their interests were similar enough to place them all into one category, however, they certainly do not form a homogenous group of people. In fact some of the interests of these groups are potentially conflicting. However, throughout the WA RFA process this rather diverse group of people was treated as essentially one consultative assembly for they were either members of the Stakeholder Reference Group (which was the majority), the Aboriginal Noongar Action Group, or attendees of public meetings and heritage workshops during the RFA process. Consequently, it seemed reasonable to treat these groups as one for the purposes of this study. While some timber and conservation interests were represented at the SRG level, these were treated separately in this thesis for reasons I have stated earlier and not in this group. To summarise, the following stakeholder categories emerged from analysis:

### Table 4.2: RFA Stakeholder Key

- Timber Industry/Industry Groups/Unions
- Government/Departments/Political Parties
- Stakeholder Reference Group/General Public
- Environment Groups
- Scientific Community

These categories I have maintained for the main part of the data analysis and were only subject to further differentiation in Chapter Seven as part of a separate analysis explained later in this chapter. I have devised a colour coding system (as shown in Table 4.2) to show which group a person belongs to. This method allowed for the data analysis to take place without the risk of revealing stakeholders' identities. Direct quotes taken from the interview transcripts appear in the colours corresponding to the participants' assigned group (e.g., statements by members of the scientific community will be shown in blue, etc.).

To comment briefly on the validity of these groupings, the five participant categories developed for this study need to be seen as necessarily arbitrary and provisional. They represent working hypotheses I tested throughout this thesis. I recognise the potential for, and indeed the likelihood of, heterogeneity within *any* of the aforementioned groupings. In fact, differences ought to be expected! Nonetheless, in light of the type of analysis this thesis meant to produce I viewed these groupings as appropriate,

especially since issues of dissent within groups will be addressed separately in Chapter Seven. There, assumptions about group homogeneity are examined and the role of certain individuals and charismatic leaders in the context of the RFA debate are also addressed. In other words, the ensuing data analysis is not ignorant of potential and/or likely differences within and between stakeholder groups and is mindful of the significance of individuals within the RFA stakeholder community.

Although the five participant categories were natural groupings for certain individuals, assigning them to a single group proved problematic for they either assumed multiple roles during the RFA process and/or had been employed across the delineated categories and were thus interviewed in multiple capacities. To make allowances for this I allocated these individuals to multiple groupings. Multiple groupings were used for members of the Science Community and Government/Departments/Political Parties group.

The interview data derived from Stakeholder Reference Group/General Public group members and members of the Timber Industry/Industry Groups/Unions group were treated separately despite the representation of timber interests at the SRG level. Individuals with multiple memberships are listed within all their respective groups in Table 4.1 (hence, the number of entries does not match the overall number of interviews conducted). Accordingly, in relation to the in-text use of interview data, statements by participants with multiple group memberships were colour-coded based on the *hat* they were wearing when responding to individual interview questions. Overall, five research participants were subject to multiple coding. Due to the involvement of the State as well as the Commonwealth governments the selection of participants from groups like Government/Departments/Political Parties, Science Community, and Environment Groups included those from both the State and Federal levels of Government and from the local and national levels of environment groups.

### RFA Stakeholders' Expectations on the RFA Process<sup>45</sup>

In this section I examine the expectations of stakeholders of the WA RFA, chiefly focusing on the timber industry and conservation groups. My decision to pay attention

<sup>&</sup>lt;sup>45</sup> For corresponding collage refer to Appendix I (CD-ROM).

to these two groups in particular is based on data availability and the fact that conservation groups and industry groups were the key protagonists throughout the RFA debate, and their reactions to the RFA process had a significant impact on the dynamics of the RFA process. These groups' expectations are presented in light of the promises made under the NFPS and statements made by government officials, their policy advisors, and relevant civil servants in relation to the NFPS. I also examine the expectations of environment groups in order to find out whether these have changed throughout the WA DFA process and whether this has influenced their decision not to formally participate in the State's RFA process.

First, it is important to note that both groups, conservationists as well as advocates for the timber industry, acknowledged that both camps were likely to have interpreted the NFPS differently (I suppose it could be argued that we had a selective interpretation of the National Forest Policy Statement where it says that Australia will continue to use native forests for sawlogs, and those native forests that are not considered to be of high conservation value or have wildetness values or old growth values will be able to be used for the production of timber and the production of woodchips – and – we interpreted [the NFPS] in our way, and industry and government interpreted in a different way) and dealt selectively with the issues laid down in the policy document (We latched onto the things that were of interest to us). Hence, it is not surprising that environmental groups and the timber industry were focused in particular on the issues of wilderness and old growth and the policy objective of an internationally competitive and ecologically sustainable native hardwood industry respectively. It is these policy aspects of the NFPS that are investigated further.

### Old Growth and Wilderness

In relation to old growth and wilderness the NFPS (Commonwealth of Australia, 1992a) stated that "[t]he Governments have agreed to a strategy designed to conserve and manage areas of old growth forests and wilderness as part of the reserve system" (p. 11). These intentions were reaffirmed by *government* group members who assured that the NFPS recognised the need to look at the old growth forest issues[,] ... make sure that the biodiversity was being maintained and for that purpose set aside sufficient amounts of forest to provide an appropriate legacy for future generations.

The NFPS was generally welcomed by conservation groups who saw it as a framework, which would protect old growth and wilderness forests, which were recognised as being an irreplaceable resource and in fairly serious decline. Indeed, compared to previous attempts of policy formulation the NFPS gave the impression of being a fairly radical document in that it clearly set out the need to protect biodiversity in the forests, to protect old growth and wilderness and bring about substantive change in what was happening to our forests. The perceived sense of clarity of the NFPS can only be seen in relation to the document's objectives, however, as the NFPS itself only gave a broad outline of things and [did] not give strict guidelines [for operationalisation].

For the interim protection of old growth forests and of wilderness areas the NFPS envisaged, as part of the governments' five-pronged strategy for old growth and wilderness protection, that "forest management agencies [would] avoid activities that may significantly affect those areas of old-growth or wilderness that are likely to have high conservation value" (Commonwealth of Australia, 1992a, p.11) until assessments of forests for conservation values were completed (the term *assessments* refers here to the DFAs). It seems that the promise of a moratorium on old growth logging was considered absolute and all encompassing by conservationists. To them the NFPS, going by appearances, guaranteed a moratorium on the logging of forest that may be needed for the CAR reserve system, which in their view seemingly included almost all remaining old growth forests (just get out of the old growth – and – What they wanted was all old growth – and – [the Greens] understood that the National Forest Policy Statement would effectively mean an end to all old growth logging).

Conservation groups expected that the cessation of old growth logging was part of the governments' intention to introduce ecologically sustainable forest management (ESFM) (a framework ... [which would] ... look at actually implementing ecological sustainability in forest management), which was to be effected by "integrated planning processes, codes of practice, sustainable-yield harvesting practices" (Commonwealth of Australia, 1992a, p. 12), and other measures. At that point, however, ESFM was poorly defined, and government sources admitted that expectations [were] very variable as to what ESFM really mean[t] and that a lot depend[ed] on interpretation. It appears that conservation groups expected that ESFM would include the cessation of all old growth logging, while for government this was a matter of structural planning.

It is important to note though that the NFPS did not mention the cessation of all old growth logging. Whilst it did recognise a reduced reliance of native timber industries on old growth forests, the NFPS envisaged this via the facilitation of the "continuation of [the] transition" (Commonwealth of Australia, 1992a, p.10) to regrowth native forests and plantations. In other words, logs derived from old growth forest would still be taken by industry but the amount would decline in quantity over the years. Industry members understood old growth still to be part of their future timber allocations, although they expected their access to diminish (industry was working on the position that it would have ten years to re-adjust). In addition, which also helps explain the polarised positions in the ensuing RFA debate, there was a seeming lack of comprehension as to why so much emphasis was being placed on old growth by conservationists (the old growth debate absolutely amazed me ... what is so wonderful and marvellous about old growth?). Also, in relation to the promised CAR reserve system there was a sense among industry members that there was no need to create a CAR reserve system ... because it was believed that it was already there in Western Australia (there are sufficient forests in reserves for anybody to have an old growth experience).

## Internationally Competitive and Ecologically Sustainable Native Hardwood Industry

In the context of wood production and industry development the NFPS envisaged the integration of a range of commercial and non-commercial uses (such as tourism and water catchment protection), efficiency increases, and value adding strategies. The NFPS gave the Commonwealth Government's commitment to "providing certainty and security for existing and new wood products industries to facilitate long-term investments in value-adding projects in the forest products industry" (Commonwealth of Australia, 1992a, p.17). In short, the idea was to introduce new forms of forest management for wood production that maintained the forest estate and balanced forest uses. At the same time, assurances were issued in the context of changing market conditions and consumer preferences that governments saw their role in "minimising any adverse social and economic effects" on timber industries and their workers, particularly in "rural communities where alternative employment opportunities may not always be available" (p.19).

Government sources echoed these calls for certainty and balance, suggesting that the aim of the NFPS was to establish this mix of reserves that would reflect ... the needs of the conservation interests as well as the state's interests for economic development (to guarantee a certain yield for the industry but also to ensure that from the environmental perspective there was going to be conservation aspects taken into account and trying to get to that balance - and - achieve a balance between industry security and also to achieve preservation - and - an endeavour to get the greatest level of conservation but still at the same time to achieve what the RFA was all about; i.e. to get some industry security (emphasis added) - and - it was about trying to create certainty). A number of government agents, however, refuted these notions of balance, suggesting that the NFPS was strictly and definitely driven by the logging agencies. In their view the NFPS was designed to (a) get the Commonwealth out of forestry because it had been a nightmare for a decade for the Labor government, and (b) to give resource security to industry. Imbalance was seen to stem from the desire to grant resource security to industry in order to get the conservation lobby and the broader community off the governments' back (I mean the State as well as the Commonwealth), ... a suite of no regrets measures, ... which was meant to deliver resource security to industry [but] not to come up with the world's best reserve system.

Generally, industry members felt that the industry did not need the RFA (the RFA was absolutely unnecessary) and had some reservations about politicians ... politicis[ing] the outcomes of the RFA. Nevertheless, there was a sense of cautious optimism on the industry side in that they saw in the proposed RFA process an opportunity to provide a greater level of certainty in the very uncertain atmosphere that prevailed over the issue of access to forest resources as well as a wonderful opportunity to create investment in further value-adding and create some jobs in the manufacturing sector. Still, while members of the industry seemingly believed that the RFA would give [them] ... long-term security, it was acknowledged that this would come at somewhat of a price (We realised that ... there would be an increase in the conservation reserves). The industry was aware that it need[ed] to make some concessions to ensure that it was possible to get ... [a reasonable] outcome but maintained a position that there should be no net job loss.

Small sawmillers, however, were less optimistic for they believed that the reason for having the RFA was obviously to destroy the industry based on the overriding desire of the government ... to promote conservation objectives. This notion of governmental pro-conservation bias was to harden throughout the RFA process. Still, despite these reservations and a general feeling that they did not need [ ...] a RFA in WA because ... [the industry] had confidence in the [WA State Government] Forest Management Plan industry supporters showed a willingness to engage in that process.

To comment briefly on the expectations of other stakeholder groups, apiarists, for instance, were anticipating that there ... [would be] more conservation areas, that they would be able to maintain all the access that ... [they] had to State forests, get access into areas which ... [they] previously did not have, and that the RFA would put an end to clearfelling because clearfelling ... [was seen to be] totally destructive for the beekeeping industry. Beekeepers also wanted to make sure is that they [government] would leave the big old trees instead of cutting them down. This case was also made by local council representatives who stated that the community wanted to hear that we won't be logging old growth forests anymore. Aboriginal stakeholders wanted to ensure that secret, sacred, and significant places were protected and that they had a chance to tell their story about their country during the RFA process. The tourism industry, who saw forests as an asset for tourism, was looking for a balance ..., between the harvesting of the forest and the needs of the tourism industry. The industry understood itself as an obvious[] ... key stakeholder in the RFA process and as one of the key industries as part of the restructuring to provide opportunities for employment for displaced timber workers. This last statement is indicative of a view that a reduction of the timber sector was seen as inevitable, which is precisely what was feared by the timber industry, as shown previously.

To summarise at this point, all stakeholder groups had a wide, but also conflicting, range of expectations on the RFA in terms of what they saw it would deliver. Many displayed a preparedness to engage in the proposed RFA process, viewing it as a vehicle to achieve their respective ends. In particular, optimism was expressed by both the timber industry and the conservation movement in light of their respective reading of the NFPS. However, some industry members had concerns about the possibility of resource withdrawal due to excessive government catering to green demands.

# The Deferred Forest Assessment and Its Impact on Conservationists' Expectations of the RFA Process<sup>46</sup>

Following the signing of the NFPS the Deferred Forest Assessment (DFA) process commenced in Western Australia as well as in other States, which aimed at an interim arrangement to "ensure that options for a CAR reserve system [were] not foreclosed by logging activities whilst the CRA and RFA process [were] completed" and "to minimise the social and economic impacts of deferring areas" (Department of Agriculture Fisheries & Forestry Australia, 2002, Section 11). The Western Australian Conservation Council was commissioned to be involved in the DFA process, helping delineate high conservation value areas. This particular environment group was also party to the consultation process during the early stages of the DFA together with the Forest Protection Society, Forest Industries Federation of Australia, Alcoa and Worsley Alumina, and the Australian Workers Union.

As mentioned in Chapter Three, the Keating Labor Government deferred some 6 million ha of forest in 1995 prior to the federal election in an attempt to prevent further alienation of the party's environmental power base. In Western Australia this meant that all of the forests that were on the Register of the National Estate were [proposed to be] withdrawn from logging (see also Commonwealth of Australia and Government of Western Australia, 1995), which largely reflected the recommendations of the Conservation Council. However, with the 1996 federal election ... came a change of government, and the implementation of the RFA policy was left to the new (conservative) Liberal government ... which brought about ... some fairly substantial changes particularly in WA. These changes meant that a number of the forests that had been deferred (for proposed forest areas refer to Commonwealth of Australia and Government of Western Australia, 1995) were withdrawn, meaning their deferral status was changed. In other words, the final DFA - largely due to the intervention from WA (see Standing Committee on Ecologically Sustainable Development, 1998a) - reflected hardly any of the recommendations made in the reports submitted by the Conservation Council (on this point compare Conservation Council of WA, 1994, 1995b; Commonwealth of Australia and Government of Western Australia, 1996a), which resulted in a feeling among conservationists that [t]he government[s] did not take much

<sup>&</sup>lt;sup>46</sup> For corresponding collage refer to Appendix II (CD-ROM).

notice of [them]. In fact, it was believed that [governments] had come up with their own areas where there was to be a moratorium ... and to conservationists ... it was just minimal. To them it seemed that [a]reas of virgin forest were just left out for the most spurious of reasons and that the first step of the RFA process was to withdraw protection for all of these icon and other high conservation value forests.

This seeming rejection of the Conservation Council's recommendations needs to be seen in the context of the protracted DFA negotiations between WA, the Commonwealth, and respective government departments. These negotiations proved difficult in the absence of agreement on a working definition for old growth forest, the pre-Éuropean forest extent, and the present level of forest reservation in Western Australia pertaining to old growth. For the establishment of CAR reserves, however, agreement on these issues was essential for it needed to serve as baseline data. While these scientific issues will be looked at more closely in Chapter Six it appears at this point – especially in light of subsequent publications by the Conservation Council (see for instance Conservation Council of WA et al., 1999) – that there were obvious differences in terms of assumptions and definitions between the Conservation Council and other negotiating parties during the DFA debate.

What further infuriated conservationists in addition to the perceived refutation of the Conservation Council's recommendations was the role played by the Department of Conservation and Land Management throughout the DFA process, which stood accused - inter alia - of having pressured the Commonwealth into accrediting road, river, and stream zones (linear reserves) as well as non-statutory zones as part of the formal reserve system (Conservation Council of WA, 1995a). Also, the inclusion of a proviso in the final DFA document (Commonwealth of Australia and Government of Western Australia, 1996a, Section III), which allowed "[m]inor clearing of old growth jarrah forest ... in these national estate sub areas ..." caused for further disquiet among conservationists. Cynicism was also expressed in relation to the timing of the DFA finalisation, for it was viewed to have been delayed for reasons of political expediency ([the State government] postponed signing that until after the 1996 federal election when the coalition government was elected federally. So they held off that in anticipation that they [might] have a sympathetic Federal Government).

It seems that the initial enthusiasm in connection with the National Forest Policy Statement evaporated during subsequent events prior to the RFA commencing in WA. In fact, environment groups seem to have come to the conclusion that the RFA process, which was about to begin, was not to [deliver] ... a genuine CAR reserve system, to give us genuinely ESFM. Instead the belief was formed that the RFA's primary objective was to give resource security to the native forest logging industry and to get [forests] off the federal political agenda. Ironically, this – what perhaps could be referred to as disillusionment – was perceived by some to be an advantage because it meant that there would never [be] any illusion in the conservation movement in WA that the RFA process was intended to deliver good conservation outcomes.

The DFA created a situation where in the end there were fears on both sides of the forest debate (a) with conservation groups viewing the just to be commencing RFA as a timber industry driven process and (b) some industry members, as previously mentioned, being concerned about anti-industry biases. Industry concerns were fuelled also during the DFA process because some of its wood [was] locked up in deferred forest coupes and it just laid there. [Timber workers] could not get paid for it because it had not gone across weighing bridges and ... [t]here was wood ... that could not go to saw mills because there was no system of segregating residue. To them the whole DFA (and subsequent RFA) was an extraordinarily long and slow process, which in their view was wrought with immediate management problem[s] ... and had the unfortunate effect ... of greatly exacerbating the forest debate in Australia.

### Conclusion

In this chapter I provided a map of the RFA discourse community and delivered a rationale for its development. An analysis of events preceding the WA RFA shed light on the differences between two key stakeholder groups in terms of what their expectations were of the WA RFA process based on their interpretations of the NFPS and subsequent events.

It became evident, while industry members were relatively optimistic towards the RFA, albeit with some reservations, hoping it would deliver resource security, that the conservation groups – following the conclusion of the DFA – invested little faith in the RFA process, believing that it would not achieve meaningful conservation outcomes.

The overall negative attitude of the conservation groups - certainly helped by other factors yet to be advanced - unwittingly paved the way for an acrimonious RFA process. The subsequent withdrawal of conservation groups as official RFA stakeholders and their active campaigning outside process parameters made a significant impact on the RFA itself, as will be shown in the following chapters.

# **Chapter Five**

# The Participatory Nature of the Western Australian RFA

### Introduction

In Chapter Three I reviewed the history of the Australian forest debate. In this context I made the case, like others (Chindarsi, 1997; Dargavel, 1998), that the dispute over native forests has been messy, complex, and acrimonious. It appears that both federal and state politics of forest use became gradually more precarious over time and that the interplay of economic imperatives, scientific uncertainty surrounding forestry issues, and the electoral significance of forest policy (Chindarsi, 1997; Lane, 1999; Slee, 2001) increasingly polarised and paralysed any constructive debate and ultimately precluded a political solution.

The consequent length and intensity of the forest conflict led to the suggestion that political attempts in the past had failed to resolve or at least dampen this controversy. Government intervention even, at times, increased the polarisation between the various protagonists (Dargavel, 1998). The literature informs us that government intervention often occurred in an ad hoc fashion, frequently lacked an understanding of the symbolic and ideological factors involved in forest disputes (Syme, 1992; Lane, 1999), and subsequently missed the mark in political and social acceptability. Furthermore, previous government processes, described as participatory rituals (Mercer, 1995), tended to ignore public/stakeholder views in the process outcomes, suggesting insufficient stakeholder access to political decision-making processes and a lack of recognition of their views and desire to have input.

The RFAs were purported to be different from past processes, and both federal and state governments were keen to emphasise the inclusiveness and accessibility of the proposed RFAs. The NFPS (1992a, p.38) spoke of "extensive public consultation and advanced planning techniques" as a means to "enable the community to make ... considered contribution[s] within the land use decision-making process and to forest management issues." The Commonwealth Position Paper (1995, Executive Summary) also recognised "that community acceptance can profoundly affect the durability of ...

agreements" and indicated that "stakeholder consultation would be sought ... particularly in relation to identifying possible forest use and management scenarios for the region" (Section 1.5.5, emphasis added). The WA Scoping Agreement (1996b) echoed these sentiments, stressing the importance of effective community involvement. In fact community input was considered "critical to the successful completion and enduring life of an RFA" (p.11), and thus the development of consultation and communication strategies was promised. Subsequent RFA newsletters were speaking of regular stakeholder access to the process (Forests Taskforce, 1997) and even of "full community participation in the development of options for the RFA" (Forests Taskforce, 1996, p.6).

In light of this self-confessed recognition by governments of the importance of meaningful public input into government processes I present below an analysis of the Western Australian RFA process with attention focused on its participatory nature. In Chapter Four I outlined the expectations RFA stakeholders placed on the proposed RFA process based on their interpretations of the National Forest Policy Statement and related policy documents. These insights will now be placed in context with the RFA process reality as perceived by those involved in the process. RFA stakeholder interview data will be used to examine the perceived accessibility and inclusiveness of the RFA process. An initial survey, however, of the literature on public participation in natural resource contexts will provide the necessary background and help further refine the scope of this chapter. Reference will also be made to Australia's track record in relation to community involvement in government processes.

#### Public Participation and the Australian Experience

"Full public involvement improves policy development, regulatory implementation, and service delivery. Public participation results in more informed decisions, and a greater identification and understanding of public issues, concerns, priorities and solutions."

(Office of Consumer and Public Involvement, 2000, p.2-1)

Active citizen participation in environmental decision making has become an accepted notion (Tuler & Webler, 1999), at least among theorists (see for instance Creighton et al., 1983; Fischer, 1985; Kemp, 1985; Kasperson, 1986; Fiorino, 1990; Renn, 1992; Forester, 1993; Laird, 1993; Landre & Knuth, 1993; Webler, 1995; Moore, 1996; Shindler & Creek, 1997; Buchy & Race, 2001; McCool & Guthrie, 2001). Also, within the public policy arena there is growing recognition of the importance of governments' responsiveness to community demands, showing signs of a seemingly forgotten awareness that public participation is integral to democratic life. What does public participation stand for? The terms *citizen* or *public participation* or *community involvement* (used here synonymously) generally imply "an interactive process between members of the public, individually or in groups, and representatives of a government agency with the aim of giving citizens a direct voice in decisions that affect them" (Munro-Clarke, 1992a, p.13). The term also covers a wide variety of activities, and many methodologies exist for enabling such participation (e.g., focus groups, citizens' panels, citizens' juries, community planning and many others) (see for instance Slocum et al., 1995; Pratchett, 1999).

Many of the earlier writers in the field (see for instance Bachrach & Baratz, 1962; Arnstein, 1969; Bachrach & Baratz, 1970; Pateman, 1970) have seen public participation as a means of giving a voice to minorities and underprivileged groups. Thus, there has been a strong emphasis on power relations, the transfer of power, and the relinquishment of power; the transfer of power refers here to a power shift away from process managers to process participants to enable participant access to decision-making processes, which in turn necessitates the relinquishment of power by process managers (Snowdon & Slee, 1996). To this day, the notion of power has remained central to the debate (see for instance Slocum et al., 1995; Snowdon & Slee, 1996) although such emphasis is viewed as excessive by some (Schumpeter, 1976; Painter, 1992; cited in In more recent years, community involvement, also Buchy & Race, 2001). encapsulating active citizenship, has been elevated in the literature to a symbolic pillar, even the very key to the survival, of democracy (see for instance Saul, 1997; Theobald, 1997). Principally, these calls for active citizenship were voiced in response to a growing perception of a wide-spread rational consumer ethic and concomitant political apathy within western world democracies.

In general terms it can be observed that meaningful community engagement is seen to be crucial to democratic life, and while some commentators warn of high associated cost (see for instance Davis, 1996) or the inability of the masses to participate meaningfully (Schumpeter, 1976), most writers in the field agree that more is seemingly better, implying that higher degrees of community involvement will generally lead to better outcomes. Those outcomes could entail improvements for the communities involved (Munro-Clarke, 1992b), for resource use and management practices or community-government relations (Buchy & Race, 2001). Indeed, the list of perceived benefits of community involvement is long. Such benefits relate to the social and political acceptability of government processes and thus the longevity of their outcomes. Community involvement can lead to improved relationships and communication between governments and the communities they govern, better risk communication, community empowerment, ownership of processes and outcomes, formation of social capital, sharing of power, expertise and knowledge, greater transparency and accountability, mutual learning, and building of confidence and self-esteem (see for instance Barber, 1984; De Sario & Langton, 1987; Forester, 1988; Renn, 1992; Forester, 1993; Laird, 1993; Slocum et al., 1995; Webler, 1995; Moore, 1996; McCool & Guthrie, 2001).

In light of the perceived benefits of public engagement numerous step-by-step guides for community involvement have been developed over the years, spelling out the key ingredients for successful participation processes (e.g. Cullen, 1977; Institute for Participatory Planning (IPP), 1981; Renn et al., 1995; Davis, 1996; Buchy et al., 1999; Tuler & Webler, 1999; Office of Consumer and Public Involvement, 2000; Buchy & Race, 2001; Carson & Gelber, 2001; McCool & Guthrie, 2001) and formulating best practice principles (*better* practice being the more appropriate word).<sup>47</sup> Moore (1996) argues, however, that the development of these guidelines for effective community involvement is predominantly based on input from theorists and practitioners. Often, participant input is lacking (Moore, 1996; Tuler & Webler, 1999) and poorly understood (Syme, 1992). There has also been a growing awareness in the literature that the inflexible operationalisation of such better practice principles can yield counterproductive and often costly outcomes, and practitioners have been cautioned to take into account contextual and historical factors which may affect otherwise well-

<sup>&</sup>lt;sup>47</sup> The efficacy of such techniques and methods mostly hinges on the way they are being applied and implemented (Lauber & Knut, 1998; cited in Buchy & Race, 2001) which is often dependent on the mindsets of those charged with the management of the such processes. In other words, attitudes and behaviours play a central role in processes of community involvement (Davis, 1996; cited in Buchy & Race, 2001) as they generally do in the context of any human interaction.

designed processes (Syme, 1992; Buchy & Race, 2001). In other words, process success is not only technique-dependent but also, perhaps predominantly, subject to context.

Contextual complexity, also referred to as *messiness* (McCool & Guthrie, 2001), is often a feature of natural resource conflicts; thus demands for active community involvement within the literature on natural resource management and planning are no surprise. New societal obligations for risk communication (Kasperson, 1986), repeated calls for collaborative environmental planning and stewardship (Selin et al., 2000), and the seeming intensification of natural resource disputes world-wide (Macnaghten & Urry, 1998) have given impetus to the work in the area of public participation in the environmental policy arena. These calls for meaningful community input have also been echoed in the context of ecologically sustainable development since the early 1990s (Slocum et al., 1995).

At the 1992 Earth Summit delegates formulated an action plan for sustainability, called Agenda 21 (United Nations Division for Sustainable Development, 1992). Chapter Eight of Agenda 21 was calling for "public [access] to relevant information, facilitating the reception of public views and allowing for effective participation." Also, the Rio Declaration on Environment and Development (United Nations - General Assembly, 1992c) urged the governments of countries to "facilitate and encourage public awareness and participation." Hence, the sustainability literature perceives public participation as a dimension of ecologically sustainable development (see Figure 5.1) and crucial for the operationalisation of sustainability principles (see for instance Carew-Reid et al., 1994; Franks, 1996; Palmer et al., 1997). Some steps, albeit largely rhetorical, have been taken world-wide towards (a) more balanced<sup>48</sup> and (b) more inclusive government decision-making processes, and in context of the perceived globalisation of environmental and planning law public participation is a recognised element (Taberner et al., 1996). Yet, to this day commentators still observe a considerable dominance of economic rationality over public policy (e.g. Gare, 2002), potentially constraining public processes.

<sup>&</sup>lt;sup>48</sup> The notion of balance refers here to the issue of assigning equal importance to social, economic, and environmental concerns as opposed to economic considerations only.

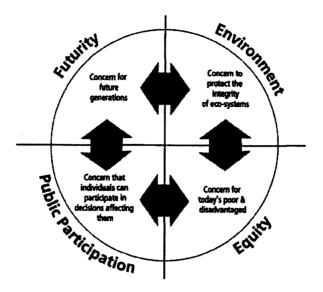


Figure 5.1: Perceived Dimensions of Ecologically Sustainable Development (adapted from Cooper, 1995; cited in Palmer et al., 1997, p.88)

The prevailing pro-development climate in many countries, including Australia (see Chapter Three), has commonly led to an overrepresentation of economic interests within (Miller, 1988) and outside of government processes (Crenson, 1971). Therefore, past and current efforts to increase public input can be seen here as a means of curtailing the hegemony of economics in often predetermined government processes. In a conservation context, for instance, increased public participation - driven by attitudinal shifts towards the environment over the last 30 years - meant disallowing the preclusion of pro-conservation outcomes in environmental planning and policy making. The existence of often heated conflicts over resource use and management in numerous countries attests to this attitudinal change (at least within some segments of society). Furthermore, it confirms that what Arnstein (1969) calls non-participatory and tokenistic forms of community involvement mechanisms by governments are seemingly out of step with community aspirations (McCool & Guthrie, 2001), which is evidenced by fractious government-community relations in countries like Australia, Canada, Britain, and the USA.

Buchy & Race (2001) argue that many resource conflicts are regularly linked to the power held by individuals within government processes (on this point see also Jewitt, 1995; Robins, 1995) as well as mismatching expectations between process participants and process managers. Based on Nelson and Wright's (1995) distinction between instrumental and transformative participation Buchy & Race (2001) point to a tendency for communities to aspire to more transformative modes of participation, envisaging change as a process outcome. In contrast, process managers often see a mere instrumental role for the community for the purpose of collecting and disseminating information. What becomes apparent here is that the calls for greater degrees of community involvement often go beyond the degree considered necessary by many governments and their agencies. With growing demands voiced by resource stakeholder groups for more access to, and participation in, government decision-making processes, conflict is hence pre-programmed. Buchy & Race (2001) suggest that "considerable change needs to occur within institutions ... to respond to 'grassroots' aspirations" (p.305). I concur that the issue of governance and the very nature of the administrative workings of representative democracies need addressing, as they form a part of the wider context that affects the degree to which public participation can occur. This wider context, which too was recognised by Buchy & Race (2001), also includes the grip of economic rationalism on administrative mindsets, market forces per se, and globalisation at large. These forces are also present in the Australian context, and below I shall provide insights into this country's political system and environmental legislation against the background of discussions surrounding representative democracies and growing calls for community empowerment.

I have indicated in the introduction of this chapter that Australia's track record on public participation relating to environmental issues has been far from exemplary. Conacher and Conacher (2000) support this assertion, explaining that with exception of provisions for objections (mining legislation) and appeals (planning legislation) there is little scope for community involvement within Australia's natural resource legislation. Underlying this situation of limited public access is a belief in the strict separation between the country's legislators and their electorates, especially in connection with matters of economic significance. This separation is based on a negative bureaucratic and governmental attitude towards community involvement and attributable to the perception that participatory measures are too expensive, lengthy, and amateurish (Conacher & Conacher, 2000). This belief is said to have hardened at the federal level over the last 25 years as government bureaucracies were "swept by a locust strike of economic rationalism" (Pusey, 1991a, p.1) during the late 1970s and throughout the 1980s as part of Australia's public sector reforms. Seen from government departments' new economic outlook, public participation constituted a clear threat not only to the Westminster system, which is built on vertical ties, reciprocal control, and a distrustful political style (Barber, 1984), but also to the country's economic advancement, which had become the love-child of the administration. A similar critique is voiced at the state level, where development-driven governments are compared to "plebiscitary dictatorships" and their policy making described as "rigid" and "hostile to criticism" (Walker, 2002, p.282).

Overall, community input strikes as undue interference in Australia's political process, which may explain why the exercise of citizens' democratic rights is largely restricted to elections and referenda. One could even speak of a fear that active public participation would bring about anarchy and social disorder which, according to Deetz (1996), is a prototypical discourse feature of normative mindsets within administrations and governments. This perceived dislike towards, or fear of, active community involvement was also echoed by Churches (2000) in his review of WA's bureaucratic power structures, revealing a sense of anxiety that State control and authority would be undermined by the increasingly public and political nature of the State's natural resource policy debate.

Perhaps unsurprising, an anti-participatory sentiment is detectable in the recent changes to pieces of environmental legislation around Australia. After an apparent increase in public involvement measures taken by Australian state and federal governments since the rise of the public participation movement in the 1960s (Conacher & Conacher, 2000), the 1990s saw a seeming reversal in the governmental stance towards community involvement. Admittedly, in 1996 around 180 statutes regulating environmental and planning matters existed in Australia, as noted by Taberner, Brunton, and Mather (1996), all incorporating the "notions of sustainability, precaution, equity, and the desirability of public participation" (p.261). Nevertheless, states including Western Australia, New South Wales, and Victoria recently changed various parts of their environmental legislation, all effectively reducing the public's opportunity to participate and/or object (for more detail see Raff, 1995; Stein, 1998). It is therefore not surprising that recent government publications on community consultation (see for instance Carson & Gelber, 2001; Land and Water, 2001; Citizens and Civics Unit, 2002), which acknowledge the importance of sound community-government relations and community empowerment, ring true neither to the public nor to analysts and are thus

received with much cynicism in the absence of needed evidence that political decision makers have a desire to walk their talk.

The above review of the literature on public participation has enabled me to establish the context for this chapter. The analysis of the participatory nature of the Western Australian RFA below will (a) focus on participant-informed process design with a view on how RFA stakeholders define an *ideal* government process, (b) respond to the call for contextual sensitivity within government processes with focus placed on the RFA process environment, and (c) give consideration to perceived constraints in governmental decision-making processes.

### The Western Australian RFA: An Exercise in Public Participation?

"... if governments ignore the community, will not permit it to become involved, or fail to provide people with the necessary information, there is a real danger of governments creating an increasingly disaffected electorate."

(Conacher & Conacher, 2000, p.281)

A decision needed to be made whether to employ process principles for the purposes of this study in light of their previously discussed categorical and inflexible nature. Despite their restricted usefulness, benchmarks such as these nevertheless provide direction in terms of process planning as well as a general understanding of better practice (at least in terms of what *not* to do), which is why I felt that I needed some form of yardstick for the analysis of the Western Australian RFA process. As mentioned earlier, many tools exist for the planning and evaluation of participative processes and their outcomes. Out of this selection, as a measure of process appropriateness, I have chosen the process principles laid down by Tuler and Webler (1999), which are listed below. It should be clear that these principles are by no means absolute:

- Access to process
- Power to influence process and outcomes
- Structural characteristics to promote constructive interactions
- Access to information
- Facilitation of constructive personal behaviours
- Adequate analysis
- Enabling of social conditions necessary for future processes

The above principles are based on what process participants identified as being important in fairly recently completed forest policy processes in New England and New York (USA). Therefore, this seemed a suitable range of process criteria as this study also attempted to develop stakeholder-informed process principles, which in turn provided scope for comparison. As Tuler and Webler (1999) do not spell out in detail what these criteria entail and stand for, an interpretation of their criteria is listed below. Purposefully, supplementary criteria were not added to the list, nor were the existing benchmarks modified because I considered it important to maintain the integrity of the principles or, to say it differently, leave them as they were formulated by North-American stakeholders in New England and New York in hope that this would provide a more suitable basis for comparison.

<u>Access to process</u>: This criterion relates to equal opportunity for participation and receipt of information for all parties who express interest, are affected by the process or its outcomes or can contribute to a decision. This also relates to geographical accessibility of venues and meeting places and the setting of timelines.

<u>Power to influence process and outcomes</u>: This principle refers to the need for balanced power relations, meaning a process that is free from prejudice, preferential treatment, and imbalances in resource required for effective participation. It also relates to the representativeness of the process in terms of reflecting stakeholder views on process design.

Structural characteristics to promote constructive interactions and facilitation of constructive personal behaviours: Constructive interaction draws attention to the discursive nature of, and social interaction (behaviour) involved in, deliberative processes. Emphasis is placed on respect, openness, honesty, understanding, listening, and trust. In other words, the behaviour of process participants and managers is genuine, meaning that it is based on the desire to constructively work towards solutions. The term structural characteristics refers to the timing, location, and set-up of discussion fora and meetings. Both behavioural and structural characteristics define the quality of the discourse space.

<u>Access to information</u>: Information flows are bi-directional between process participants and process managers, and information is sourced from both formally recognised experts and informal experts (e.g., local people, indigenous people, amateurs). Information is used as a mechanism for mutual learning and teaching, involving active listening, and is transparent and accessible.

<u>Adequate analysis:</u> The adequacy of analysis criterion relates closely to the issue of access to information with emphasis placed on the quality of data and its analysis. Data is used for fact finding and informing the debate. Adequate analysis also relates to accountability in that decision-making is based on 'objective' data rather than on politics or vested interest.

<u>Enabling of social conditions necessary for future processes</u>: This is an outcome orientated principle which is directed at the implications for future processes based on the results of the current process. In other words, a participatory process is to create a discursive climate suitable for future planning and decision-making activities.

The data analysis below will proceed under the headings of these *better* practice principles adopted. Subsequently, attention will be directed to stakeholders' perceptions of the overall efficacy of the process and their views on ideal process criteria. This will then lead to the formulation of a set of RFA stakeholder defined better practice principles to be compared with benchmarks derived from similar studies.

At this point also a tighter definition becomes essential for the terms *stakeholder* and *public*. Stakeholders are often defined as "[a]n individual, group or organization with a stake in an issue, its outcome, and/or overall public involvement process" (Office of Consumer and Public Involvement, 2000, p.2-3) whereas the public is defined as "the general public, consumers, and communities of interest such as environmental, health and consumer groups, industry, scientific and professional associations" (p.2-2). Within a CPR framework, however, I am reluctant to distinguish between the public and stakeholders as the definitional differences between the two groups are not relevant for this analysis. Essentially, all members of the public are stakeholders in a resource that is considered common to all, although the stakes in the resource will admittedly always vary among stakeholder groups (e.g., resource dependent income etc). Nevertheless, a distinction of some sort is required. For the purpose of this thesis the term *stakeholder* includes all RFA process participants including the general public, environment groups, the government, scientists, industry, and relevant government agencies and departments.

However, while all of these groups form an overall community view I shall distinguish between that and the views of the community, a term which refers specifically to members of the general public.

#### Perceptions of the Participatory Nature of the Western Australian RFA

### Access to Process<sup>49</sup>

While most interviewees viewed the process as generally accessible, the level or quality of access proved to be contentious. There seemed to be agreement that essentially anyone - as a member of a registered organisation - could be signed up with the Stakeholder Reference Group and that individuals were free to attend public meetings (We were more than happy to include people - and - There were public meetings, they were open to anybody to attend - and - everybody gets a fair go). However, the SRG was not viewed by many stakeholders, as will also be shown later, as a decision-making body<sup>50</sup>. Also, due to its all-encompassing nature (this Mickey Mouse Committee [SRG] of everybody from the prospectors to anyone who was nominated - and - the way in which it was structured in terms of key stakeholder groups and the like, one could hardly say that it was representative) the SRG was perceived to be irrelevant to the process. This appeared to be one of the reasons why most environment groups boycotted the RFA for they were seeking admission to the Steering Committee, a move rejected by both the State and the Commonwealth government. (they formed the Steering Committee and left conservationists out of it - and - conservation groups boycotred the RFA process because they believed that they ought to have been on the Steering Committee itself).

The exclusion of environmental groups from the Steering Committee and their subsequent boycott of the RFA process as stakeholders was seen as a fundamental weakness of the process (any kind of a process ... is in deep trouble from the very start if it can't convene in such a way when not all stakeholders are actually willing to participate – and – the WA RFA had a significant and insurmountable problem from the very beginning in that some major stakeholders refused to participate).

<sup>&</sup>lt;sup>49</sup> For corresponding collage refer to Appendix III (CD-ROM).

<sup>&</sup>lt;sup>50</sup> For the terms of reference of the SRG please refer to Table 5.3 on p. 136.

Access in terms of timing, location, and advertising was rated poorly. Meetings were considered badly publicised and at too short a notice (We would get notice at the last moment – and – there was inadequate lead-time given, the publicity was not good). Also, many SRG meetings were held in Perth (while most public meetings were held in the south-west), which inconvenienced many SRG members who were living in the southern parts of the RFA area; especially, in view of meetings being postponed or cancelled at short or – at occasion – no notice (There was no real effort, even though we as stakeholders had raised in the meeting that they needed to give at least one month notice for people to be able to put it in their diaries and arrange absence from work – and – they would basically invite everyone up from the south-west for a keystakeholders meeting and then 24 hours beforehand cancel it – and – [The SRG] would have meetings without informing me that the meeting was on – and – In one case they did not even give them any notice at all).

Complaints were common about the perceived haste with which the process progressed and the rushed nature of meetings and their scheduling (meetings were called ... at too short a notice – and – things were really rushed), which raised suspicion as to why the process was hurried (People get very concerned if they are being rushed too much – and – apparent rush and pressure on to get it all over and done with then that actually constrains the process and provides or legitimises the whole argument that we don't have time to have broad-scale community consultation).

### Power to Influence Process and Outcomes<sup>51</sup>

Process managers saw RFA stakeholder input as meaningful and to have had an impact on the final RFA outcome (all issues raised were considered and discussed – and – All representations made to the Commonwealth, to the Steering Committee, to Commonwealth Ministers were considered – and – We did our best to adapt that consultation to what people were saying they wanted it to be). Exception was taken by a number of process managers to the criticisms voiced by those who chose to stay outside the process (i.e. the environmental groups and some local councils) and argued that participants' views were considered and indeed found expression in the final RFA document (People actually have got to participate – and – we have actually moved green because of those people who actually did participate in the debate). Still, some officials

<sup>&</sup>lt;sup>51</sup> For corresponding collage refer to Appendix IV (CD-ROM).

acknowledged that the sense of disempowerment felt by some stakeholder groups was something the process failed to overcome (it was too alienated from the community – and – the general feel was that they were not listened to – and – ignoring the communities' wishes).

Members of the timber industry seemed – in general – far more accepting of the structure of the process (you have to put your faith in the integrity and ability of those charged with ... [the process]. We were prepared to do that – and – We all had the opportunity, if we wanted to take it up, to fully participate in any of the modelling that was done for any reason over the course of the RFA outside the Stakeholders Reference Group), although it was acknowledged that the SRG was – from a stakeholder consultation point of view – neither a truly participatory nor decisive forum in terms of process outcome ([The Stakeholders Reference Group was] never going to be the actual place where major decisions were made – and – a government that is very much top-down).

The industry stance towards the RFA, however, changed substantially towards the end of the process when the final RFA document delivered what was perceived to be far too green a compromise, being reflective of the views of those stakeholders who did not participate within the RFA format (We ... believed ... that the outcome should have reflected more the aspirations of stakeholders that have stayed in the process - and the environment groups ... achieved all of their objectives, at least the major part of their objective at the end of the RFA in spite of the fact that they were not part of the process). This sense was further aggravated after the RFA was amended only eight weeks after the original agreement had been signed. The so-called backflip was seen in light of the political nature of the process and the perception that the government driven by the polls - bowed to the pressure applied by the metro-people and Greenies (the people up there in the city, they don't know, they don't understand it, they are just going with that green movement - and - It all came down to where all the votes were and - it's very much a top-down process with timelines that look like they seek to meet their political objectives in terms of elections rather than delivering things to people that are meaningful on the ground), seemingly oblivious to the fate and wishes of the timber communities (There is little or no opportunity for the communities affected to get an agreement to say what they want and what help they can get - and - When the

government then pulled the rug out from under that it had a huge psychological effect not just on the industry but also a lot of the communities that depend on it).

Other SRG members, local council and environmental group members in particular, also expressed a sense of disempowerment (They did not have ownership of it - and it's a terrific example of disempowerment - and - There has been no community ownership of it - and - it was very obvious that our concerns were going to be sidelined). For many the concerns seemed to relate to the issue of decision-making, being listened to, and to have an impact on the final outcome, which was not felt to be the case (It was always talk-down: You sit down, and we will tell you, and you listen and - People in the environmental movement that really did all the work were totally ignored - and - the options paper pretty much covered what CALM was on about and there was little evidence of public input - and - The public rebelled against this because they were not part of the decision making process). Further, it was believed that the RFA process was entirely controlled by the Department of Conservation and Land Management (CALM and the personalities within CALM had no intention of letting other people be involved in the process - and - community sees CALM as the people that drove that process) and therefore catering merely to industry demands and effectively ignoring the views of the environment movement and the wider community (It seemed to exclusively look at the needs of the timber industry - and - [the outcome] was totally controlled again by the timber industry).

### Structural Characteristics to Promote Constructive Interactions and Facilitation of Constructive Personal Behaviours<sup>52</sup>

The words haste, marginalisation, acrimonious debate, battle, arrogance, and distrust were used by a wide range of research participants when describing the perceived structural (and here mainly behavioural characteristics) of the RFA process. Most interviewees acknowledged a pervasive hostility in the debate, which was partly seen to be historical (No other environmental issue has caused so much conflict and divisiveness in the community as the forest issue in Australia's history), as was also shown in Chapter Three. The resulting angst and frustration was fuelled further by the way stakeholders, SRG members in particular, felt treated throughout the process ([stakeholders] were basically just being insulted by this process – and – they were

<sup>&</sup>lt;sup>52</sup> For corresponding collage refer to Appendix V (CD-ROM).

actually expecting us to sit there while we were basically [being] insulted by this pathetic process – and – [stakeholders] complained that the process was so perverted that ... [they] actually made a complaint to the Ombudsman), which meant that [people] got angrier and angrier ... as the process went on.

Perhaps most importantly, integral to the actimonious nature of the RFA process was a strong sense of distrust towards the Western Australian lead agency in the process, namely the Department of Conservation and Land Management. This distrust was (a) again historical (There was a sense of concern that CALM were going to take the foreshadowed process and do the same thing to the process like they had done to a number of other processes to do with the forests – and – there was distrust in WA about CALM's processes) but (b) also directly related to the process itself (That methodology used by CALM is what discredited the RFA – and – [process] demonstrates an incredible level of indifference towards community involvement and community participation and community concerns, and I think it would represent the absolute height of CALM's ability to not participate in the public debate – and – very, very much dominated by CALM staff – and – it was going to be another CALM process – and – the way in which some of the CALM people managed themselves in public meetings, all that served to do was to heighten the distrust).

Process managers maintained that stakeholder meetings were civilised, perhaps regimented but fair. Also, stakeholders conceded that CALM staff as well as federal representatives ... and the state representatives were very professional, but there was no trust in the process as people felt that they have been misled about things and that it was a very unfair process; and in particular, the level of distrust of CALM, whether it is warranted or not, was at such a high level that the summary was a vote of no confidence in the RFA process.

### Access to Information53

In terms of access to information RFA process managers maintained that the relevant data was made available to RFA stakeholders ([the] information that has been provided to the public, both the assessment information and all the other information is much greater than you would have in most other government processes), albeit some

<sup>&</sup>lt;sup>53</sup> For corresponding collage refer to Appendix VI (CD-ROM).

occasional delays in the publication process (Some of the data did not get out as early as we would have liked but we made a choice that it was better to get out sufficient data rather than to get out something that was really half-baked earlier).

It was not contentious, however, that data was being made available. Yet, stakeholder disquiet arose over the timing of data publication (The documentation was nowhere available until the last moment – and – When they put out the options paper only one or two people had that booklet before the meeting. Nobody had the chance to read it ), the type of information (the information that the Commonwealth officers had that might therefore be in the public domain was very, very tightly controlled as well and limited), the quality of the data (So the public as a whole and other institutions never really had an entree into the debate because of the quality of the information available to them), its sources, and how the information came together (the public did not get an opportunity to actually see how all of the information that came out of the working groups and the technical groups and the public comment on the options paper had been addressed until they were given a document, which says that is has been signed).

Among stakeholders, including industry representatives, there was a strong sense that data publication was poor not just to the general public but SRG members especially (they did some limited publicity – and – a hell of a lot more could and should have been done to make the basic workings of the RFA and its rationale known to the public – and – very stifled publication process – and – [Stakeholders] did not get proper access to information – and – the Stakeholder Group ...[did] not have ... access to all of the information).

Process management seemed satisfied with the SRG arrangements (I actually found the Stakeholder Reference Group forum was quite good because it allowed people from across the community to express their opinion and to be heard), arguing that there was a huge amount of time and effort put into talking to people and listening to people, ... not just getting there and bang, bang, ... lecturing at ... even though sometimes it may have seemed like it (emphasis added), that people got a chance to ask questions, and that the SRG format was sufficiently flexible (we said ok: you want to have a say, and you don't think we are listening, we will answer you, you can have the floor – and – we tried to ... structure the meetings in response to what the members of the Stakeholder Reference

Group wanted). In the same vein it was argued that to some people, listening to what they are saying means you do what they want and that what was demanded by those individuals was outside the policy framework we were operating in.

In contrast, many SRG members saw the structure of the process [as] closed, and the process itself as being blurred, unpublic and far from [being] transparent. There was a huge thirst of information by everyone, and consequently there was a stakeholder expectation that at stakeholder meetings would be a more open debate (The idea of course was supposed to be an exchange of information and ideas). Being very closely linked to the criterion of *power to influence the process*, communication flows were expected to be bi-directional. What was perceived, however, was that SRG meetings were more like a briefing by CALM or a lecture by CALM as to what they were doing (The meetings were more run as a briefing session rather than say a tutorial where people were exchanging information – and – they were … being told what was going to happen). People felt that they were lectured at and had no input whatsoever (It was like: You don't know what you are talking about. We have all the data. We have the answers. We have been in this business for 100 years, and we will tell what we can do and you better accept it – and – You sit down, and we will tell you, and you listen).

Stakeholder perceptions such as these seemingly underpinned the previously mentioned distrust towards CALM and also fuelled suspicion that some databases ... CALM did not make ... available in the actual process, especially in view of the agency's centrality to the process (We have got to the point where the database was CALM), and that information was kept strategically from the public based on the attitude that knowledge is power or information is power ... [and that w]e will keep it to ourselves and use it in maybe in agreed ways but it's never going to be in the public domain (we don't want a particular sort of information, we don't want good data sets on this, we don't want to know – and – There was a guiding fear that if there are good quality data and they are in the public domain then the nature of the debate would change enormously. In other words, knowledge is power and we won't share it.

Similar concerns were raised in connection with the type of data that was made available. Here, the view was seemingly taken that the published information was of limited usefulness (the material we had presented to us was very difficult for the layperson to understand because of gaps and imprecision in the materials - and - a high use of acronyms and all this jargon, inappropriate use of maps - and - very complicated formula and it was very difficult to sort out what ... really, some weeks were spent by a subcommittee trying to really understand the formula and the process), again fuelling stakeholders' anxiety levels (After a session with these people you had to say that that is not right. Straight away you got a doubt about what the other information is like).

### Adequate Analysis54

It was part of the RFA rhetoric that the process is based on science, and both federal and state governments seemed to believe that science was always going to be the critical element in terms of what [the RFA] was going to achieve. While it was accepted - in part quite cynically - (science and scientists were used to validate a political process) that many scientists were involved in the process there was controversy relating to the actual number of scientists involved and who they were working for (there were a lot of scientists involved, 490 I think – and – 500 scientists and experts ... let's have their names ... [they] came up with 220 and 89 per cent or 80 per cent of them work for CALM). Here, the centrality of CALM once again proved divisive as there was a fairly high level of distrust in the public arena about whether CALM was being totally open, was allowing its scientists to be totally open in their scientific findings (many forest biologists in WA were either employed by CALM and therefore not free to speak up or were at university and wimps and would not speak up – and – It was all done in-house). I will not go any further on this point as the scientific nature of the RFA process will be addressed in depth in Chapter Six.

The interview data attests to considerable public uncertainty and doubt relating to the quality of scientific work undertaken for the CRAs that formed the basis for the RFA negotiations as there was a perception that figures [were] fudged and massaged, that some of the data was being chopped to pieces, that the database [was] fundamentally flawed; all amounting to the view that there was ... some incredibly shonky science (there are not too many scientists who will say best science. They will say RFA science very disparagingly). It is interesting to note that timber industry representatives, while less concerned with the rigour of the ecological studies, expressed concern about the social and economic assessment work that formed part of the CRA process (some of

<sup>&</sup>lt;sup>54</sup> For corresponding collage refer to Appendix VII (CD-ROM).

the social assessment stuff I thought was fairly ordinary – and – no criteria were ever developed for the social and economic outcomes of the RFA – and – but I had some doubts about some of the social assessment work). Overall, industry representatives believed that a scientifically based assessment of the forest ... would be [a] great strength of the RFA, especially in terms of bringing about broad acceptance [of the outcomes] by the community.

Some members of the scientific community expressed concerns regarding the scope and timelines given for the assessment work (Not enough time was given and there was no attempt to initially have a good look and decide what needed to be done - and - there was no scope to go and acquire additional data which I think was fundamentally required - and - the time aspect was utterly inadequate), the review process (there was no editorial involvement, which is usually in a peer review process - and - it was a higgledy-piggledy mess in terms of process, about how these reports were going to be dealt with, how they were going to be reviewed, how they were going to be assessed and handled - and - review process was fairly minimal), and the quality of the data sets used for the CRA process (conclusions are extremely suspect in the sense that they are based on inadequate data - and - it was relying on data that had been collected for other purposes - and - not adequate at all - and - there was no real effort made to ensure that the outcomes from any scientific process, especially those processes that were done outside of CALM, were the best available).

While there was agreement that the resourcing of the scientific work was adequate (the funding was adequate – and – resourcing that was provided was reasonable) and an acknowledgement of some good CRA work by process participants (The vegetation mapping was good – and – there was some good stuff [science] in the WA RFA – and – I was reasonably happy with the rigour) a considerable number of process participants reached the conclusion that the involvement of the scientific community was an absolute farce, that at the end the scientific side was lost, and that this RFA process has not been about science. Comments by members of the timber industry were not so much directed at science per se but rather at its bearing on the final outcomes of the RFA, which many industry representatives perceived to have been all about stopping to cut down trees.

RFA process management countered the above assertions, stating categorically that the RFA was a scientific process and that the Comprehensive Regional Assessment in WA ...was a very sound process. However, time constraints were acknowledged (there are obvious limitations to what can be done within the timeframe). It was argued that the majority of those [CRA] reports were actually peer-reviewed, that scientific data was being examined by Commonwealth and State governments before it was going to the Steering Committee, and there was certainly quite a lot effort that went into checking data. Assurances were given that the assessment work was done in a very scientific manner, and it was emphasised that the vegetation mapping in WA was probably the best vegetation mapping anywhere and that that would have certainly fed into the process in terms of designing the reserve system. Overall, the science of the WA RFA was said to have put Western Australia in a very strong position in terms of protection of ... biodiversity in the future. However, there was an admission that the science might have been lost in the debate, but it was stressed that it [was] there, that it [was] underlying.

### Enabling of Social Conditions Necessary for Future Processes<sup>55</sup>

The stakeholders' verdict on the efficacy of the RFA, as it relates to the enabling of future processes, was overwhelmingly negative, which probably ought to be seen in light of the fact that no single group of process participants seemed satisfied with the (amended) RFA outcomes. Still, some members of the scientific community saw the RFA as a stepping stone for future processes (we will have the capacity to improve, to identify further weaknesses and improve on those areas as we go – and – All sorts of defects and things to be learned out of the process were an improvement of what existed). Others expressed confusion about the RFA outcome (The question that is still out there is which RFA do we have. The one that's signed off on or the one the State government has actually adopted. No one really knows clearly).

Local council members expressed concerns about the local impacts of the RFA (The RFA has done a lot of damage down here, huge), and expressed considerable cynicism about future processes (There are bigger issues than the RFA. The RFA is only one little thing down here, and we can't get that right. So what hope have we got on trying to get the others right?). Other SRG members stated that the RFA had created uncertainties and emphasised that the emotional and the community cost ... [was]

<sup>&</sup>lt;sup>55</sup> For corresponding collage refer to Appendix VIII (CD-ROM).

enormous. Cynicism towards, and frustration with, the RFA process were expressed (In terms of an outcome I think the outcome is entirely unsatisfactory. [But] in terms of what one might expect to come out of a Coalition Government in WA, the outcome is not all bad), and it was made clear that if someone in future was to bother with consultation and spend taxpayers' money on it, then they should state exactly what it is stakeholders are going to be able to do and let them do it (otherwise don't bother).

Many timber industry members thought that [the] process ... was not required and a waste of time, that it's messed up the normal state's processes of decision making, did not take account of the human cost involved (People don't matter in all of this – and – One of the real losers out of this whole process is people – and – we were screwed), only had the effect of bringing the whole forest stuff on to the boil, and fuelled anxiety as to what might happen in future processes (any certainty has been shattered, and there is always that expectation that perhaps [the government] will be pressured further to do something). In particular, following the amendments to the RFA, timber industry stakeholders thought that the RFA led to a lesser understanding of forest management amongst the ordinary troops and represented a case of political expediency in its worst form and another nail in the coffin of ... democracy.

Generally, conservation groups seemed equally disenchanted with the process, viewing it as a waste of taxpayers' money (tragedy – and – 10 million down the drain). Their responses also hinted at a bleak future for processes to come with all these barriers with lack of trust, lack of engagement, and all those layers of disillusionment in the community (The next time a massive government process comes up, people will look back at the RFA and say: ah, don't go near it).

While voices within both the State and the Federal Government as well as their respective departments suggested that the RFA will be of value for the next 20 years and that the RFA process was overall successful (it's been a very successful process), there is also admission that the RFA failed to be accepted by a substantial segment of the community and, therefore, does not get credit for [its achievements] because it was too alienated from the community and failed to overcome a level of distrust already in the environment. Again others went as far as to call the WA RFA a failure for it was meant to create stability, which in their view it did not achieve. It was also felt that the

processes that the government undertook, specifically in relation to consultation, exacerbated the existing conflict ideologically rather than created an environment in which there could be a more constructive dialogue between the two endpoints.

# Discussion<sup>56</sup>

The data presented above revealed a fairly dichotomous discourse environment with RFA stakeholders by and large demonising the process (the process was so perverted or [we were] massaged into believing that what the RFA was offering was the very best outcome) and both governments with their respective departments defending the process to have been appropriate (huge amount of public consultation – and – We did our best to adapt that consultation to what people were saying they wanted it to be).<sup>57</sup> This stereotypical us-and-them situation is depicted in Table 5.1, which divides the discourse community essentially into two groups; one (process managers – good process) who held the view that justice was done to the process they designed (we tried to … structure the meetings in response to what the members of the Stakeholder Reference Group wanted) and another (process participants – bad process) which considered the process to have been insufficiently inclusive (there was little evidence of public input).

What is important to note here is that the data analysis produced merely four pages of raw data<sup>58</sup> supporting the participatory nature of the process in contrast to more than 10 pages of adverse data despite a balanced selection of participants across the five categories and a common interview methodology. Furthermore, as illustrated in the previous sections, the RFA was rated poorly by stakeholders in light of Tuler and Webler's (1999) process criteria. Stakeholders generally felt poorly informed throughout the process, not listened to, marginalised, and excluded from the actual decision-making, and overall a lack of ownership. For all of the six criteria considered the earlier stated us-and-them constellation dominated, which may mean that the WA RFA failed to meet the benchmark set by these process principles. But can a public process be considered a

<sup>&</sup>lt;sup>56</sup> For corresponding collage refer to Appendix IX (CD-ROM).

<sup>&</sup>lt;sup>57</sup> The issue of dissenting views within governmental and departmental ranks will be addressed in Chapter Seven.

<sup>&</sup>lt;sup>58</sup> Raw data refers to the *node lookup* search results within QSR NVivo, which comprised interviewee responses within a particular code category.

failure on grounds of insufficient participation alone? In other words, does the perceived violation of the six process principles equate to process failure, let alone flawed process outcomes? The grievances listed above in relation to the process certainly may have contributed to the rejection of the RFA outcomes. Yet again, does such a rejection constitute failure? An answer to that question I consider premature for I believe that this notion of stakeholder/public rejection of the process and its outcomes needs to be contextualised further.

Process Management "Good Process"	Process Participants "Bad Process"		
regimented but fair everybody gets a fair go very high level of public involvement	[people] did not have ownership of it inappropriate use of the stakeholders		
we were more than happy to include people	the incompetence was spectacular they had not been allowing interaction between the		
[the] information that has been provided to the public, both the assessment information and all the	people		
other information is much greater than you would have in most other government processes.	very much a top-down process		
there was a huge amount of public consultation	there was no sharing of knowledge within the broader community a real feeling that they were not being listened to		
allowed people from across the community to express their opinion and to be heard	no genuine attempt to aim at conflict resolution		
strong participatory role played by that local community What we wanted to do was for them to have ownership people got a chance to ask questions we listened to the people	reporting was flawed public never really had an entree into the debate it was a waste of our time to even try and participate it was not a participatory process not a transparent process		

Table 5.1 Discourse	Group	Mapping	on th	ne Issue	of Participation"
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Commonwealth officials recognised that Western Australia presented a different case compared to other RFA regions (the polarisation was so great, and WA was the most particularly polarised – and – the difference with WA perhaps ... the difference is more with the community than with the RFA itself), implying that the other stuff I was alluding to earlier is likely to have played a significant role throughout the WA RFA process. I am referring to the mood, the emotional context, of the RFA debate, the issues that were underlying RFA stakeholder deliberations. What I found in this context to be a common thread throughout the interview data was the issue of trust, or lack of

<sup>&</sup>lt;sup>59</sup> For corresponding collage refer to Appendix X (CD-ROM).

it, which for its seeming centrality to the RFA process and its dynamics I would like to expand on here.

# The Issue of Trust in the Western Australian RFA Context<sup>60</sup>

The RFA attests to the fact that trust is decisive in political processes for it frames perceptions, communication, and actions. Giddens (1991) informs us that basic trust is needed in day-to-day life and needs to be earned by the person to be trusted. Active trust, in contrast, "has to be actively produced and negotiated" (Giddens, 1994, p.93) and is essential in public affairs and processes such as the RFA. Active trust (social becoming of trust) is seen to develop from a background level of trust culture, which is dependent on a structural context (such as transparency of governance and governmental processes) and so-called agential endowment (social moods and collective capital) (Sztompka, 1999; cited in Marks & Zadoroznyj, 2002). Thus, trust is evolutionary and requires time and process, and trust culture can therefore be positive or negative depending on inherited experience. It follows that positive past experiences with government processes (e.g., competence, unbiased, due process, caring (see Kasperson, 1986)) are likely to aid the social and political acceptance of current/future government processes and their outcomes, and vice versa. It therefore seems reasonable to suggest that trust is not only integral to, but also requisite for, public processes.

Distrust towards the RFA process and the people running it was identified by many RFA stakeholders, as shown earlier, as the key obstacle to public acceptance of the process. In reference to stakeholder responses I consider this innate sense of distrust to be based on three inter-related source problems: (a) the history of the forest conflict, (b) the perceptions of, or real, unpublic forest management practices of the State's Department of Conservation and Land Management, and (c) the primacy given to economic imperatives over social and ecological concerns. All three issues were shown (also see examples below) to be central in the evolution of the conflict over forests in Chapter Three and are underpinned here by the interview data.

<sup>&</sup>lt;sup>60</sup> For corresponding collage refer to Appendix XI (CD-ROM).

## History:

- RFA has a long tortured history
- The conflict here is huge. It permeates all levels of society, and it goes across industrial and social linkages and so on. The conflict is a great encumbrance to social and business dealings.
- That acrimonious debate has included public attacks on scientists, who have expressed opinions on forest management. This goes back over 20 years.
- No other environmental issue has caused so much conflict and divisiveness in the community as the forest issue in Australia's history.

## Forest Management and Public Image of CALM:

- There is a strong history of polarisation between conservation groups and CALM in WA.
- There was a sense of concern that CALM were going to take the foreshadowed process and do the same thing to the process like they had done to a number of other processes to do with the forests and that was to dominate the government process in such a way that other scientists, other people that want to be involved, the public at large, and so on, and certainly the conservation movement, were excluded from participating. So there was a sense that this would occur.
- Most state forest management agencies are not trusted by the community, but WA's had the worst community relations, if you like, of any state in Australia.

## **Economic Constraints:**

- We have got a resource the government has an interest in and some may say has a biased interest in as long as we have a resource that motivates the industry in the manner in which it does and that industry and government are perceived to have an unhealthy relationship, we are going to have problems.
- · Freeing up the industrialisation of the forests
- There was just a feeling that it was just favouring the timber industry

As to the history of the forest conflict, the length and intensity of the debate gives an indication of how great the need was to resolve the forest problematique. As described in Chapter Three, the introduction of woodchipping and bauxite mining in WA in the mid-1970s led to vast tracts of forested land to be logged, which periodically sparked vocal community protests and raised concerns about sustainable forest management and

the long-term integrity of the State's south-western forests. These concerns continued to be fuelled throughout the 1980s and 1990s and subsequently could not be alleviated during the RFA process through a seemingly expert-driven and rational science approach (I think there was a reasonable amount of scepticism around that science could provide us with an answer to the forest issue). On the contrary, the lack of scientific agreement prior to, and during, the WA RFA (there has been a long history of acrimonious dispute and debate in the scientific community) and voiced allegations of political abuse of science indeed heightened community concerns and lessened public trust in the process (science and scientists were used to validate a political process – and – involvement of the scientific community was an absolute farce).

As to the Department of Conservation and Land Management, it had been the centre of a hostile debate since its inception in 1985. The department was accused of a conflict of interest for it was in charge of both forest conservation and forest production, being revenue dependent on timber royalties (there was perceived to be a conflict of interest within CALM). In addition, the department's forest management practices<sup>61</sup> (e.g., there was a forest management approach then adopted by CALM which was aimed not only at taking the forest which grew but actually promoting the rate of growth of forests ... chopping it up at a faster rate), its public relations (e.g., we are the professionals, we won't share it), and perceived philosophical position (e.g., we are the professionals, we know what we are doing) were criticised by members of the public, conservationists, and scientists. Against this background strong opposition at the onset of the WA RFA towards CALM's appointment as lead agency in the process does not come as a surprise.

Just to recapitulate on the nature of this opposition, below is a list of some of the issues over which controversy arose throughout the RFA process in relation to CALM:

 CALM's leading role at the Steering Committee level: (CALM was absolutely and completely in control of the process – and – CALM definitely dominated the process there is no doubt about that)

<sup>&</sup>lt;sup>61</sup> E.g., sustainable cut, old growth logging, water catchment management.

- CALM being responsible for the exclusion of conservationists from the Steering Committee: (it was pretty clear that our representation on the Steering Committee was vetoed by the WA State government, acting ... on the advice from CALM)
- CALM seemingly controlling the publication of data: (CALM has a number of databases that were not made available to us - and - CALM had appeared to want to retain information to itself, not make it publicly available)
- CALM being the guardian of most of the State's data on forests: (We have got to the point where the database was CALM)
- CALM providing most of scientific expertise during the process: (the Herbarium and CALM itself received a lion's share in terms of the funding and they also were the lion's share in terms of involvement of scientists and It was all done in-house)
- CALM's perceived anti-cooperative and anti-conservation philosophy: (The very confident, the very dismissive nature of CALM made it very obvious that we were not going to be listened to in any genuine way – and – CALM had no intention of letting other people be involved – and – [CALM] have not really been prepared to share power with the community to have genuine participation)
- CALM being responsible for data misrepresentation: (scientific criteria that were supposed to have been used to develop the definity of the reserve system for the forest were completely wroughted and misapplied and [CALM] were trying to force the assumption that this data was adequate and figures are fudged and massaged)

In light of the public perceptions outlined above it becomes apparent that the department's public image was tainted (there was distrust in WA about CALM's processes), and indeed it is quite remarkable for a forest department such as CALM to have become a symbol of closed management and forest exploitation. It is remarkable for it seems ironic in that it was the country's forest departments at the turn of last century that were at the forefront of forest protection.

The aforementioned is not to suggest in any way that criticisms directed at the Department of Conservation and Land Management are true and correct. In fact, this is somewhat immaterial for it is simply the existence of such perceptions that casts doubt over the acceptability of the process, especially since many stakeholders saw their fears confirmed throughout the process (the way in which some of the CALM people

managed themselves in public meetings, all that served to do was to heighten the distrust).

It is important to acknowledge here that the department has since been restructured into two discrete departments, one responsible for nature conservation and the other for commercial forest production accountable to separate Ministers (see 2002). Also, senior CALM management has since acknowledged that the organisation was out of step with the community during that whole RFA process. This does not validate the stakeholder sentiments captured above but it adds weight to the basic argument that the department's public relations were on perpetual collision course with the public. More importantly, the recent changes to the structure of CALM may instil some hope that lessons have been learned from the RFA process.

What I hope to have demonstrated here is that the issue of distrust towards a key player in the RFA process has been decisive in terms of process acceptability. The philosophical trenches between CALM and process participants were seemingly deep, and to some extent the RFA process actually deepened them, which was shown earlier in connection with the RFA's impact on future government processes. The question remains whether under the given RFA format the perceived trust issues could have effectively been dealt with in a more meaningful way. Certainly, more positive steps could have been taken towards the establishment of trust, but due to the existence of this more or less historic and well-entrenched culture of distrust, which was seemingly mutual, it could be argued that no matter how participative the process design might have been, the outcome was likely to be similar. This is because trust is the outcome of a constructive process of trust establishment, which did not occur prior to the commencement of the RFA (see Chapter Three). Also, trust establishment is a process which requires time, a commodity the RFA process officially did not have much of. All in all, it can be seen clearly that without the establishment, or the existence, of trust process acceptance is difficult to obtain. Yet, as made clear by a senior ministerial advisor, policies are only as good as [their level of] acceptance, which suggests that process acceptance is an important dimension of enduring and meaningful environmental policy-making.

## General Observations62

Commenting more generally on the consultative nature of the process, the Western Australian RFA delivered, with a few exceptions, what was foreshadowed in the National Forest Policy Statement (Commonwealth of Australia, 1992a) and the WA Scoping Agreement (Commonwealth of Australia and Government of Western Australia, 1996b), both envisaging a process of community involvement based on consultation and communication. As pointed out earlier on, this appears to be common government practice, a point attested to by a senior civil servant: ... consultation ... that could be just simply putting out a report to the public and receiving written submissions. I mean that's the minimum that would be required to meet the public consultation guidelines or the term public consultation. Thus, it seems only consistent that stakeholder input was restricted to a Stakeholder Reference Group, public meetings, and public comments on the options paper. In short, active stakeholder participation would have gone far beyond the prescribed scope of the RFA process and standard government procedure.

Here, the question arises whether the decision to consult as opposed to enable active participation was adequate (prudent) given (a) the widespread acknowledgement of the generally tokenistic (Arnstein, 1969) nature of consultation processes, (b) the proven benefits of co-operative and participatory processes (e.g. Renn, 1992; Laird, 1993; Webler, 1995; Moore, 1996), and (c) the stakes in, and the context of, the (Western) Australian forest debate. The RFA was certainly aiming high. As mentioned in Chapter Three, the Commonwealth powers regulating woodchip export licenses were to be transferred to the States, and ecologically sustainable forest management and resource security for the timber industry were meant to be achieved on the ground while CAR world-class reserve systems were supposed to be established. These measures were intended to put to rest an annually recurring political nightmare and settle a nation-wide conflict that had been going on for more than 25 years (with particular intensity in WA). Hence, stakeholders might have justifiably been hoping to play a more active role during the WA RFA. This point also relates to the issue of stakeholder expectations, as raised in Chapter Four, where the various stakeholders were shown to have interpreted the National Forest Policy Statement and the outlined aims of the proposed RFA process quite differently.

<sup>62</sup> For corresponding collage refer to Appendix IX (CD-ROM).

Differences between expectations on the process and process reality were also recognised by SRG members. SRG members were provided with quite specific terms of reference of the [group] (see Table 5.3), and SRG members might have therefore been justified in thinking that [they] would have input.

#### Table 5.3 Stakeholder Reference Group Terms of Reference

The SRG will provide advice to the Steering Committee in its discussions and decisions on management of the RFA process. In undertaking this function, the SRG will:

- provide consolidated advice to the Steering Committee on issues relating to the strategic management of the Comprehensive Regional Assessment (CRA)/RFA process in the southwest forested region of Western Australia (WA).
- provide the Steering Committee with a regular brief on stakeholder interests, issues, and concerns.
- provide comments on items listed for discussion on the Steering Committee's agenda, in particular any agenda papers circulated.
- provide a forum for discussing and coordinating a response to key decision papers produced as part of the CRA process.
- provide a forum for participating in the process of developing RFA options for Government's consideration.
- seek information, advice and clarification of key issues from the Steering Committee.
- provide a forum through which stakeholders' input on key assessment projects can be provided directly to the Steering Committee.
- provide a conduit through which information about progress in the CRA process can be regularly provided to stakeholders.
- assist the Steering Committee to design and implement effective mechanisms for seeking
  public input, including by preparing contributions to the newsletter, providing advice on
  potential participants in technical workshops.

The terms of reference referred to here were distributed at the onset of the RFA process, spelling out the role and function of the SRG. In particular, the terms stipulate a close working relationship between the SRG and the Steering Committee and an intimate involvement of the SRG with the RFA process. However, SRG members' perceptions of the character of their involvement in the RFA do not match their role as envisaged by the SRG's terms of reference. This is because a far greater participative role was being promised and expected than was perceived to have been allowed for by

process management. The perceived failure to deliver on the terms of reference and to meet SRG members' expectations serves as an explanation for the expressions of anger and frustration by SRG members with the RFA process.

At this point it seems appropriate also to look at the issue of success and failure, which I was previously reluctant to comment on. My reluctance was based on the perceived need to address the underlying issues first that shaped the dynamics of the RFA process. I am still hesitant to comment on the overall effectiveness of the RFA process as further aspects of the process still ought to be considered, and certainly more questions about outcomes, time, etc. would need to enter the equation. Yet, I would like to draw the following conclusions relating to the issue of public participation.

Buchy et al. (1999) assert that "it is impossible to answer categorically whether participation is successful or not as this judgement depends on the definition of 'success' and is very much linked to the purpose of participation in the first place" (p.16). The point here is that the WA RFA was seemingly lacking precisely that definitional clarity. Based on observations made previously relating to stakeholders' expectations on the process (see Chapter Four) and stakeholders' perceptions of the their process reality it stands to reason that the WA RFA was lacking what Moore (1996) calls a shared understanding of success and that the evaluation of success was not negotiated between process managers and stakeholders. The SRG example above may attest to this point or, indeed, represent a breach of agreed terms by process managers. Either way, it appears that RFA process management saw an instrumental role for process participants while RFA stakeholders seemed to aspire to play an integral part in what they perceived to be a transformative process, meaning an avenue to accomplish their particular ends (based on Moore, 1996) founded on what they thought the process would deliver. Such transformative powers, however, were vested with process managers and political decision makers. In that regard one can speak of process failure as process success per se was not only poorly defined, but also the definition of success neither shared nor sufficiently communicated which is exemplified by statements such as: the majority of the public wanted something significantly different to that set out by the RFAs to achieve. This indicates that the objectives of the RFA against which its success can be measured were not widely understood or shared. The RFA process mirrored these misperceptions, and, when seen in this light, only served to aggravate

already existing tensions between process management and the various stakeholder groups, which this chapter has amply documented.

The notion of failure also raises questions as to how the WA RFA process could have been improved or more generally what an ideal process would have looked like. In what follows, I shall describe what RFA stakeholders considered to be the ingredients of an ideal government process.

## Stakeholder Perceptions of an Ideal Process<sup>63</sup>

Research participants were asked to elaborate on their perceptions of an ideal government process based on both their WA RFA experience and experiences with past government processes. From the stakeholder responses seven process principles emerged which are listed below. These benchmarks can been seen as aspirational principles for participatory processes but neither as absolute nor as representative of a social consensus.

## Involvement of All Stakeholders

- o All stakeholders involved
- o All people with a finger in the pie should come together
- o You have got to have everyone involved on the ground level
- o Participation of all the stakeholders
- o All stakeholders come together
- o All have to be involved at the ground level
- You don't kick off a process until you got the right people sitting around the table
- o [Eliminate] stakeholder dominance

# Trust and Relationship Building

- o Believable, acceptable, and tell the truth
- o Active attempt to build consensus
- o Establish basis of truth and confidence
- o Genuine desire to resolve the conflict
- o Gain public trust
- o Genuine, transparent, credible, participatory process
- Stakeholder Input Into Problem Specification and Decision-Making
  - Community participates in defining the problem and setting the goals

<sup>63</sup> For corresponding collage refer to Appendix XII (CD-ROM).

- Restructure the decision making process so that key groups are involved at the steering level
- o Helping communities design their long-term future together
- o Community determines what the problem is and sets the goals
- If an asset is owned by the community, then its disposal should be dependent on community support
- Equal Access to Information
  - o All information on the table
  - o Equal access to information
  - o Information and everything should be made available, everything
  - o Level playing field
  - o Data are made totally and fully available
  - o Level playing field
- Scientific Integrity
  - o True database
  - o Diversity of scientific opinion
  - Data are gathered by people that can be trusted
  - o Make decisions on merit
  - Ask for scientific input to phrase a research question in the first place
  - o Involving the science community more directly and explicitly
  - o Acknowledge the existence of all the relevant [views]
  - o Clearly independent environmental authority
- Independent Process Facilitation
  - o Independent facilitators
  - o Genuinely independent facilitator
  - o Get independent facilitators
  - People who run this have to be independent people who can be trusted
  - o Completely independent, highly professional facilitator

#### Unconstrained, Open Process

- You are not going to get the best environmental outcomes if you are worrying about the economic bottom line first-up
- o Willingness to change
- o Slow process
- o Genuinely open
- o Better to have done it over a longer period
- o Balance of proof should shift from conservationists to developers
- o Not being rushed

In expounding these categories, *trust and relationship building* refers to stakeholder participation in good faith and gives expression to the desire for honest and genuine stakeholder interactions. *Scientific integrity* implies a desire for scientific independence, allowing for the inclusion of a plurality of scientific viewpoints and the enabling of decision-making processes based on the merit of scientific arguments. Finally, *unconstrained, open process* suggests that process design and outcomes should not be predetermined or externally controlled, allowing for the possibility of transformational change. The term *unconstrained* also includes the timeframe of processes, suggesting that they should not be unduly restricted by time.

It is important to note that no hard lines can be drawn between these principles. The lines are fluid for all principles are interrelated and mutually affecting one another. Consequently, the order in which these principles are presented does not imply a hierarchy or signify degrees of importance. Furthermore, all seven principles are contextual and need to be seen as experiential products. They are an amalgam of (a) stakeholders' expectations on the process, (b) their perceived RFA process reality, and (c) other related past experiences. In WA there has been a legacy of community disquiet about, and resulting cynicism towards, public processes, especially as it relates to forestry. In turn, this perhaps meant that participants were anxious, probably also because of the nationally unprecedented format of the RFA and accompanying rhetoric, to play a meaningful role in a process that was to determine the nature of forest management and conservation for the next 20 years. Conservation groups, for instance, particularly stressed the importance of having access to information and independent process management, representing two of their major grievances with the RFA process and also being reflective of their experiences had in dealings with CALM in the past. In contrast, SRG members emphasised the issue of credibility and honesty, relating back to their terms of reference and their desire to be taken seriously in the process. Members of the government group predominantly raised issues relating to process acceptance, attaching importance to credibility, trust, and consensus building, which is something process management arguably failed to attain.

Scientists held strong views in relation to the dominance of individual process stakeholders and stressed the desirability of involving plural perspectives in decisionmaking processes (the reasons for this will become more evident in Chapter Six). Members of the timber industry were primarily focused on the issue of balance, stressing that their concerns should have received treatment equal to those raised by conservationists (There would need to be a commitment by the government to social and economic outcomes as well as conservation outcomes – and – There would need to be resources applied that were equal; people, personnel, studies ere, that were equal to the amount of resources that went into the assessment of environmental needs). Although these recommendations were not included in the selection of statements underpinning the above process principles, they are reflected in, or implied by, expressions such as level playing field and the categories *involvement of all stakeholders, equal access to information*, and *unconstrained, open process*, which suggest the equal treatment of all participating stakeholders.

Common to the responses from industry members, scientists, SRG members, and conservation groups was the focus on what Moore (1996) calls interest-oriented success. This is a two-dimensional measure of success, which, in terms of process, looks at the involvement of interest groups and, in terms of outcome, at the protection of segmental interests. This means that all interested parties should not only actively participate in the process but also have their interests acknowledged and protected (at least partially). The responses from the members of these four groups suggest that their interests/views were poorly reflected in the process and/or the final process outcomes. The views expressed by RFA stakeholders are case-specific for they are - albeit influenced by past experiences - related to experiences had during the RFA process. In other words, the process principles derived in this study need to be understood as a product of the WA RFA. Thus the question arises as to how emblematic RFA stakeholder experiences are of those had by stakeholders in other natural resource conflicts. To answer this question I would like to direct attention to a selection of better practice process principles derived from other studies, hoping to get an indication of how comparable stakeholder experiences might be.

Table 5.3 allows for the comparison between the RFA stakeholder-defined process principles and those determined by stakeholders in the studies of Tuler and Webler (1999) and McCool and Guthrie (2001) whose work focuses on stakeholder perceptions of participatory processes in natural resource conflicts. What becomes apparent in this comparison is that the results from similar research in the field are broadly mirrored by the data derived from this study, as one can identify considerable overlap in terms of

what stakeholders saw as the foundations of good, ideal or successful public processes.<sup>64</sup> For instance, there is considerable overlap between the process principles relating to process accessibility by stakeholders, relationship building, and the accessibility of information. This may suggest that a violation of these process principles could be common in natural resource conflicts and that stakeholder experiences generally had in resource conflict situations may be quite similar and comparable.

RFA Stakeholder Defined Process Principles	Categories of Normative Principles (adopted from Tuler & Webler, 1999, p.442)	Process Dimensions of Successful Participation in Messy Natural Resource Situations (adopted from McCool & Guthrie, 2001, p.314)
Involvement of all stakeholders	Access to process	Interest representation
Stakeholder input into problem specification and decision-making	Power to influence process and outcomes	Responsibility
Trust and relationship building	Structural characteristics to promote constructive interactions	Relationship building
Equal access to information	Access to information	Learning
Scientific integrity	Adequate analysis	
Independent process facilitation	Facilitation of constructive personal behaviours	
Unconstrained, open process	Enabling of social conditions necessary for future processes	

**Table 5.3: Comparison of Stakeholder-Defined Process Principles** 

Participatory processes are processes of collective learning based on the collective construction and dissemination of knowledge, and the process principles derived from this and other studies may therefore be seen as safeguards for this learning, construction, and dissemination of knowledge to occur. Strict adherence to any better practice guidelines may not guarantee success (Syme, 1992; Buchy & Race, 2001). This is because processes themselves are interpretive and fluid but not absolute, which means that a belief in the absoluteness of better practice principles would be misguided. Yet, failure to structure government processes around guidelines such as these is likely to increase the chance of process/outcome rejection. Selective compliance with guidelines

<sup>&</sup>lt;sup>64</sup> The stakeholder-defined principles derived from this study also share similarities with research undertaken by Creighton et al. (1983), Fischer (1985), Renn (1992), Forester (1993) Fiorino (1990), and the National Research Council (1996).

by process managers is equally likely to yield counterproductive results due to the interrelated nature of such guidelines. In that sense, the violation of one principle may constitute a breach of other, in some cases all, principles, again increasing the likelihood of process rejection by participants.

For example, WA RFA stakeholder responses indicate that an ostensibly closed process was adopted by process management, which arguably due to exclusion led to narrow and incomplete problem specifications, prevented access to information, compromised the scientific credibility of the process (this issue will be expanded on further in Chapter Six), and restricted access to the decision-making process. This meant that the process was not trusted by a large number of process stakeholders whose trust, because of the history-laden nature of the conflict and the resulting uncertainties and anxieties, was crucial to obtain. Consequently, the process ignored negative public feedback and delivered an outcome that missed the mark of social and political acceptability.

The literature cited at the beginning of this chapter is congested with examples of process failure. Government processes fail for a number of reasons, and their failure is usually the result of structural, procedural or systemic constraints at work inside and outside those processes. Arguably, this is why RFA stakeholders expressed a desire for government processes to be unrestricted and free from constraints. Then again, it can be argued that this is an ideal rather than a realistic expectation as the existence of process constraints is a political and economic reality and as put by one scientist of the RFA part of the human condition. Nevertheless, it is valid to examine the legitimacy of certain constraints placed on government processes, and it is this issue that I would like to turn to in the remainder of this chapter.

# Process Constraints<sup>65</sup>

One constraint commonly cited in connection with government processes is time (see for instance Buchy et al., 1999), and it was time that was considered by RFA stakeholders to have been an impediment to the overall process. Time constraints exist as processes cannot last forever, and often neither politicians nor society have the time or the energy to wait for processes to come to a natural end. In fact, long drawn-out

<sup>65</sup> For corresponding collage refer to Appendix XIII (CD-ROM).

processes can be counterproductive (Buchy et al., 1999). Nonetheless, time constraints ought not to be used to justify unnecessary haste and pressure as was perceived to be the case during the WA RFA. Here, not only the timeframe for the RFA, which initially was only meant to be one year (e.g., It was meant to be basically done in a year from 1996 to 1997), was considered inadequate (e.g., It was never planned for the whole process to take three years ... but in the end it did. They kept setting stupid deadlines that they could not meet because they wanted to get it off their agenda) but also the amount of time allocated for the conducting of the CRA projects for the WA RFA was contentious (e.g., all of this time we were being told hurry, hurry, hurry - and - [our work] had to be done quickly because that was the dictate - and - That was a huge problem with the RFA in that unrealistic time lines were set for most of the research projects and then the research projects, the reports would sit and gather dust for nine or twelve month; and there was no need for a rush at al). Generally, one would expect a government process supposedly based on science - science, as will be shown in Chapter Six, was considered to be the backbone of the WA RFA - to allow for the time required by science to follow its processes in order not to compromise the basis of the process. It could be countered that if you have a policy process which is entirely science driven, [this] means that you never ever get a solution because you will be waiting forever for the answer because there is always something else that needs to be done. Certainly, society cannot wait for unambiguous answers to be produced by science before any political action can be taken. In any case, it is questionable whether science is in a position to deliver that degree of certainty. However, credible government processes can only rely on a science that is itself credible, and thus the political process would need to accommodate a scientific process to an extent that any doubts about the integrity of the scientific process can be removed. These and other aspects relating to science and the science of the WA RFA will be explored in more detail in Chapter Six.

The second constraint I wish to consider here is that of ecologically sustainable development. This issue arises, somewhat paradoxically, for some research participants suggested that environmental policy processes should operate under sustainability principles (I think the first thing would be to focus on ecological sustainability and make that the clear outcome), implying that sustainability maxims should be employed as an umbrella constraint for political decision-making processes.

Of particular interest in this context is a statement made by a Western Australian parliamentarian, who commented on a hypothetical roundtable discussion on the issue of old growth forest logging:

> At the end of the day, government would ... have to make a political decision about whether or not they accept what came through that roundtable, and my personal view is that if what came from that roundtable was not to stop logging in old growth forests, then government should override it to say: you had your say, you had your input but we are going to stop logging in old growth forest.

Leaving aside the ecological and ethical arguments for or against the logging of old growth forests, the question here is whether it is legitimate for governments, assuming good faith, to intervene and to override widely supported decisions made on resource use and management so as to uphold sustainability principles. Also, how suitable a policy guide are sustainability principles?

For sustainability to be a workable umbrella constraint the concept would need to be defined in detail and decision rules would need to be established to provide needed guidance in situations of uncertainty. If consensus could be reached on the issue of an ESD-constraint for public processes, the decision for its application would then be consistent with notions of democratic decision making. Yet, it would be problematic could such a consensus not be attained. When considering the progress made internationally towards ESD since the Earth Summit a decade ago, one might conclude that indeed a consensus has not yet been reached (see for instance Lafferty & Meadowcroft, 2000; O'Riordan & Stoll-Kleemann, 2002b). This was exemplified also by recent events at the last World Summit in Johannesburg in 2002, which did not bring about international agreement on the direction sustainable development should take globally (greenhouse gas emissions featuring prominently in the debate).

The literature on sustainability attests to the fact that the definitional aspects surrounding the concept are proving difficult (Barbier, 1987; Lele, 1991; Steer & Wade-Gery, 1993; Milbrath, 1994; Basagio, 1995; Dobson, 1996; McManus, 1996). As suggested by Yearley (1996), there is no uncontested, universal discourse of sustainability. The resulting ambiguity may therefore render this development model

somewhat unsuitable as a yardstick for policy direction. While Costanza, Low, Ostrom, and Wilson (2001) view criticisms directed against the workability of the concept of sustainability as misguided and ignorant of the real problem, which they consider to lie in prediction rather than definition, others tend to concur that sustainability harbours operational problems due to interpretive ambiguity. For instance, in the analysis of the work done by Pearce (1988) and Solow (1992) in view of the implementability of sustainable policy prescriptions Kennedy (1994), too, found sustainability to be an inappropriate guiding principle for the design of policy in a democratic setting. He argues that the use of sustainability principles leads to planning problems in that policy implementation is dependent on a matching egalitarian ethic by voters, which cannot be assumed. Sustainability criteria would therefore need to be positive in character, and an overriding by governments of democratically arrived decisions as a means of upholding sustainability principles is thus problematic because a mandate to do so from the societies they govern is, especially within today's neo-liberal climate, rather unlikely. While numerous techniques and approaches (e.g., safe minimum standards, adaptive management, risk assessments (for an overview see Dovers et al., 2001)) have been developed over recent years to provide decision support for dealing with uncertainty in the environmental policy arena and attempts have been made to operationalise sustainability (Daly, 1990; Solow, 1992; Lafferty & Meadowcroft, 2000), it seems that the concept per se "can provide only limited guidance for the design of implementable policy in a democracy of heterogeneous individuals" (Kennedy, 1994, p.7). In fact, it could be argued that sustainability criteria can only be effective process constraints when public policy processes designed to deliver movement towards sustainability are able to match the magnitude of the ecological problems they are meant to be addressing, which is not likely until political decision makers can actually draw on public support for, and a societal willingness to accept, policy process outcomes in the face of socioeconomic trade-offs. What that means for the design of political decision-making processes and the needed institutional arrangements I shall address as part of a wider discussion in Chapter Seven.

In the absence of a political, social, or scientific consensus on the nature of sustainability the wide use of the term is more than puzzling. It seems reasonable to suggest that we ought to know what the concept of sustainability entails, what decision criteria to use, and the nature of the trade-offs involved since references to sustainability can be found in over 120 Australian law documents (Dovers et al., 2001), providing a sense of agreement on the nature of the concept. Whilst it is encouraging to see, on the one hand, that sustainability has penetrated the political and legislative realms in Australia, this could also be interpreted, on the other hand, as prima facie evidence for political tokenism. As mentioned earlier, much of Australia's environmental legislation has been tightened in recent years, effectively minimising the public's ability to partake in, or object to, environmental planning. Genuine public participation, however, as was illustrated earlier, is a pillar of sustainability, suggesting that Australian environmental policies run counter to the spirit of the sustainability paradigm.

The absence of an unequivocal political mandate for the implementation of sustainability targets might also strengthen politicians' faith in the moral incontinence (akrasia) of the people they govern, meaning that people might be expected by their governments to "act contrary to both what [they] know and desire" (Brennan, 1992, p.2). Some research participants saw cases of moral incontinence to have been exposed during the WA RFA as people, philosophically opposed to old growth forest logging, were found to buy native hardwoods for private purposes, which in the absence of any timber certification scheme in WA could have easily stemmed from old growth forests (There is nothing wrong with using Jarrah in a house but do you see what I mean? You might just only be talking about people in polls, we are talking about people who were campaigning against us who are big users of our product). Also, interview data suggest that timber sales of the WA's largest timber company, which conservation groups organised large boycott campaigns against during the RFA, were not affected by the boycott (We have never experienced any buyer resistance, and the builders we supply have never experienced any buyer resistance to the timber that goes into the houses. If that sentiment was to be really genuine and people wanted to go and do something about it, I assume they would go to their builders and say so). Without assuming the moral high ground on the issue of old growth forest logging and timber acquisition, these examples illustrate that there can be a discrepancy between how citizens view the environment ethically as opposed to how consumers relate to the environment rationally. This discrepancy is prone to exploitation by any short-term focused government and may translate into hollow, pro-environmental rhetoric matched by little political will and inaction. This discrepancy also attests to the existence of a subtle, yet

powerful, process constraint which is systemic in nature and which I will broadly refer to as economic rationality.

In earlier parts of this chapter I referred to the prevalence of economic rationality within the mindsets of governments and their administrative bodies. Also, economic constraints were cited earlier on as one of three inter-related source problems related to the existence of public distrust of forestry in WA. Indeed, much of the interview data revealed a widespread concern about the commercialisation and commodification of forest resources as well as a resentment towards the perceived protection of timber industry interests during the WA RFA (it was just favouring the timber industry - and anyone who did not agree with the continued, widespread logging, woodchipping, and clearfelling of old growth forest was marginalised throughout the whole process - and -It seemed to exclusively look at the needs of the timber industry - and - It's quite clear that forestry on public land is clearly being to benefit industry primarily and the community very much secondarily). Many RFA stakeholders stated their discontent with what they perceived as economic limitations imposed on the forest use and reservation options made available for public discussion during the RFA process. Yet, hardly any reference was made by research participants pertaining to the desirability of removing overriding economic constraints from government processes, although the dominance of economic rationality in debates about environmental management and protection featured strongly on stakeholders' lists of complaints. The absence of any specific stakeholder recommendations relating to the dominance of economic rationality comes as a surprise. The silence could suggest stakeholder acceptance of, ignorance about, lack of awareness of, or helplessness in connection with, such an economic reality.

The case study data provides ample evidence of economic constraints at work during the WA RFA. Yet, it is difficult to measure the extent to which economic rationality may have constrained the WA RFA process and it outcomes. A more complete understanding of the forces at work during the RFA process will have been gained, once the science of the RFA and the economic influences on science have been explored in Chapter Six. There, the degree to which science was perceived by RFA stakeholders to have been affected by economic rationality will be explored, and I will look at the question as to which kind of science proved to be the most influential in determining the outcomes of the WA RFA.

## Conclusion

This chapter set out to investigate stakeholders' perceptions of the inclusiveness and participatory nature of the Western Australian RFA process. The overall impression gained was that many RFA process participants rated the process poorly when gauged by Tuler and Webler's (1999) process principles. Further analysis led to the suggestion that the process, in relation to its participatory nature, has failed to meet the mark of social and political acceptability and was found to have contradicted - at least in part - the accompanying rhetoric by process management.

A case could also be made for the importance of understanding the contextual richness surrounding public process, and it was shown that the Western Australian RFA in particular was well endowed in terms of contextual complexity, especially in relation to trust, which proved to be decisive in terms of process acceptance.

A set of stakeholder-defined process principles was derived from the interview data, which were considered to be reflective of the stakeholder experiences had during the RFA process. These principles were also shown to share similarities with process criteria derived from other studies on resource conflicts.

In this chapter I hinted at the significance of the role of science in the WA RFA process. The interview data presented here revealed that science was considered integral to the workings of the process but perceived to have been highly contentious. I have deliberately not expanded on the science aspects raised earlier for I decided to dedicate an entire chapter to this subject given its centrality in natural resource settings and debates surrounding sustainability. In the following chapter I will therefore look more closely at the science-related issues explored in this chapter and substantially add to the list of factors that have affected the RFA process and its outcomes. The information gathered will then be synthesised with that educed from the preceding chapters in Chapter Seven.

# **Chapter Six**

# Science and the Science of Western Australian RFA

## Introduction

In previous chapters I drew attention to the pivotal, but also contested, role of science and scientists during the WA RFA process. Critics voiced concerns about the political use of science in the process, the rigour of data collection, data analyses, and resultant recommendations. These concerns were raised by the scientists themselves and by members of the wider RFA stakeholder community. Thus, a closer examination of the involvement of scientists in the RFA is warranted, particularly since all Australian RFAs were hailed as "agreements backed by science, science and more science" (Commonwealth of Australia, 2000b, p.9). Indeed, RFAs were promoted as having been based on the most detailed and comprehensive scientific assessments ever made in Australia (Commonwealth of Australia and Government of Western Australia, 1997), and science was said to have formed the basis for sound decision making on commercial forest use and conservation (Hill et al., 1997; Forests Taskforce, 1998). In light of the claims made for science in the RFA process, I will present in this chapter a multistakeholder account of the science of the WA RFA, detailing RFA stakeholders' perceptions of the scientific nature of the process and its scientific credibility.

An investigation such as this also raises more general questions as to the function(s) of science and scientists within democratic systems at large and, more specifically, deliberative and participative processes designed to solve land and water use disputes. Work on science and democracy has become increasingly topical in recent years in light of a growing resentment of expert-driven processes (Yankelovich, 1991) and mounting antagonism towards the perceived marginalisation of the general public by the dictatorship of scientific and political elites (Waller, 1995). Therefore, the subsequent analysis of the scientific nature of the Western Australian RFA process is produced against the background of a discussion on science, democracy, and scientists' responsibilities in the sustainability context.

This chapter will also draw on the findings of a related research project by Bigler Cole (1998), whose work focused on the perceptions of science in the WA RFA process with

an emphasis on the nature of science itself. Her findings will be compared with those derived from this study to identify potential overlaps and/or contradictions. The issues arising out of this chapter will then be explored further as part of a broader synthesis in Chapter Seven.

#### Views on Science

"Science is the belief in the ignorance of experts"

(Richard Feynman quoted in Root-Bernstein, 1999)

Science, possibly counter to popular belief, can be seen as an ever-changing constant since the dawn of modernity. What I mean by this oxymoron is that there is no universal conception of science and that definitions and perceptions of science have changed over time (Riggs, 1992), whereas the centrality of science and expertdom to the human endeavour of fact finding and truth seeking in modern society has not. It is this intimate connection between science, knowledge, and truth that has allowed science and scientists to attain a pre-eminent societal status and to play a central role within democratic processes. Yet, science's claims to truth, once perceived to be absolute, have become far more relativistic over the last 150 years. In other words, the notion of *truth's autonomy* (after Aronowitz, 1988) has come under attack and thus science has as well. The underlying reasons for this are explored in the following sections.

Modern science is commonly said to have its beginning around the time of Galileo in the early years of the seventeenth century after more than a millennium of intellectual stagnation in Europe following the Greco-Roman antiquity.<sup>66</sup> It was then that the work of Brahe, Copernicus, Galileo, Keppler, and others gave birth to what is known today as the Scientific Revolution. Science subsequently evolved and informed humanity's understanding of natural phenomena and helped reveal regular patterns amidst nature's chaos.

<sup>&</sup>lt;sup>66</sup> Briefly, it ought to be noted that this eurocentric perception of the birth of science is ignorant towards the scientific achievements in China, India, Byzantium, and the Muslim world throughout the Middle Ages. A discussion of the hegemony of western science, however, would go far beyond the scope of this thesis.

Reviews of the rise and history of science (such as Chalmers, 1982; Riggs, 1992; Dunbar, 1995) document the changing understandings of science, generally starting with the Baconian codification of scientific methods and the commodification of science, followed by science's claims to universalism through contributions by Descartes and Newton, then turning to the perceived schism between science and philosophy brought about by Hegel, and more recently presenting challenging twentieth century conceptions of science such as Popper's falsificationism and Kuhn's introduction of paradigmatic revolutions. The works in the field attest to the fact that science, its methods, its sociological and its philosophical underpinnings have been debated intensely. Today, interested readers are presented with a plethora of discussions on induction versus deduction, rationalism versus relativism, scientific anarchy, objectivism, truth, the politics of science, and various other discourses on ontology, heuristics, and epistemology by a wide range of contributors (e.g. Kuhn, 1962; Scheffler, 1967; Davies, 1968; Popper, 1968; Colodny, 1970; Bloor, 1971; Habermas, 1971; Ravetz, 1971; Foucault, 1972; Dixon, 1973; Merton, 1973; Suppe, 1977; Chalmers, 1982; Collins, 1982; Barnes, 1985; Aronowitz, 1988; Klemke et al., 1988; Fuller, 1989; Riggs, 1992; Collins & Pinch, 1993; Fuller, 1993).

This thesis does not intend to add to these theoretical and philosophical debates on science for they are well documented elsewhere.<sup>67</sup> Perhaps, as noted by Ziman (1988), it may not even matter practically, and perhaps be quite healthy, not to know what science really is and thus to accept, and live with, this philosophical enigma.<sup>68</sup> Instead, I would like to draw attention to the observation that these esoteric debates about what science is, or is not, chiefly involve experts rather than laypeople and perhaps therefore give the impression of being somewhat removed from the public. Paradoxically, public perceptions are what shape and define the dominant conception of what science is and what it stands for. As Ravetz (1971, p.12) points out, "science depends on the general public for its support", and thus "the public understanding of science is crucial ... for the continued health of the community of science." It might be immaterial, therefore,

<sup>&</sup>lt;sup>67</sup> I acknowledge, however, that some debate on the nature of science seems inescapable, and I shall return to this matter at a later stage.

<sup>&</sup>lt;sup>68</sup> On this point, Ziman uses the example of the average churchgoer who would generally refrain from pondering the deeper theological and metaphysical aspects of his/her faith and indeed reject such inquiry. The question remains, however, whether scientists can afford such blissful ignorance.

whether experts consider science and its methods to be best characterised by conventionalism (e.g. Duhem, 1962), inductivism (e.g. Reichenbach, 1938), deductivism (e.g. Popper, 1968), golem (see Collins & Pinch, 1993) or indeed Dada (see Feyerabend, 1975) since science's public image and perceived essence is defined outside the expert realm.

Public perceptions of, and attitudes towards, science have changed considerably over the last 100 years. Traditional perceptions of science are described in the literature in terms of a so-called *standard view* of science (see for instance Scheffler, 1967). This standard view, also coined inductivism, although not in the Baconian sense (Riggs, 1992), portrays science and its methods as the one best way of discovering and learning about the laws of nature. A view such as this perceives science as a vehicle for the discovery of truths about the external world via impartial observation, experimentation or logical reasoning. The work by unbiased and value-free specialists is thus rendered factual, objective, and correct (Bijker, 1995). Unsurprisingly, this essentially positive view positioned science and scientists in the centre of public life as the principal problem-solving authority (Cotgrove, 1982; Milbrath, 1989). Indeed, science has become a much traded commodity today within the media, commerce, and politics (Jasanoff, 1986; Salter, 1988).

Although there is a widespread admiration for, and acceptance of, the wonders of science (Ravetz, 1971), there is an incongruence between what scientists and the public perceive as objectivity. Inductivism seems to confuse, or indeed replace, what scientists would regard as the ideal of objectivity in science (Scheffler, 1967) with the myth of objective science. Certainly, science attempts to "transcend the social and economic background, to overcome the weight of prejudice, of custom and example, and to formulate statements that in some way or another capture how the world is" (Jarvie, 2001, p.560). And science is considered credible and is respected because of its methodical nature, rigorous protocols, in-built checks and balances such as peer review and all the other hallmarks of scientific research. Objectivity, however, as would readily be accepted by most scientists, is a philosophical maxim, which the scientific protocol aims to maintain but cannot guarantee. Still, the perception of an objective or quasi-infallible science exists, and this perception is underpinned by science itself. Snow (1964) argues that the shallow optimism ostensibly exuded by (in particular hard)

science is fuelling and perpetuating this myth of objectivity. Hard sciences with their highly codified and quantitative work, as argued by Deetz (1996), are often privileged to receive the objective label and are therefore favoured in public and political life. Soft sciences, or interpretivists in general (after Morgan, 1986), are given the subjective label for the more qualitative nature of their work, which deals with interpretations of an interpreted world (Giddens, 1984), and are therefore considered less credible and reliable in the eyes of the public (Deetz, 1996). In fact, it seems as if openly stated assumptions and values raise greater suspicion than the same assumptions and values hidden behind methodology and numbers. Still, leaving this subjective-objective dualism aside, the perception of objectivity provides relative certainty, and it is this notion of scientific certainty that has given rise to scientific determinism. This in turn has allowed science to attain a prominent social status and to become a symbol of progress and human welfare for it attempts to overcome limits and to further improve the human condition (Paehlke, 1989). So, within inductivism, science is not only seen as humanity's provider and guardian of knowledge and truths but also as one of the driving forces behind social and economic advancement.

It is therefore not surprising, perhaps, that the twentieth century has witnessed an ever growing reliance on science by a society, which has been willing to invest considerable public trust in the expert system (see Giddens, 1990). In part, this trend is seen as the result of the growing complexity of modern, technology-driven, life (Cotgrove, 1982), the establishment of relative autonomy for the scientific profession (Yearley, 1994), and the perceived inability of laypeople to make informed decisions in the light of today's complexities (Ophuls & Boyan, 1992); thus, the concomitant need and push for scientific competency in decision-making processes on policy, governance, and control (see Postman, 1992). However, over the last 60 years the hegemonic social status and position of power held by science and scientists has come under threat, as is recognised in new discourses about changes in the public perceptions, and understanding, of science (for reviews on changes in the public understanding of science refer to Wynne, 1991; Yearley, 1994; Irwin & Wynne, 1996; Felt, 2000). Nowadays, many references can be found to tensions which are considered to exist between science and the general public. In this context, a growing lack of public trust in science and a rise in the perception of the irrelevance and untrustworthiness of science (see Wynne, 1995) have become accepted notions. These tensions, as argued by Matthews, Young, and Elliott

(2002), are a hallmark of late modern society. In fact, Giddens (1990) and Beck (1986) attribute these to the process of reflexivity and perceive them as both cause and effect of risk societies in general. In other words, the dissipation of public trust in traditional institutions, including scientific institutions, is considered more or less natural and to be a characteristic of post-modernity.

Reasons behind the dwindling public faith in the customarily accepted authority of science are manifold. Of particular interest to this study, however, is how environmental changes impacted on public perceptions of science. Certainly since the Manhattan Project in the early 1940s there has been a growing public awareness of the less than benign (political and commercial) applications of science, their consequences, and their associated risks. This awareness was heightened further by published scientific work on the environmental depredation caused by industrial life (see Carson, 1962) and the 1970s' postulations of impending doom in the context of unconstrained population, and economic, expansion (e.g. Ehrlich, 1970; Meadows et al., 1972; Mesarovic & Pestel, 1974). Publications such as these provided the scientific backbone for modern environmentalism<sup>69</sup> and marked the arrival of a new counter-science, a science of limits<sup>70</sup> (after Paehlke, 1989), blurring the boundaries between science and environmental/social advocacy and deepening the aforementioned trenches between so-called soft and hard sciences; the latter being more closely linked to the political and economic status quo. In the ensuing years, well publicised environmental disasters such as Love Canal, Three Mile Island, Chernobyl, climate change - or more locally, salinity in many parts of Australia - gave an increasingly alarmed public a sense of science, or certain spheres within science, "[being] at the heart of many environmental disruptions" (Paehlke, 1989, p.116), implying science to be (part of) the problem and yet also the solution.

Predictably, this tainted image of science has triggered a growing distrust of science and technology (a product of science) manifested in public resentment of expert control and power over fateful political and social decisions (Jasanoff, 1996), a trend which of course has not been without its political implications. Foucault (1982) gives an understanding of the reasons for the rise of science in modern societies. His concept of

<sup>&</sup>lt;sup>69</sup> The term *modern* is used here to acknowledge that environmentalism per se is not a social phenomenon of the twenty-first century (see Grove, 1995).

<sup>&</sup>lt;sup>70</sup> For Paehlke (1989), environmental science represents this counter-science.

governmentality, as was shown by Darier (1996), serves as a good explanatory tool for the rise of knowledge as a means of exercising political influence on the basis that knowledge constitutes power. Knowledge was seen by Foucault to serve as a more gentle substitute in modern society for the coercive, and often physical, exercise of power of autocratic forms of government. Those in possession of knowledge can exercise control over those who do not, which means that power is relational, potentially transient as knowledge changes, and access to it a matter of strategy. Scientific knowledge, therefore, potentially allows scientists and those in possession of it to influence public affairs and indeed create a culture of technical control (Yankelovich, 1991). I purposefully use the term *potentially* in that it requires the deliberate use of the cognitive powers offered by science to achieve ends such as political legitimacy, social acceptance, and/or economic gain. Furthermore, the degree of control exerted by individual scientists obviously differs, and there are also certain limits to that control due to constraints imposed by the heterogeneity of the scientific community, its organisational allegiances, and many other aspects that are discussed in detail elsewhere (Ravetz, 1971; Dietz & Rycroft, 1987; Lester, 1989; Stehr & Ericson, 1992). The point I am making here is that experts' cognitive powers are a political tool available to those who wish to underpin their own cause, in a sense taking advantage of the widespread reverence for scientific knowledge or distrust of it.

Indeed, Foucault's concept of governmentality seems to find much empirical support in what Waller (1995) calls scientific-cum-political struggles in the public arena where the strategic, or opportunistic, use of knowledge can be observed. The attempts, for instance, by Keynesian and neo-classical economists to attain hegemonic status within the political economy can serve here as an example; so can the arms race or the isolation and patenting of human genes. In contexts such as these where knowledge is used to frame public discourses, based on experts' assessments of what is possible and probable, debates can be limited and controlled, and experts' public accountability can effectively be minimised (Waller, 1995). The perceived advantages of using knowledge, scientific knowledge in particular, have been recognised by many players in the public arena and not just by scientists and politicians. Today, many debates are carried out using science as the principal means of either supporting or refuting positions within the debates. Stalemates between ideological adversaries, with both sides arguing best science, are therefore quite common as can be seen, for example, in the global climate debate,

resource availability forecasts or land and water use disputes. Such stalemates can either be counterproductive in circumstances where there is a pressing need to initiate action, or produce creative tensions, which can lead to more mature (informed) debates and refined problem specifications.

It is of interest here that in many of the current debates in Australia on environmental protection, science is used to validate claims either in favour or against more precautionary measures to be taken by governments to ensure long-term environmental integrity. It seems, however, that scientists themselves rarely come to the fore in these discussions. In this context, there is a view that the "scientific world has a modesty about expressing opinion" and that this may only occur once "ideas have been tested in the realm of their peers through publication in peer-reviewed literature" (Gascoigne & Metcalfe, 1998, p.6). In other words, scientists are viewed here as methodologically handcuffed and as reluctant to engage in public discourse for their "commitment to accuracy and proper scientific procedures" (p.6). A contrary position has been taken by a number of Australian ecologists (e.g. Hobbs, 1998; Recher, 1998) who call for the abandonment of the "traditional boundaries of science" (Recher, 1998, p.9). They demand - as a matter of professional responsibility - a more vocal and active involvement of scientists in political life to inform and guide public processes in light of perceived past failures of the scientific community to speak up. These calls for advocacy and scientific responsibility are echoed internationally (see Stoll-Kleemann & O'Riordan, 2002).

The view of the publicity-shy and timid scientist may seem to be in stark contrast to notions of power and political influence exerted by the scientific community. Proponents of active involvement of scientists in public processes do not deny that science is used to influence public opinion and political outcomes. In that regard, their views are congruent with the arguments referring to scientific hegemony and power. It is suggested, however, that often it is not the scientists themselves who exercise this power and that instead scientists are usually the ones who are used to legitimate political processes and should therefore become more outspoken and involved. In that sense, proponents of the active engagement of scientists may not so much be contradicting arguments of scientific control and dominance but perhaps rather be helping demystify power relations between the science community and society. Put differently, power and control may be exercised but not necessarily by those who generate the knowledge that underpins it. As a consequence, science and the work of scientists are subject to politicisation, and individuals may find it difficult to uphold their personal and professional values when their work is drawn into the political spot light. Scientists who allow themselves to fall into this perceived passive-defensive trap are criticised by those who demand their colleagues to be more pro-active and, if need be, more belligerent when it comes to defending what they value and work for.

The centrality of science in public life cannot be disputed but it raises questions whether science is actually capable of providing the necessary answers to today's complex problems, especially as they exist in public policy areas such as the environment or gene technology where intertwined and often conflicting ecological, ethical, social, and economic aspects are involved. There is some agreement that experts are needed in the public policy arena for reasons relating to the complexity of policy making (e.g. Yankelovich, 1991; Waller, 1995; Lubchenco, 1998). Disunity exists, however, on the extent to which rational science should be employed on social and cultural matters, which also, at times chiefly, contribute to political complexity. Socio-cultural affairs are generally considered wicked or trans-science issues (Weinberg, 1972). Thus, the normative and dogmatic approach to science may be considered to be at odds with inherently wicked natural resource issues, for it is considered to create more rather than less uncertainty. Moreover, a possible contradiction may be seen between expert-driven public processes and calls for intimate participatory processes (as discussed in Chapter Five) in light of public resentment towards perceived power differentials between experts and other process stakeholders (on these points refer to Lau, 1992; Rip, 1992; Miller, 1993).

The questions about the appropriate use of scientific expertise on matters such as natural resource use and protection are particularly complex as exemplified by the current debate on ecologically sustainable development. The case of sustainability would have to represent the height of messy, complex, wicked, trans-science affairs with its calls for holistic and trans-disciplinary approaches to counter trends of global ecological, social, and economic collisions. Efforts are underway to formulate principles for a new integrative sustainability science (Kates et al., 2000; Lowe, 2001), highlighting the perceived inappropriateness of traditional approaches to science within messy

The notion of a new meta-science, however, is contested territory and contexts. alternative approaches are currently sought to address socio-econo-ecological complexities via trans-disciplinary integration. Some inroads have been made in that area through advances in disciplines such as ecosystem health and ecological economics. While perhaps further conceptual and epistemological groundwork is required for a new or different science, it is clear though that science in whatever shape or form will remain integral to sustainability debates and will continue to play a decisive role. After all, science is considered to be humanity's "principal thought structure and analytic tool for the understanding and protecting of the environment and human health" (Diesendorf, 1993, p.1). It is not surprising then that science, at an international level, is regarded as "essential for achieving endogenous development and progress" and that its function lies in the development of new knowledge to provide "educational, cultural, and intellectual enrichment" (United Nations Educational Scientific and Cultural Organization (UNESCO), 1999, Section 1). Science is here to stay; however, the previous discussion might suggest that self-reflection and perhaps some steps towards re-invention are required not only to be better equipped for a rapidly changing and increasingly complex world but also for science to be able to retain its relevance and legitimise its authority. Given the high hopes for, and demands placed on, science it could be argued that the socialisation of science or the integration of traditionally perceived trans-science issues into science is more likely to enrich science and to make it more relevant and robust than it is to render science obsolete, as feared by traditionalists.

I will return to this debate but conclude at this point by saying that the debate on issues surrounding science, its aims, essence, societal, and political role is not only complex but also paradoxical. The embrace and simultaneous rejection of expert control in times of unprecedented societal dependence on expertdom is most perplexing. The literature portrays science as both cause and cure for many social, economic, and environmental wrongs today as it was science that has enabled humanity to conquer the stars and defeat diseases but also given it the ability to kill itself and the planet. Moreover, there is seemingly no agreement among scientists and philosophers on what science really is; the public's, and experts', perceptions of science differ substantially, and there is public disagreement on the desirable degree, and the pros and cons, of scientists' involvement in public affairs. All these factors combined raise doubts about the role science would ideally assume in processes of public policy formulation, and a government process purportedly 'backed by science, science, and more science' is thus perhaps a rather uncomforting proposition.

#### **Contested Forest Science in Western Australia**

Over the last 30 years doubts have been raised not only in Western Australia but also in other parts of the country about the scientific management of native forests. For most of that time, calls for more conservative management of the forest estate came from the environmental lobby, which saw forest management practices and the rate of timber extraction as unsustainable and as a threat to forest flora and fauna (e.g. Routley & Routley, 1975; Cameron & Penna, 1988; Conservation Council of WA, 1990). In WA, conservationists raised concerns in relation to various forest management practices such as the use of prescription burns as a means of controlling wildfires and regrowth management and the rate of timber extraction based on so-called sustained yield principles. Conservationists feared that both practices would lead to forest degradation.

For instance, in relation to sustained yield principles conservationists have long been arguing based on science that the long rotation cycles of Australian hardwoods make these native species prone to overexploitation as rotation cycles are likely to be shortened due to perceived economic needs (Australian Conservation Foundation, 1987). By cutting high value stands first, following a Ricardian regression of resource quality, commercial felling would then resume too early in regrowth areas and also expand to lower-quality forests, cutting previously uneconomic tree species to stem inevitably declining sawlog supplies (Rawlinson & Penna, 1982). Thus, following this logic, all high quality forests (i.e., high conservation value old growth) would disappear and systematically be converted to comparatively inferior tree farms for quick commodification and capital intensive value adding (Wootten, 1986). In other words, sustained yield principles are believed to be undermined by impatient market forces and most of all self-interest, both of which are seen to drive accelerated forest exploitation.

For many years, the native hardwood industry responded to these allegations, essentially refuting this greed driven view of the industry (for relevant quotes see Routley & Routley, 1975; Australian Conservation Foundation, 1987). More recently, industry groups have argued that the industry actually moved closer to the conservationists'

definition of sustainable forest management (National Association of Forest Industries, 1997) and highlighted the compatibility between economic forest exploitation and forest conservation. The case is made that trees regrow (Watson, 1990) and, if prudently (i.e., scientifically or silviculturally) managed, can continue to support a timber industry indefinitely (National Association of Forest Industries, 2002). It is interesting to note, however, that the economic need for shorter rotation cycles and the uneconomic nature of true-cost forest regeneration and management has long been admitted to by the industry (see for instance Lawrence, 1964; Gilbert, 1972).

The industry's reference to silvicultural or scientific forest management attests to the industry's faith in science. Indeed, science is seen as essential for the future viability of the industry, which in turn highlights the previously acknowledged link between positivistic science and economic activity (progress). In conjunction with market dynamics and legislative frameworks governing the industry scientific research, scientific advice, and scientific forest management practices have a significant impact on commercial decision-making processes of timber-dependent industries. Even the legislative framework itself is based on scientific input. Therefore, it is not surprising that very close and somewhat symbiotic<sup>71</sup> working relationships between the forestry profession, forest departments, and forest industries have developed not just in Australia but also in other countries like the USA and Canada. It seems, however, that this relationship is grounded not only on economic pragmatism but also to some extent on a shared ideology. To clarify this claim, also in view of the value-laden nature and Marxist flavour of the term *ideology*, the forestry profession/science itself needs to be examined more closely.

#### Forestry and Environmentalism

Forestry, as defined by one of the founding fathers of modern forestry, "is the knowledge of the forest. In particular, it is the art of handling the forest so that it will render whatever service is required of it without being impoverished or destroyed" (Pinchot, 1914, p.13). Today, the philosophies and mission statements of forestry

<sup>&</sup>lt;sup>71</sup> The term *symbiosis*, in the true biological sense of the word, is perhaps misleading in that the mutuality of benefits in true-cost accounting terms is contestable (see Australian Conservation Foundation, 1987; Cameron & Penna, 1988).

institutions still reflect Pinchot's view, broadly defining forestry as a profession that embraces the science, art, and practice of creating sustainably, managing, using, and conserving forests and associated resources to meet societal goals, needs, and values (e.g. Institute of Foresters of Australia, 2002; Society of American Foresters, 2002). There are two interesting features to this self-portrayal. Firstly, forestry is an applied natural science that invests confidence in the scientific management of forests, positivistic in nature with a strong adherence to measurable and quantifiable evidence. Secondly, forestry has an anthropocentric orientation for it sees its role in the maintenance of perpetual human forest uses. Positivistic anthropocentrism are features of today's business reality and western world economies at large. It is perhaps for this reason that ecocentric conservationists -ideologically opposed to anthropocentrism and economic rationality - have seen in forestry and forest departments a symbol of commercial forest exploitation (Routley & Routley, 1975; Dargavel, 1995) in that forest management was considered to primarily serve extractive forest uses. In other words, for these groups scientific forest management and forest destruction have seemingly become synonymous terms.

Ironically, as it stands today, there is an apparent standoff between two groups in Australia, both claiming to be the real conservers of the country's native forests. There are the foresters who see themselves as the first conservationists who developed and promoted forest conservation in Australia in the early years of the twentieth century when conservation came to mean scientific and rational planning for the efficient use of natural resources (for more information on Empire Forestry refer to Barton, 2001); they also look back at a long-standing European forestry tradition. Foresters seemingly perceive the *other* environmentalists as emotive romanticists and take the stance that they are the ones who have the science - their national websites attest to that (see Institute of Foresters of Australia, 2002; Society of American Foresters, 2002) - and thus, the facts and the answers about how forests ought to be managed. Also, calls are being made by foresters both in the USA and Australia for a more rational debate and the overcoming of ideological approaches to forestry (e.g. Spriggins, 1998; Tombaugh, 2000). In other words, foresters seem to argue that debates about forest management should be left to those who know best about forests, in essence, forest scientists.

Then there are those conservationists who emerged from the grassroots movements of the 1960s and 1970s who made their goal the protection of nature's intrinsic and nonuse values and the minimisation of humanity's ecological footprint. It would be wrong, however, to suggest that all the claims made by the environmental grassroots movements were not scientifically based (leaving a number of some ideologists of the movement aside). The green movement has had long standing ties with the scientific community, a relationship which Yearley (1992, p.514) considers to be doubly bound "by epistemological affinity and common descent." He argues that, while environmentalists are distrustful of science in the context of animal rights abuses for research purposes, nuclear power and weapons technology, gene technology, and other issues, they themselves have relied on the authority of science to legitimate their claims and to exert what Weber would have called legal-rational authority in the political arena (Yearley, 1991, 1992). So, what has widely been labelled emotive romanticism and utopian idealism has seemingly received considerable scientific backup, which in turn allowed the pro-environmental message to penetrate the public sphere and to varying degrees affect political agendas for the last 40 years.

Returning to the issue of Australian forestry, this conservationist-conservationist dichotomy has created a situation where two groups claim respectively to promote sustainability in the country's native forests. Yet, they cannot agree on what sustainability entails nor can they reach common ground on the means of achieving sustainability for they are ideologically opposed. The trenches are deep, and the verbal battles over the years have been very personal and explicitly abusive (for some insights into that debate refer to Australian Conservation Foundation, 1987). Forestry, it seems to foresters, is almost by definition sustainable, whereas ecocentrists (I use this term here for the purpose of differentiation) ostensibly see forestry as a euphemism for scientifically sanctioned forest industrialisation.

In Western Australia, this rift between foresters and the environment movement widened dramatically throughout the 1990s. Local conservation groups took legal action against the Department of Conservation and Land Management in 1994 amidst a heated dispute over the woodchip license renewal for the following year. Conservationists sought injunctions to halt logging operations in so-called icon forest blocks in the State's south-west and to obtain statements as to CALM's legal responsibilities (Barns & Webb, 1999, unpublished paper), broadly suggesting a breach by the department of its obligations spelled out in its own Forest Management Plan. Four years later, after a series of appeals the High Court of Australia eventually ruled against the WA conservation groups - a decision some commentators saw as another nail in the coffin of judicial reviews of environmental decision making (e.g. Schoombee, 1998; Churches, 2000), feeding into the debate on the effectiveness of Australia's environmental laws and the judicial system (e.g. Preston, 1991; Schoombee, 1991). However, this litigation was only part of a wave of allegations made against CALM, and the following will provide insights into how science became part of the dispute between forestry and conservationists.

### **Public Scrutiny on Departmental Processes**

Nationally, there has been some discussion for a number of years on intellectual suppression of environmental scientists (Martin, 1981, 1992). In WA, the Barnett Inquiry (1992), for instance, found instances of intellectual suppression, the withholding of information, and the suppression of the ability of individual officers to contribute to the debate, which according to the report brought into question the whole nature of the CALM Forest Management Plans. In 1993, allegations surfaced with reference to specific cases of scientific censorship and perversion of the scientific process by CALM management as a means of protecting commercial interests (Lowe, 1993; Schultz, 1993); all amounting to a call for a public inquiry into the department. Many of these accusations were publicly denied by CALM (e.g. Armstrong, 1993) and condemned at the end of an independent review as unfounded allegations by Kevin Minson, then the Minister for the Environment. Other cases of alleged professional censorship came to the fore in later years (e.g. Nicholson, 1995). A particularly well publicised case was that of CALM Research officer Dr Elaine Davidson who claimed to have been unfairly victimised and transferred within the department as a result of her research findings into dieback, which was considered to have run counter to the official line on forestry (Nicholson, 1994a, 1994b, 1994c). Her claim, however, could not be substantiated at a subsequent Industrial Relations Commission hearing (Schoombee, 1998).

Similar battles were also fought by CALM with scientists working outside the department. One such conflict involved the well publicised (however, factually somewhat distorted (see Kirkpatrick, 1998b)) case of Susan Rhind, a doctoral student

from Murdoch University, who was making a potential link between CALM's silvicultural practices and the fate of phascogales<sup>72</sup> in the jarrah forest (Tan-Van Baren, 1996b, 1996a). Her work was publicly discredited by CALM, and she stood accused of being ideologically prejudiced and biased and was made to apologise for what was seen by others to be a minor error of fact (see Recher, 1998; Kirkpatrick pers. com., 2000). Incidents, not dissimilar to the case of Susan Rhind, occurred involving Edith Cowan University and the University of Western Australia (e.g. evidence given to the Standing Committee on Ecologically Sustainable Development, 1998d).

In light of this climate of animosity and distrust, Schultz (1993, p.93) may have been correct in asserting that there was "doubt cast over every CALM publication, whether popular or scientific" in that questions would have remained - justified or not - about CALM procedures and the interference by CALM management with the work of its scientists. But it was also a matter of how, or the means by which, CALM responded to criticism. All cases cited above show a sense of aggression and hostility in the treatment of dissenting views, which raises questions as to what precisely the department so rigorously tried to defend. The active protection of commercial (timber) interests has always been denied by CALM management in connection with the allegations made against the department. Still, it may be reasonable to suggest that CALM's philosophical orientation offered a de facto protection of such interests relating back to the earlier mentioned ideological alignment of the forestry profession and the timber industry strengthened by the positivism exuded by forest science. This alliance has led not only to a division between grassroots conservationists and forest departments but also to a split within scientific communities, echoing Paehlke's (1989) reference to an environmental counter-science. This is a fitting description of the forest debate in WA during the 1990s where there was the standoff between CALM scientists, who seemingly defended the status quo, both of their science and the economics it underpins, and others who challenged the long-standing beliefs about forest use, management, and conservation. I shall elaborate on an example of this below, which ought to be seen as a part of a wider, concurrent, scientific debate on forest management issues in WA, focusing on aspects such as local endemism and ecosystem heterogeneity (e.g. Wardell-Johnson & Horwitz, 1996; Abbott & Burrows, 1998; Wardell-Johnson & Horwitz, 2000), conservation and reservation (Trayler et al., 1996; Shea et al., 1997), jarrah dieback and water-logging

<sup>&</sup>lt;sup>72</sup> Nocturnal, carnivorous marsupial.

(Shearer & Tippett, 1989; Davison, 1997), hollows (Gibbons, 1994; Mawson & Long, 1994, 1997; Stoneman et al., 1997), and others.

### Departmental Neo-Positivism Versus Calls for Precaution

In the late 1980s and early 1990s calls for caution were issued in relation to forest management (particularly fire management) and forest reservation in light of what was perceived to be incomplete and insufficient knowledge of complex forest ecosystem functions (Wardell-Johnson et al., 1989b; Wardell-Johnson & Nichols, 1991).<sup>73</sup> Similar views were expressed by the Resource Assessment Commission (1992), which raised concerns about the lack of sufficient knowledge relating to long-term impacts of forest uses, including timber extraction, on environmental values. In this context, staff of CALM's Science and Information Division published a paper, proposing 20 general ecological principles which were applied to the forest ecosystems in the south-west of Western Australia and used to examine "past exploitation of the forest as well as current forest management" (Abbott & Christensen, 1994, p.110). The paper was directed at critics of the department's forest management practices and attacked their "dismal viewpoint[s]" and "emotive and unscientific approaches" (p.119) towards forestry. Ostensibly, it also served as a justification of then current timber cutting operations overseen by the Department of Conservation and Land Management and as an implicit critique of the Barnett Report (1992), which at the time was critical of CALM operations (also see Chapter Three).

Abbott and Christensen took the approach that the pessimism expressed by some, in their view, extreme biocentrists was unwarranted and that the previously mentioned concerns of the Resource Assessment Commission and concerns about perceived knowledge gaps could be alleviated. The authors concluded in light of the "ineluctable facts and scientific principles" presented in their paper that Western Australian silviculture, notwithstanding its critics, had been successful in "conserving the entire forest ecosystem with all its species intact" and that "forest managers … [would] have good reason to be proud of their efforts" (p.119).

<sup>&</sup>lt;sup>73</sup> Authors of these publications included scientists from the Department of Conservation and Land Management.

In a response to Abbott and Christensen scientists from Murdoch University, CSIRO, Edith Cowan University, and The University of Western Australia published a paper asserting that "the paucity of good data on management issues ... [would preclude] any confident assessment of the impact of forestry in Western Australian forests" (Calver et al., 1996, p.4). The authors expressed their disappointment with the perceived confrontational character of Abbott and Christensen's paper and argued that the pair had – consistent with their philosophical position regarding forestry – paid insufficient attention to non-timber perspectives and subsequently downplayed research priorities in those areas. The usefulness of the ecological principles laid down by Abbott and Christensen was questioned, and concerns were raised about the arbitrary and selective nature of these principles. They were considered too general to be useful and their interpretation too optimistic and overly supportive of the status quo in forest use and management.

Abbott and Christensen (1996) replied to Calver et al. (1996) and launched, going by appearances, a personal attack on the authors, describing their comments as "inappropriate" and "irrelevant" and their critique to be of "little substance" (p.206). Calver and his colleagues were accused of being subjective relativists and opposed to commercial native forest logging and current forest management practices based on ideological biases rather than scientific argument. Abbott and Christensen (1996) reinforced the views put forth in their earlier paper (Abbott & Christensen, 1994) and asserted that no scientific argument could be made against current forest management practices for the "unalterable fact that WA's forests are one of the very few major ecosystems in Australia still retaining almost all of the original pre-European species and ecological processes intact" (p.211). In other words, the pair did not see what all the fuss was about (Abbott pers. com., 2002). Yet, their comments left the debate on the sustainability of forest management and commercial logging sharply polarised.

In a reconciliatory bid, at a time when the Western Australian RFA gained momentum, Calver and six co-authors (Calver et al., 1998) responded to Abbott and Christensen. In this paper Calver et al. (1998) clarified their concerns in relation to Abbott and Christensen's ecological principles. They also questioned Abbott and Christensen's conclusions about the sustainability of Western Australian forestry and their confidence about the sufficiency of data on the ecological impacts of current forestry practices. The authors defended their post-modern approach towards forest ecology in light of what they saw to be an opening in the wider scientific community towards sciencesociety relations. They questioned the existence of "value-free research" (p.261) but, insisting on the distinction between bias and context, dismissed claims of being "prejudiced" and "anti-logging greenies" (p.261). The authors stressed the need for further applied research and suggested the establishment of guidelines for the consistent and codified operationalisation of the precautionary principle within forestry and called for the creation of open and transparent lines of communication (full publication of all relevant data etc.) between Australia's foresters and ecologists.

Once more Abbott and Christensen entered the debate and replied to the views of Calver et al. (1998), this time, however, via an unpublished report prepared for the Executive Director of CALM (Abbott & Christensen, 1999). They welcomed the in principle admission by Calver et al. (1998) to the possibility of sustainable native forest logging and their acceptance of the general applicability of fundamental ecological principles to forest management. However, they defended what the pair seemingly perceived as another attack on CALM's burning and logging practices, citing CALM protocols and procedures as examples of applications of the ecological principles they proposed earlier, standing up for the adequacy of current impact data, and supporting their stance towards the precautionary principle. Abbott and Christensen strongly rejected Calver et al.'s (1998) post-modern tendencies, commenting on the perceived dangers associated with "Calver et al's. (1998) marginalization of objectivity" which they equated to the "loss of scientific credibility and reputation" (Abbott & Christensen, 1999, p.20), and they cautioned their colleagues not to become professionally obsolete by blending science with advocacy and activism. Since the report has not been published, there has never been a response by Calver and his co-authors who were not formally aware of the report's existence or content (Calver, 2002, pers. com.).

This debate, when assessed from the outside, seemingly represents a philosophical clash between perceptions of risk and its treatment. The self-confessed functional realists (see Abbott & Christensen, 1994, 1996) argue that scientists have a "reasonable understanding" (1994, p.110) of the impacts of current use and management practices on forest biota, asserting that current knowledge is "most complete" (1996, p.206) which in turn would enable them to confidently manage the forest estate. They admit to the usefulness of further research but generally express considerable faith in their current understanding of the impact of their management practices on forest ecology. This understanding is backed by their many years of experience as "active forest ecologists" (Abbott & Christensen, 1996, p.208). Consequently, they object to what they call a "narrow ideological interpretation" (1996, p.206) of the precautionary principle, which they see as a demand for complete knowledge prior to any action being taken, believing it to be unrealistic and ultimately leading to a paralysis of all human activity and progress. They disagree with what they regard as idiosyncratic emphasis on precaution by Calver and his colleagues., particularly, in light of the assumed *fact* that logging impacts on the south-west forests have been minimal and that forest management has not caused extinctions relative to past geological and climatic changes (Abbott & Christensen, 1994, 1996).

On the other hand, Calver et al. (1996; 1998), the indicted relativistic precautionists (see Abbott & Christensen, 1994, 1996), side with the arguments brought forth by Wardell-Johnson et al. (1989b) and Wardell-Johnson and Nichols (1991) who suggest that, despite a substantial volume of literature on WA's south-west forest wildlife and habitat management, a poor ecological understanding has remained. While Calver et al. (1996; 1998) accept the possibility of sustainable native forest logging and management, they caution Abbott and Christensen not to see the absence of additional data as de facto support for the status quo in forest management. Indeed, it is this uncertainty stemming from the perceived knowledge gaps that prompted Calver et al. (1996; 1998) to call for further applied research on forestry issues and to suggest more conservative approaches towards native forest logging and management in the interim.

In summary, the scientific debate on sustainable forestry in Western Australia in the 1990s had science on both sides of the divide, each side launching accusations of ideological bias, self-serving and selective argumentation, and flawed methods and reasoning. The dispute mirrors the soft-science-hard-science divide alluded to earlier for it highlights the philosophical differences towards the treatment of objectivity and risk, and it provides a stereotypical example of the rationales employed by so-called positivists and pessimists. The scientists' disagreement on their respective treatment of risk and uncertainty can be exemplified by a statement from CALM staff participating in this study. ... in jarrah on the question of what size trees and how many you should leave per ha when you log in jarrah forests. It started of with three trees per ha above a certain size back in 1989 and then more research came on stream, and it was changed to four, and I think now with the latest possum research that is in the Draft Management Plan it has gone up to six trees per ha left.

In light of Calver et al's. (1996; 1998) interpretation of precaution, the approach to forest management as portrayed in the above statement seemingly constitutes a reversal of the precautionary approach. While this could be construed as an example of adaptive management (see Holling, 1978), the gradual increase of habitat trees left standing after felling in response to new research data supportive of such action strikes as a sign of reaction rather than precaution. Possums are only one component of the fauna assemblage in the forest and overall habitat requirements may indeed be greater than indicated by possum research. In the face of uncertainty surrounding the impacts of potentially inadequate habitat provisions a precautionary approach would result in too many rather than too few habitat trees. While for Calver and his colleagues this is what precaution is all about, for Abbott and Christensen this merely represents an idiosyncratic, narrow, and ideologically biased interpretation.

In the above sections I hope to have shown three things. Firstly, earlier assertions about the de facto protection given to the industry from forestry science should have become clearer. As was shown in the Western Australian example, the categorical nature with which the profession defends forestry practices provides the basis for this bond between industry and science in that claims to an unsustainable and destructive nature of current native forest logging are scientifically discounted. It also leads to the suggestion that commercial imperatives, pragmatism, and positivistic science operate on similar philosophical platforms, which are, circumstantially, mutually reinforcing and thus making this tie between science and industry so resistant to change.

Secondly, there has been a discernible sense of unease prior to the commencement of the WA RFA process among a number of scientists, especially ecologists who took a more holistic view, towards the optimism conveyed by some CALM scientists. Also CALM's categorical dismissal of dissenting views towards forestry in the state within the wider scientific community was cause of concern. This sense of nervousness has arguably added to the already complex and volatile context surrounding the Western Australian RFA (see Chapters Three and Five) and impacted on the ensuing process in a number of ways. For instance, the words of caution and scepticism expressed by Calver et al. (1996, 1998) in relation to forest management certainly provided welcome ammunition to conservation groups to be used for their RFA campaigns, which widely publicised the scientific disagreement. Consequently, the scientific standoff – albeit unwittingly – may not have only underpinned certain existing views towards forestry in WA and the State's respective department in charge (as shown in Chapter Five) but also helped shape and challenge views on science among members of the general public.

Thirdly, science was to form the basis for the WA RFA process. In light of the seeming inseparability of forest science and timber interests, the resultant distrust in the work of CALM, compounded by the scientific disagreement on essential matters pertaining to forest management preceding the RFA process, the science of the RFA was prone to be contested. This in turn was likely to have implications for the process' acceptability, which could be expected to draw on the dominant departmental science.

At this point, it needs to be pointed out that concurrent to the Western Australian science dispute efforts were underway that - involving science at the federal level - would also impact on the credibility of the country's RFAs. The science matter I am referring to here is the formulation of the JANIS criteria (after Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-Committee). A brief coverage of the criteria formulation is important for they formed a part of the scientific backbone of all RFAs.<sup>74</sup> Thus, prior to an examination of the WA RFA science I will briefly address the JANIS process and its scientific underpinnings and subsequently turn to the Western Australian case.

#### The Science of JANIS<sup>75</sup>

In the review of the events leading up to the WA RFA in Chapter Three I described the protracted nature of the process that was intended to provide the national benchmarks for old growth, wilderness, and biodiversity protection. In this context, I showed that

<sup>&</sup>lt;sup>74</sup> East Gippsland in the State of Victoria represents a different case as the East Gippsland RFA was concluded prior to the finalisation of the JANIS criteria.

<sup>&</sup>lt;sup>75</sup> For corresponding collage refer to Appendix XIV (CD-ROM).

this process took four years following the rejection of previous attempts of determining conservation targets in 1993 and 1994. It was after these initial attempts that a group of respected and experienced senior scientists was entrusted with the task of designing a set of nationally acceptable criteria. This section looks specifically – using interview data – at this group's work and the scientific debate surrounding their efforts to develop what became known as the JANIS criteria.

The criteria development for the conservation of biological diversity in native forests was mandated by the National Forest Policy Statement (Commonwealth of Australia, 1992a). These criteria were to form the basis for the establishment of comprehensive, adequate, and representative (CAR) forest reserve systems. Scientifically credible criteria were needed not only to operationalise the terms of the NFPS but also to overcome conservationists' distrust of government-driven processes in relation to forestry (Kirkpatrick, 1998a). The need for credibility made it appropriate, if not essential, to involve scientists in setting those criteria, and it was for this reason that a specialist committee [was] set up to advise the bureaucracy on how much [forest area] ... should [be] set aside. The formation of this committee would have certainly been based on the hope amongst officials that there would ... [be] some sort of sense from the scientific community about the appropriateness of the ... [criteria] that would be developed, especially as there would be an element of political judgement involved.

The scientists in charge of the criteria development were confronted with the problematique that essentially no amount [of reservation] is enough and that they – due to their brief – had to take a practical look, balancing these competing aspects. The main problem for the criteria development was that there was no theoretical or empirical basis for justifying 15 per cent ... over 12 per cent or 16 per cent or 50 per cent (the CAR criteria/percentages are explained in Appendix 8) other than to say that it was far in excess of what was being promoted anywhere in the world at that stage. For reasons relating to this absence of scientific justifiability strong opposition towards the criteria development was voiced from within the wider scientific community, which was fundamentally unhappy with putting quantitative restrictions on forest management and fundamentally opposed the whole concept and the set of criteria that were being adopted. It was feared back then that, because there was no scientific justification for the criteria, science and scientists were used to validate a political process.

Still, the process went ahead, and the group of chosen scientists developed a set of prescriptions in science, which were then put out to the broader stakeholders who were ... the policy people, who then took the view on where those policy guidelines should be put in place or where the targets should be set. It was this process that followed the drafting of the criteria, however, that further affected the credibility of the reserve benchmarks because the draft that was produced was basically shunted, it was shunted back to JANIS. This meant that the work done by the group of scientists was referred back to the "experts within the bureaucracies and the bureaucrats at the higher policy levels" (Kirkpatrick, 1998a, p.34). These ministerial representatives ... put a lot of "may" or "if it's appropriates" etc., etc. in to it so that ... [the criteria] did not have any real force like [in] the original document. On this point Kirkpatrick (1998a, p.34) points out that "while much of the wording of the original criteria document remained intact, additions and deletions were made ...", which essentially excluded the conservation of biological diversity on private land, leaving open the "question of the proportion of the reserve system that should be secure", allowing for socio-economic provisos to weaken the strength of the criteria initially proposed, and deleting "all reference to the maintenance of the unreserved forest in a largely native condition."

The last point highlights the extent to which the bureaucratic modifications weakened the scientific credibility of the JANIS criteria given that the scientists involved in the drafting thought that the percentages they had given for forest reservation were meaningful only if there was sympathetic management of what is going on outside of the reserve areas. Modification meant that the final JANIS document had "little scientific credibility" (Kirkpatrick, 1998a, p.34). There were also other points of contestation, as mentioned earlier in Chapter Four, such as the flexibility criterion and the inclusion of linear reserves in the conservation estate, measures which potentially allowed the minimisation of coherent reserve areas given that it was a matter of to what degree these options would be used.

The responses to the JANIS criteria were mixed. Some government officials, especially those entrusted with the running of the RFA processes, maintained that the JANIS criteria were very good, especially when bearing in mind that ten per cent of ecosystems being considered ... [were] a pretty good international standard. For the supporters of the JANIS criteria the scientific dissent to the criteria was expected. In fact, it was

conceded that it may have been that some scientists did not agree with those JANIS criteria but that was largely seen in the realms of: If you have 100 scientists in a room, you might get 90 per cent agreeing generally, and there will always be a ten per cent dissent. It was seen as a matter of getting general agreement, knowing that you will never get full agreement.

Other government employees were more critical in their stance towards JANIS for they saw this set of criteria developed by the bureaucracy as an imposed formula which [would satisfy] certain groups of the community ... but ... ignore the communities' wishes. According to those critics, although scientists were involved in setting those criteria, they were finally a product of bureaucracy, and that it was the bureaucrats who interpreted [the figures] wrongly.

The Western Australian timber industry had its own reservations about JANIS. Industry representatives saw the departure from the 10 per cent figure for forest reservation, as was then promoted by the International Union for the Conservation of Nature (IUCN) and the World Wildlife Fund (WWF), and the subsequent adoption of the 15 per cent as a huge political mistake. Given that the government decided to make the national standard by five per cent better than the prevailing international standard, industry thought that that [w]ould be a quite acceptable outcome for the people of WA because it was better than ... [anywhere else] and ... not some criteria dreamt up by CALM or some shonky deal. In other words, the industry would have preferred a lower reservation requirement for the 15 per cent [figure adopted] was [considered] huge. Yet, at the same time the industry seemed hopeful that this concession would calm down antagonistic conservationists for their demands were, as they saw it, more than acceded to.

Western Australian conservation groups perceived the JANIS process as a distortion, a perversion, and a fraud from start to finish and the stupid-looking JANIS figures as totally arbitrary, believing that there [was] no scientific basis for the 15 per cent or the 60 per cent chosen by JANIS. Also, given that these criteria ... were developed for Australia as a whole, conservationists felt that they would not apply over here [in WA], and it was held that it was unfair dragging ... [the State] down to the lowest common denominator. Conservationists perceived the JANIS criteria as baseline figures [which]

... became target figures to be achieved where possible or pragmatic. The inclusion of riparian reserves and the flexibility criterion was interpreted as an attempt to strategically minimise reservation areas, and overall, conservationists saw in JANIS a huge disservice to the WA's reserve estate. Concerns such as these, however, were not raised by conservationists around the time of the criteria development but at a later stage when it came to the application of the criteria to the Western Australian RFA throughout late 1997 to 1999, especially in relation to old growth and wilderness protection.

The issues surrounding the JANIS criteria development add to the tally of contested science. Although the JANIS criteria development process was designed to deliver the scientific basis for the country's RFA processes, it only succeeded in effectively blurring the lines between science and politics. From a Western Australian perspective, the JANIS criteria failed to convince a number of RFA stakeholders that the RFA process would be both credible and based on best science. As a consequence, the science of the WA RFA was prone to be highly scrutinised and contested.

### Perceptions of the Science of the Western Australian RFA

"The RFA will underpin forest emotion with facts"

(Edwardes, 1999)

A scan of the interview data<sup>76</sup> for comments on the science of the Western Australian RFA process showed that the issues raised by research participants ranged from general comments (a lot of sciencists involved – and – one extreme of bogus ... or manipulation of science) to very specific aspects of scientific projects carried out for the RFA (huge misgivings that the process was in any way arriving at reasonable conclusions as far as the probability of species occurring was concerned – and – CALM has a number of databases that were not made available to us) and the processes that governed the scientific assessments (there was no editorial involvement – and – inadequate time was given). I therefore decided to examine these responses in more detail under the following headings and subheadings:

<sup>&</sup>lt;sup>76</sup> For corresponding collage refer to Appendix XV (CD-ROM).

- Comprehensive Regional Assessment (CRA)
  - o CRA Reports
  - o Peer Review and Data Handling
  - Perceptions of the Political Climate and Power Structures During the Process of the WA RFA
  - o Specific Issues of Contestation

The following analysis does not intend to provide a detailed study of the scientific disputes that were carried out in the course of the WA RFA; it is the treatment of science in general that is being analysed. The need to protect the identity of research participants and data availability, on occasion, precluded a detailed analysis of scientific disagreements.

## The Comprehensive Regional Assessment (CRA)

The comprehensive regional assessment work done for Western Australia was intended to deliver the scientific basis on which a Regional Forest Agreement would be reached between the Commonwealth and the State governments. The various reports emanating from the assessment work were compiled and published in 1998 in a Comprehensive Regional Assessment Report (Commonwealth of Australia and Government of Western Australia, 1998a). The report stated that "natural, cultural, social, resource and economic values in the forest of the South-West Forest Region" had been examined and that detailed assessments were made of "biodiversity, oldgrowth forest, national estate, wilderness, world heritage, social values, forest resources and forest-based industries and ecologically sustainable forest management" (p.iii).

# CRA Reports<sup>77</sup>

Many of the CRA reports were unique in that they were the first of their type compiled in the State. Particularly noteworthy were the six disturbance reports among the CRA studies. These disturbance reports were concerned with the impacts of key disturbances, largely anthropogenic disturbances such as logging, clearing, mining, recreation, and others, on forest biota (Bougher, 1997; Christensen, 1997; Horwitz et al., 1997; Lamont et al., 1997; Majer & Heterick, 1997; Safstrom & Lemson, 1997). These

<sup>&</sup>lt;sup>77</sup> For corresponding collage refer to Appendix XVI (CD-ROM).

reports were supposed to provide much of the ecological basis for the RFA and were considered to be of special interest because they addressed disturbances from an ecosystem perspective. They were also intended to bring together all existing ecological knowledge of forest ecosystem disturbance. In addition, the disturbance studies drew – with the exception of one project (Christensen, 1997) – on expertise outside the Department of Conservation and Land Management; the significance of this decision will be addressed at a later point in connection with the characteristics of the scientific process of the WA RFA. It is these research projects and related environmental studies that I would like to focus on here because of both their status and the fact that much of the controversy surrounding the RFA revolved around this part of the assessment work. This is not to suggest, however, that other CRA assessments were of lesser significance to the WA RFA, and reference will be made to these at a later stage.

Common to all disturbance reports were comments by their authors in relation to the time they were given to conduct their reviews and compile their reports, which on average was a period of six weeks. This was considered an "extremely brief contract time-frame" (Lamont et al., 1997, p.3), substantially limiting their capacity to critically reflect on, and digest, their often complex data (Horwitz et al., 1997; Majer & Heterick, 1997). In the end, the authors of all disturbance reports indicated that additional time might have enhanced the quality of their work. Similar views were expressed by authors of other CRA reports who also argued that not enough time was given and that overall the time available to them to complete the reports was utterly inadequate. There was a general sense that the apparent rush and pressure on to get it all over and done with ... actually constrain[ed] the process, and nobody seemed to understand why the time that scientists were given ... was constrained ... since there [was] no reason why it should have been ... because the whole process took four years anyway (We were constantly told while we were doing these reports that this had to be done, we only had five weeks, it had to be done, because it had to be signed ... all the Ministers wanted to sign this very quickly. None of the Ministers did sign it very quickly and that's the point).

Government officials justified the timeframes, stating that [i]t was a legislative requirement for the RFAs to be completed by a certain date, and that tended to drive how you structured your timetable for doing all of the assessment work. This was true, the WA RFA Scoping Agreement (Commonwealth of Australia and Government of

Western Australia, 1996b, p.13) did envisage the process completion "by end December 1997." Still, to a number of interviewees the rush meant that ... there was no attempt to initially have a good look and decide what needed to be done and that [i]t was not really possible to do anything new or to decide what needed to be found out to do things properly. This last concern was raised in relation to the scoping of the reports, which was, together with the establishment of the timeframes for the CRA studies, something the Steering Committee ran. One Interviewee questioned whether ... shortterm desktop review[s], which many of the studies were, [were] adequate for the topic[s] researchers were asked to look into. While in general scientists maintained that the funding was adequate and they did an exceptionally good job with the resources that were available and the limitations at the time, many of those interviewed expressed unease in relation to the adequacy of the data that was meant to underpin the Western Australian CRA (the data sets that were available are totally inappropriate really for the modelling process that was defined). In relation to flora and fauna studies which were supposed to provide input to distributional or biogeographical modelling, numerous scientists complained that there was no scope to go and acquire additional data. Especially in the case of fauna it was argued that there needed to be data collected, not just data compiled and that [t]here needed to be directed research programmes aimed at obtaining specific information which ... [they] knew was lacking. To some interviewees the scoping of projects which effectively prevented the collection of additional data was deliberately based on the attitude that: We don't want a particular sort of information, we don't want good data sets on this, we don't want to know. It was alleged that there was a guiding fear that if there are good quality data and they are in the public domain then the nature of the debate would change enormously.

Additional data was called for because it was believed that there ... [were] major shortcomings in the temporal sequence ... and ... spatial sequences of the data that were thought to be fundamentally required. Furthermore, fauna mapping showed that there were huge gaps in ... [the scientists'] knowledge of distributions within the forest of the core species that ... [they] had chosen and that there were lots of species where there was none or very little information available on their distribution or habitat within the forest. It was also suggested that the data that was available in Western Australia on fauna was not really suitable for the modelling process, because it had been collected for other purposes; not in most cases in a systematic way, consequently producing computer results which, biologically, were just nonsense. To illustrate this point, it was held that 90 per cent plus of the Museum data, which constituted a considerable proportion of the available data on fauna, [was] not at a fine enough spatial scale of resolution to be particularly useful for modelling purposes. In other words, it was argued that there was insufficient data to make it worthwhile to be doing the modelling.

Consequently, there was considerable concern that the process was in any way arriving at reasonable conclusions as far as the probability of species occurring was concerned. It was repeatedly stated that the conclusions were extremely suspect in the sense that they ... [were] based on inadequate data and neither ... on a fair and comprehensive assessment of the entire forest region nor ... on any assessment of major conservation requirements throughout the forest region. In relation to fauna there was a widely held perception that there was inadequate timing given to acquire ... [additional] data ... and that proper survey[s] [were] not conducted, and a number of interviewees expressed great misgivings about the whole process and considered the outcome ... [as] quite flawed. Also, the scientists concerned saw their fears validated by the fact that fauna, as opposed to the predictive modelling or mapp[ing of] ... the vegetation and the floristic data, never played a particularly important role in the RFA process in the end due to those limitations cited above.

All of the above illustrates that a number of serious concerns were raised by scientists regarding the reliability of some of the CRA data used for the formulation of forest use and management prescriptions under the RFA. Certainly the issue of time, terms of reference, and data quality were shown to have been the underlying cause for most of the unease expressed by research participants. In relation to the CRA studies there are also range of process-related issues that need to be addressed. For instance, on the question of impact of the CRA studies on the final CRA report and the RFA document the interviews revealed that some scientists felt that the process ... was limited and controlled and that certain scientific views that have been expressed about the ecology of the south-west forests ... did not find their way into any of the RFA documentation. In the following section I will be looking at the scientific checks and balances that were in place to ensure the veracity of the CRA data and will analyse the atmosphere in which the science was conducted and debated. I also hope to identify the power structures that may have affected the scientific of the WA RFA.

## Peer Review and Data Handling<sup>78</sup>

It is considered a standard procedure in science that researchers seek a peer review, and [that] then a third person, who is [neither] reviewer [nor] author, makes a decision as to whether changes need to be made to the document or not. This view was also taken at the ministerial level of the State and the Commonwealth where it was held that the normal scientific process for doing a study ... is to do the study and have a peer review process and then refine the work. In general terms, the aim of peer review is to establish the validity and quality of research; it is supposed to keep the charlatans out of science and to help maintain science as a process. Peer reviews legitimise science and are therefore considered a vital part of the scientific method.

Scientists involved in the CRA projects suggested that there ha[d] been an inadequate review process, that all ... reports went through some sort of haphazard review, an unclear process of incorporating the material found within them, [and] a very stifled publication process in which the reports were made public. Both researchers and reviewers expressed their reservations. Research scientists suggested that the peer review was a higgledy-piggledy mess in terms of ... how [the] reports were going to be dealt with, how they were going to be reviewed, how they were going to be assessed and handled, and there were complaints that there was no editorial involvement, which ... [would be] usual ... in a peer review process. Misgivings were expressed about the way the reports were dealt with in that it was apparently the scientists who had to argue that the reports [should] get reviewed, which was thought to be ridiculous. One interviewee spoke of disturbance reports that were submitted on time to the Technical Committee, which at the same time were sent to the three names ... [the authors] offered as the reviewers, and they [the reviewers] responded to both the Technical Committee and the authors. Supposedly, that was the public review process for those disturbance reports, and that was about as good as it got. It was also alleged that [t]here was no formal acceptance of the peer review and no instructions, coming from the Technical Committee to the authors as to how they were to deal with that review. Attempts by scientists to have the peer review improved were said to have been faced with resistance the whole way through that process in that calls for the findings of those disturbance reports ... [to] be disseminated to the wider scientific community ... [were] not taken up ... [and] refused.

<sup>&</sup>lt;sup>78</sup> For corresponding collage refer to Appendix XVII (CD-ROM).

One reviewer felt that the submitted reports had been compiled too hastily and that a disturbance report copy that ... [was] received ... [for] review was clearly incomplete. This was attributed to the fact that the authors [had] not been given adequate time and hence, in response to very pressing time deadlines, submitted a draft rather than a final version and then presumably, when a final version was received, that it was actually felt that the time was too short to actually go through with the review process. Thus, there was a sense that the process itself seemed to leave too little time for the actual preparation of the reports and then for the proper assessment of those reports once they were submitted. These comments were congruent with statements expressing a general sense that mighty haste and errors were characteristic of what happened in the larger process, primarily because of the pace in which everybody was moving. Certainly, the issue of time was a recurring theme with the added irony that the review process and the process of acceptance, after scientists were being told [to] hurry, hurry, hurry, was taking months.

Senior government sources defended the review process, maintaining that the majority of ... [CRA] reports was actually peer-reviewed, although not ... all 46 reports were reviewed, ... definitely all the critical ones were, and it was suggest[ed] that was the majority of them. This last assertion was subsequently qualified by the statement that those 46 reports ... were not just scientific reports, there were also socio-economic reports etc., etc ... [and] where appropriate there was peer review. This qualification shows a clear distinction between hard science and soft science, the former presumably representing science and the latter representing some type of undertaking somehow distinct from science. Also, this statement discredits the CRA process and devalues the final CRA report in that it suggests that social and economic CRA data, for instance, were not based on science and thus not worthy of review. This second point was underpinned by the assurance made that the assessment work was done in a very scientific manner by, in most cases, scientists themselves either from government or contractors to the government. Finally, the selective and closed review process suggests that value judgements were made by the Steering Committee, as to which projects were worthy of review, which ones were not, and what the review would entail.

Another issue of concern was data handling and data publication. Interviewees expressed considerable misgivings about how the reports were dealt with and how they were incorporated into the process. It seemed that they were concerned that the people who were actually in control were not scientists and had no knowledge. One interviewee described a situation where Commonwealth bureaucrats assigned to the task of reading ... [a disturbance] report were picking out the bits to go into the Comprehensive Regional Assessment. It was felt that the bureaucrats took facts, or what they thought were facts and figures, out of the report but never told ... [the scientists] how ... [the] report [was] going to be dealt with. In the end, a number of scientists found that ... [the] recommendations that were in ... [their] disturbance report were not included in the summary, which was released at a time when the disturbance report in question had not even received final assent. It was suspected that other disturbance reports received similar treatment. Comparable statements were made by State parliamentarians who were approached by scientists involved in the RFA process stating concerns about the data and what was being collected and what was not being collected, ... where their studies have been taken, about the timeframes, and about the data that was used. The issue of selectiveness was also addressed by Horwitz & Calver (1998). As part of their critique of the scientific credibility of the RFA process they took issue with the fact that much of the current scientific debates on aspects of forest management were ignored in the final CRA report (e.g. Abbott & Christensen, 1994; Mawson & Long, 1994; Abbott & Christensen, 1996; Calver et al., 1996; Davison, 1997; Mawson & Long, 1997; Stoneman et al., 1997; Calver et al., 1998). In the end, the CRA process was not only criticised for being selective about data derived from CRA reports and about research conducted prior to the RFA but also for not being explicit about serious matters of debate that remained unresolved.

In an attempt to verify these claims I searched the Comprehensive Regional Assessment document (Commonwealth of Australia and Government of Western Australia, 1998a) for references to the recommendations made in the disturbance reports in question and merely found a general acknowledgement that the disturbance reports on fauna (i.e. Christensen, 1997; Horwitz et al., 1997; Majer & Heterick, 1997) represented "the initial stage in the identification of potentially threatening processes" (p.152); this was the only reference to the disturbance reports on fauna. In contrast, the aforementioned concerns expressed about the data quality and suitability for flora and fauna modelling were recognised in the CRA document, yet it contained little information, for instance, on key disturbances and ecosystem processes as addressed by Lamont et al. (1997) whose recommendations, as a point of interest, mirrored a number of the recommendations made by Calver et al. (1996; 1998). In short, scientists' claims were valid that a number of issues addressed in the CRA studies were not included in the final CRA Report. Statements made by Horwitz & Calver (1998) regarding the omission of relevant literature were also verified. It seems that most of the data that was said to have been omitted by the interviewees was data that was disapproving of aspects of current forest management processes or which challenged assumptions about ecological processes. Many of the concerns raised in the disturbance reports were not incorporated in the CRA document nor were any of the earlier mentioned studies on jarrah dieback, water-logging, hollows etc. incorporated. This gave a number of interviewees the impression that the coverage [of certain views] was inadequate and that the process was failing to take into account the intensity of some of the scientific dispute that has occurred prior to the RFA.

The timing of the publication of the documents and the selective inclusion of data in the CRA report must have had an influence on the public consultation process. Many of the disturbance and other CRA reports did not reach the public domain until close to the end of the public review period of the Comprehensive Regional Assessment, if at all. The Comprehensive Regional Assessment was released in February 1998, but according to government sources the comprehensive regional assessment work [was only completed] round about October 1998 with the exception of the National Estate Report ... [which] came out a little bit later. This also meant that numerous CRA reports were not made publicly available prior to the release of the Public Consultation Paper (Commonwealth of Australia and Government of Western Australia, 1998c), which was published in May 1998.

The Public Consultation Paper (Commonwealth of Australia and Government of Western Australia, 1998c, pp.6-7) stated under the heading 1.2.4 Stages of the Regional Forest Agreement process completed to date that the details of the CRA projects were contained in the final CRA Report (Commonwealth of Australia and Government of Western Australia, 1998a), the World Heritage Report (World Heritage Expert Panel, 1998), the Assessment of Mineral and Hydrocarbon Resources (Geological Survey of Western Australia & Bureau of Resource Sciences, 1998), the report on Ecologically Sustainable Forest Management (Ferguson et al., 1997), and the then forthcoming National Estate

Identification and Assessment (Joint Commonwealth and Western Australian Regional Forest Agreement Steering Committee, 1998). The Public Consultation Paper (Commonwealth of Australia and Government of Western Australia, 1998c, p.7) referred to CRA reports as part of the "materials developed to assist community consultation." However, not all reports were made available in time to meaningfully complement both the Comprehensive Regional Assessment and the Public Consultation Paper, and indeed some reports remained unpublished for the time being. Interviewed RFA stakeholders found that to be a fundamental weakness of the process because they believed that [t]he public needed to know what the processes were, why those reports were commissioned, what was important about each of the reports; in other words, the rationale for each report, and the public needed to have time to review and adequately assess all of these reports to enable the logic trail, the reason trail, and the paper trail to be followed from the commencement of the RFA process to the final decision (the working papers that were generated ... some of those key reports were either never written or they were written very late).

It becomes apparent that, in the eyes of process participants, the CRA process exhibited significant shortfalls relating to the obtainment, analysis, handling, and publication of scientific data on which the WA RFA was meant to be based. These concerns were to be fuelled also by the perceived atmosphere under which CRA data was being produced and the power structures in place that were seen to affect data access and communication.

# Perceptions of the Political Climate and Power Structures During the Process of the WA RFA<sup>79</sup>

Newspaper headlines such as "Five arrests as war restarts in forests" (Rechichi, 1999a) and newspaper articles employing terms such as "battle" (Rees, 1999), "warriors" (Barrass, 1999), "kill" (Burns, 1999b), to only mention a few, give an impression of military conflict during the RFA process to describe the climate in which negotiations over WA's forests occurred. Interviewees acknowledged that there ha[d] been a long history of acrimonious dispute and debate in the scientific community over forest management in the south-west of Western Australia. It was felt that there was a general recognition among some scientists with expertise and interest in the area that to speak

<sup>&</sup>lt;sup>79</sup> For corresponding collage refer to Appendix XVIII (CD-ROM).

critically of current management practices risked attack from some of the government departments working in the area. Examples of such attacks were provided earlier in this chapter. In the context of the assessment work for the WA RFA it was argued by research participants that many forest biologists in WA were ... employed by CALM and therefore not free to speak up for there was perceived to be a climate and an atmosphere in which people might [have] be[en] reluctant to speak their full opinions. Interviewees pointed towards a general level of fear or uncertainty within the scientific community [that] would [have] inhibit[ed] good, fruitful, and honest debate on some of the issues at the heart of the RFA. This is presumably what Horwitz (evidence given to the Standing Committee on Ecologically Sustainable Development, 1997) described as "science based on power relationships."

Power relationships, at the time, seemingly influenced the accessibility of data sources and data access. Due to the nature of many of the biological CRA studies it was not surprising that much of the data came from existing information held by [the Department of] Conservation and Land Management obviously as the primary data holder for forests in WA. There were questions, however, whether all the CALM databases had been made available to CRA researchers, and while some scientists suspected that a lot of data sets that had been contributed to CALM ... were not [made] available to them others stated categorically that there were quite a few databases, or sets of data ... that were not available. In general, it was felt that information ... was very, very tightly controlled ... and limited. Commonwealth participants also stated data access problems, suggesting that they were spending meeting after meeting negotiating data access with CALM senior management. It was claimed that [t]he Commonwealth felt that it needed full and open access to the data during and after the completion of the CRAs, especially if the RFA was going to be credible and durable; however, it was indicated that their access was restricted.

These comments relating to data access were part of a wider critique on the centrality of CALM to the RFA process, which was considered to be very, very much dominated by CALM staff, CALM officers. Although CALM staff argued that all these consultancy reports were mostly written by outsiders, a question in the Parliament of Western Australia to the Minister for the Environment revealed that of the 38 CRA reports commissioned at that point in time 26 involved CALM staff (WA Parliamentary

Debates - Hansard, November 1997). This degree of CALM involvement gave weight to the perception that the Herbarium and CALM ... received a lion's share in terms of the funding and [that] they also ... [had] the lion's share in terms of involvement of scientists. To some scientists, however, this did not seem to be an accurate representation of the amount of science that [was] ... going on in the forests outside of CALM, and it was thought to be a disproportionate representation of CALM. It was this very substantial CALM input into the RFA that caused a large number of RFA stakeholders to be concerned that CALM [would be] ... absolutely and completely in control of the process. Furthermore, it was alleged that there was no real effort made to ensure that the outcomes from any scientific process, especially those processes that were done outside of CALM, were the best available. To further expand on that point we need to return to the issues of project scoping and the inclusion of outside expertise. The Public Consultation Paper (Commonwealth of Australia and Government of Western Australia, 1998c) promised consultation with the scientific community throughout the RFA process. It also made reference to a number of independent expert panels and workshops that were employed to contribute to the process on matters relating to biodiversity assessment projects, assessment of project methodologies, validation of project results, and others. Interviewees who participated in these processes felt that they were fairly well marginalised, that there had been very infrequent meetings, very inadequate agendas, and [that] basically their advice was ignored. In addition, there was a sense that scientists were only called to bring in some independent arbitration because the Commonwealth people and the State people did not agree. The only one [group] that was actually based upon an independent committee process was, according to stakeholder views, the Expert Advisory Group on the assessment of ecologically sustainable forest management. The only other science forum that received a positive mentioning by research participants was a symposium at Murdoch University convened by the National Trust of Australia (WA) on the WA RFA in 1997. This forum was considered a good way of bring[ing] all the parties together, such as local government, CALM, Commonwealth, beekeepers, and all sorts of people, for a public exchange of views and ideas (for details on the symposium refer to National Trust of Australia (WA), 1997). Ironically, this forum was external to the RFA process.

So far I have dealt with issues of CRA procedure, and the data has revealed perceptions of a wide range of process-related flaws, including data suppression, intimidation, monopolisation of research, and poor data publication. In the next section of this analysis I shall concentrate on more specific subjects of contention. Members of the scientific community identified a wide range of issues that they saw to have been at the core of the RFA debate. These included clearfelling (I think that clear-fall logging in native forests is unsustainable. There is no way that clear-fall mimics in any form of disturbance this forest has been subjected to in its evolutionary or historical past), reservation (See, I think the position that ... [CALM staff] went into at the beginning of the RFA was that (a) they hated greenies, especially after the mauling they received over the Forest Management Plans, and (b) we have given away enough forests as parks and reserves, we don't want to be placed in the position of having to have more parks and reserves taken out of what's left), the amount of cut (There was an accelerated rate of logging in the jarrah and the karri forests), woodchips (Really, you have to say, looking at Australian forestry, that sawn timber products are a residual to a pulp wood driven industry), job losses (The instructions were from the Commonwealth that there should be no net job losses. I mean that was the political basis that the Commonwealth should pursue no regrets measures), old growth forest logging (The extinction of old growth by its very nature is not an ecologically sustainable process and neither is the continued intensification of native forest management), and many others. As it is impossible to analyse all the relevant data for all of these issues, I will concentrate on the issues of old growth forests, the accreditation of linear/informal reserves, and allowable cut. These issues were chosen also because they had given rise to much of the public disquiet about the RFA in the late 1990s and, as was shown in Chapter Three, provoked heated debate in the years preceding the WA RFA.

### Specific Issues of Contestation

## Old Growth Forests<sup>80</sup>

The protection of old growth forests was arguably the single most contentious issue of the WA RFA. It featured prominently on the front-pages and one-page lift outs of newspapers and magazines throughout 1998 and 1999 (Capp, 1998d, 1998c) and being the subject of various public opinion polls (Westpoll, 1998; AMR: Quantum Harris, 1999). Interview data mention conflict arising over old growth forest logging given the high profile of that forest in the community and the fact that the conservation

<sup>&</sup>lt;sup>80</sup> For corresponding collage refer to Appendix XIX (CD-ROM).

movement were wanting no logging in old growth forests. The RFA conflict centred on the fact that it [the cessation of old growth logging] never was intended to be an outcome of the RFA, which promulgated the slogan 'stop old growth logging'. Consequently, scientific debate grew around the issue of which parts of the forest were old growth forest and around the degree to which old growth should become part of reserve design in WA.<sup>81</sup> The JANIS criteria endorsed the definition for old growth laid down in the National Forest Policy Statement (Commonwealth of Australia, 1992a, p.49), which defines old growth as "forest that is ecologically mature and has been subjected to negligible unnatural disturbance such as logging, roading and clearing. The definition focuses on forest in which the upper stratum or overstorey is in the late mature to overmature growth phases." This characterisation, however, proved problematic in Western Australia for two reasons.<sup>82</sup>

Firstly, in relation to karri forest, karri fitted well into ... [the] agreed national definition and CALM and Commonwealth officers could agree that karri ... old growth forest was older mature forest that was negligibly disturbed. However, the national definition did not mesh well with the jarrah forest because it was considered practically impossible to use [jarrah] canopy characteristics to determine old-growthness. In other words, aerial photography, which old growth mapping is highly dependent on, could not be used to identify the old-growthness of jarrah forest. In this context, it was held that CALM sought to impose their own definition of old growth and presented a methodological approach, which they had used for the karri forest (i.e. mature forest and the stand configuration to identify senescence) (on this point also see Standing Committee on Ecologically Sustainable Development, 1999). This approach implied that the measurement of trees to be reserved on the basis of old growth were to be determined by canopy dominance via remote mapping. This approach was challenged however by federal government negotiators, and in the end it was agreed, because of the way that the jarrah forest canopy behaves, to use disturbance as a surrogate for old growth.

<sup>&</sup>lt;sup>81</sup> This debate included strong disagreements also over the pre-European old growth forest extent, which was to serve as a baseline for negotiations on old growth reservation. Conservationists estimated the pre-1750 old growth forest extent to have been 4.2 million ha whereas CALM saw that figure to be closer to 3.5 million ha (see Conservation Council of WA et al., 1999).

<sup>&</sup>lt;sup>82</sup> This problematique is also recognised in the Old Growth Mapping Report by Bradshaw (1998) and the review of data and methodology for old-growth mapping by the Environment Forest Taskforce, Environment Australia, and CALM (1997), which formed a part of the CRA.

Secondly, the adoption of disturbance as an old growth proxy for jarrah left open the meaning of *negligible disturbance*. Broadly, the question was whether forests had been subject to timber harvesting or not and a range of other disturbances including disease (primarily *Phytophthora cinnamomi*). Interview data revealed that State-Commonwealth negotiations on old growth protection were complicated by philosophical differences ([there were] a lot of arguments over the basis for the determining of negligible disturbance). The NFPS (Commonwealth of Australia, 1992a, p.11) recognised the "high aesthetic" and "cultural" values of old growth but also its "nature conservation values." Yet, it was held that CALM … fundamentally did not believe in a special value pertaining to old growth. Interviewees alleged that CALM staff actually held an explicitly stated philosophical view that old growth forest was an anthropogenic construct. Indeed, CALM staff confirmed that there is nothing particular about [Western Australian] old growth forests which is absolutely indispensable for biodiversity conservation for the main attribute of old growth forest is hollows … [and] hollows are not only found in old growth.

In the end, 347 578 ha of old growth forest was identified but a total of 24 300 ha of old growth were excluded on the basis of disease (WA Parliamentary Debates - Hansard, April 1998). This decision was seen to have come about because of CALM's stance on old growth forests. The department appeared to have used phytophthora mapping strategically to determine the areas that were not old growth so as to minimise the amount of forest that could be classified as old growth.

These scientific disagreements at the State-Commonwealth level were publicised by conservation groups for whom old growth was a particular issue. Conservationists held the view that [CALM] really did fiddle the figures. They saw the formula: old growth is virgin forest minus dieback affected forest as a way that ... allow[ed] them to minimise the area of old growth. This view was formed primarily in response to the ... old-growth forest mapping (Bradshaw, 1998), which was said to have been the one [CRA report] that probably was subject to most criticism because it was believed that CALM ha[d] ... the old growth wrong. As a reaction to stakeholder agitation a second old growth report was commissioned by Environment Australia "to independently review the old growth status of areas not mapped as old growth by the CRA" (Mattiske Consulting Pty Ltd, 1998, p.1). However, green groups also criticised this report

because it was held that the timeframe ... allocated made it ... impossible ... in find old growth that CALM had missed. In other words, the second report was seen to have incorrectly assessed old growth (see Capp, 1999a) and was therefore considered to be an endorse[ment of] CALM's assessment of old growth forest. The inclusion of old gravel pits and a rubbish tip into the old growth reserve estate (see Armstrong, 1999c; Burns, 1999d) and the revelation that over 350 000 ha of reserved areas were not forest but swamps, sand dunes, rocky outcrops and cleared land (see Burns, 1999c) further fuelled the cynicism of many stakeholders. Antagonism also grew when RFA maps revealed that forests with the highest timber production areas ... [seemed to] coincide with the areas that ... [were] not protected (see also Burns, 1999a; McKenzie, 1999). Within the science community the old growth issue remained contested even after the RFA had been finalised in May 1999. Some scientists supported the conservationists' calls for more old growth protection for they feared, amongst other things, that the "survival of a wide range of animals" would be threatened by continued old growth logging (see Taylor, 1999, p.1). Others like Dr Turner from the Forestry Department at Australia National University, who headed the RFA expert panel for the determination of the sustainable sawlog yield for the jarrah and karri forest, were reported to say that "enough old growth forest had been preserved for environmental purposes" and that further reservation would be "a political and social decision, not a scientific one" (Armstrong, 1999b, p.6). In other words, the science community was divided on the issue of old growth protection.

The RFA signed in May 1999 protected a total of 232 800 ha of old growth forest, which meant that the RFA delivered an additional 45 700 ha to the old growth estate; a 24 per cent increase (WA Parliamentary Debates - Hansard, 1999a). The area nominally protected under the RFA exceeded the figures stipulated by JANIS by 11 per cent (including informal reserves) and was said to contain "some important areas of old growth - areas which best meet the nationally agreed reserves criteria" (WA Parliamentary Debates - Hansard, May 1999a, p.7890/1). The areas that were not included were considered "not [to] contain significant areas of old growth or were not needed to meet nationally agreed criteria" (WA Parliamentary Debates - Hansard, 1999a, p.7890/1). It is these points pertaining to the quality of the old growth protected, however, that were contested (see WA Parliamentary Debates - Hansard, May 1999a). This issue of the quality of protected old growth forests also relates to the general make-

up of the reserve system. Critics of the RFA argued that informal reserves featured excessively in the design of the reserve system, resulting in forests of high vulnerability and poor quality being protected whilst high quality forests remained available for logging.

# Informal Reserves<sup>83</sup>

The issue of linear/informal reserve accreditation was controversial both politically as well as scientifically. The JANIS (Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-Committee, 1997) document made it clear that the use of "linear reserves should be avoided where possible except for riverine systems and corridors identified as having significant value for nature conservation" (p.18). Informal reserves should only be employed where it was "not possible or practicable to include conservation values into Dedicated Reserves" (p.7). In recognition of the ecological problems associated with reserves of that nature (e.g. Saunders et al., 1991; Wardell-Johnson et al., 1991; Bachelard et al., n.d.), the inclusion of informal/linear reserves was intended to be a last resort where formal reservation was not achievable (There is a very large body of literature available which all indicate that in terms of secure reservation systems linear reserves are not much good but ... and that the JANIS criteria were quite explicit in that ... basically they are not much good). Yet, WA wanted to accredit a large contribution from those linear informal reserves because - as argued by some - there [was] no logging potential (see also Conservation Council of WA et al., 1999). While in the eyes of some stakeholders that represented a stretching of the flexibility criteria made available under JANIS, Commonwealth officials found it difficult to argue against the accreditation of these reserves because of the compromises that had already been made in other RFAs (such as Victoria and Tasmania), which meant that science did not enter into the debate.

According to one interviewee, [t]he problems were that the Commonwealth accredited some dodgy linear reserves in Victoria, and then they accredited some even more dodgy linear reserves in Tasmania to minimise the impact of resources withdrawals... in that context it was very, very difficult to argue best science with the Western Australians (So a bad decision is made, and an even worse decision is made the next time). Still, to a

<sup>&</sup>lt;sup>83</sup> For corresponding collage refer to Appendix XX (CD-ROM).

number of RFA stakeholders this struck as an another attempt to effectively minimise the extent of new conservation reserves to count ... road, river and stream reserves as informal reserves ... [with] real genuine environmental value. Stakeholders saw many injustices in the inclusion of linear reserves including that [t]he RFA ....[did] not recognise the Valley of the Giants (a well known tourist destination in the south-west of WA) as old growth but [recognised] the scrub on the side of the highway south of it [as old growth]. The RFA, as signed in May 1999, delivered approximately 1.5 million ha CAR reserve system (44 per cent of the public land in the region), which included 12 898 ha of informal reserves on Crown Land and 137 886 ha of informal reserves in State Forest (The State of Western Australia and the Commonwealth of Australia, 1999).

## Allowable Cut<sup>84</sup>

Matters relating to the allowable cut for jarrah and karri have been the subject of considerable debate in the State for over 15 years, as indicated in Chapter Three. McComb (1994, p.1) described an "aggressive philosophy to timber harvest within some high-level administrators of CALM." This stance by CALM gave rise to a number of inquiries into the sustainability of timber cutting in Western Australia's forests (e.g. Barnett, 1992; Environmental Protection Authority, 1992; Meagher, 1993; Environmental Protection Authority, 1998; Standing Committee on Ecologically Sustainable Development, 1999). As mentioned in Chapter Three, CALM proposed in 1992 (see Department of Conservation and Land Management, 1992b) to amend its 1987 Timber Strategy (Department of Conservation and Land Management, 1987c) based on what was understood to be "incomplete knowledge of ... [associated] long term consequences" (Environmental Protection Authority, 1992, p.33) and raising the concerns of conservationists and forest scientists. Critics viewed the proposals as a prescription to raze the forests. One interviewee saw the proposed amendments as being based on the philosophy that the intensity of harvest of the non-conservation areas was [to] significantly increase in order to more than offset the amount timber that was not to be harvested from the conservation reserve schemes (original emphasis). The last comment is to be seen in context with CALM's recommendation to increase the allowable cut for jarrah representing a radical shift in thinking. The new plan

<sup>&</sup>lt;sup>84</sup> For corresponding collage refer to Appendix XXI (CD-ROM).

envisaged a temporary increase in the cut to 675 000 m<sup>3</sup>/yr followed by a stabilisation in the sawlog yield at around 300 000 m<sup>3</sup>/yr ([I]n the jarrah forest, for example, they were proposing a massive increase in the rate of logging and a major change in the style of logging where they go from selective logging to almost clearfelling). This was in stark contrast to the 1982 General Working Plan (see Forests Department, 1982) and the 1987 Timber Strategy (see Department of Conservation and Land Management, 1987c), both predicting a long-term decline in the saw log yield for jarrah rather than a stabilisation in resource availability (see Figure 6.1) (There was an accelerated rate of logging in the jarrah and the karri forests; logging was maintained at its 1983 level rather than being scaled back as had originally been intended in the previous Forest Management Plan).

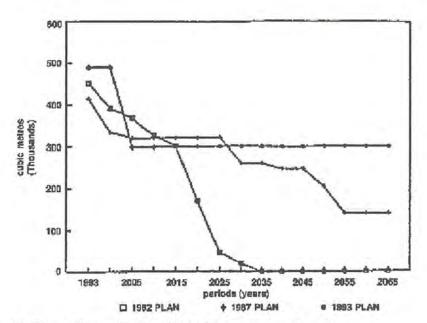


Figure 6.1: Long-Term Sawlog Yield Scenarios for Jarrah (adapted from Minson, 1993)

CALM's proposal was criticised by the EPA (see Environmental Protection Authority, 1992) and subsequently rejected by the Barnett Appeals Committee (1992) (the EPA report and Toss Barnett's report saying that this whole thing [the Forest Management Plan] was corrupt more or less). Yet, the Meagher Committee (1993), the following year, approved 490 000 m<sup>3</sup>/yr for jarrah first and second grade sawlogs on the basis of social and employment considerations. While the approved level of cut was significantly lower than that initially proposed by CALM (675 000 m<sup>3</sup>/yr), questions remained as to the sustainability of this level of cut because 490 000 m<sup>3</sup>/yr were "not claimed [by

CALM] to be available in perpetuity" (Evidence to the Standing Committee on Ecologically Sustainable Development, 1999, p.41) and substantially exceeded all available sustainable yield predictions available at the time.<sup>85</sup> In the end, the 1994 Forest Management Plan (Department of Conservation and Land Management, 1994) incorporated an allowable level of cut for jarrah, a level previously seen as unsustainable, while a reduction of the allowable cut to sustainable levels was postponed until 2003 in an attempt to minimise resource uncertainty, protect employment, and foster investments into the industry. The set levels, however, were frequently referred to in the WA Parliament (including the ESFM report by Ferguson et al. (1997)) as the sustainable cut, leading to public confusion about the difference between allowable and sustainable levels of cut (see Environmental Protection Authority, 1998, p.28).

Given that the level of cut was central to the WA RFA and that these levels were knowingly set above sustainable levels throughout the 1990s, it became a highly contested issue. Turner (1998, p.31) appraised CALM's wood resource yield estimates, as part of the CRA process, and found them to be "appropriate, internally consistent and [to] contain adequate safeguards on the quality of the data." Surprisingly, however the question of sustainable yield was not addressed by Ferguson et al. (1997) as part of their determination of ESFM in the State. This oversight was surprising because ESFM was one of the key objectives of the NFPS. The Standing Committee on Ecologically Sustainable Development (1998a, p.5) stated that "the issue of achieving ESFM [was] probably more important than the other intended outcomes of the RFA process, both for industry and conservation." Given the impact of the level of cut on the maintenance of the productive capacity of forest ecosystems it seems odd that Ferguson et al. (1997, pp.11-13) restricted their comments to the rehabilitation of former mine sites but did not comment further on what constitutes a sustained yield other than to say that "native forest logging should be based on sustained yield principles."

The Public Consultation Paper (Commonwealth of Australia and Government of Western Australia, 1998c) proposed three forest use/management options, stipulating figures for the allowable cut for jarrah and karri ranging from 457 700 m<sup>3</sup>/yr to 496 300

<sup>&</sup>lt;sup>85</sup> The Meagher Committee noted that estimates of a sustainable level ranged between 300 000 m<sup>3</sup>/yr and 450 000 m<sup>3</sup>/yr. In subsequent years, as confirmed by CALM experts, a cut of 250 000 m<sup>3</sup>/yr was considered to be sustainable in perpetuity (see Environmental Protection Authority, 1998).

m<sup>3</sup>/yr and from 193 500 m<sup>3</sup>/yr to 211 200 m<sup>3</sup>/yr respectively. These figures, in the case of jarrah, were all above the previously suggested sustainable level of cut. This might explain as to why research participants thought that the Public Consultation Paper seemed to exclusively look at the needs of the timber industry (as was shown in Chapter Five). The debate over sustainable yield was to intensify in late 1998 following the publication of a report by the WA EPA (1998) on CALM's environmental performance and compliance with the 1992 Ministerial Conditions. The report criticised CALM for not complying with 25 of the 37 environmental conditions attached to the 1994 Forest Management Plan. The EPA report also suggested that the allowable jarrah sawlog cut of 490 000 m<sup>3</sup>/yr should urgently be reduced to 300 000 m<sup>3</sup>/yr, as indicated by Minson (1993), to avoid a substantial decline in these sawlogs by the year 2030. CALM rejected in its response (Department of Conservation and Land Management, 1998) many of the EPA claims arguing that much of the EPA report was based on errors of fact and logic as well as selective interpretation. In relation to the allowable cut for jarrah CALM (1998, p.6) dismissed allegations that the jarrah forest was being overcut and stated that it would be "operating in accordance with a precautionary approach." As no agreement could be reached between CALM and the EPA an adjudicator was called in by the WA State Government. Without publicly available terms of reference for the undertaking, Michael Codd, a former Canberra bureaucrat, was in charge of brokering an agreement between CALM's Executive Director Syd Shea and Bernard Bowen, the EPA Chairman. After three weeks Codd submitted a four-page report (Codd, 1999) to the State's Minister for the Environment. The report, which was reportedly dismissed by Federal Forestry and Conservation Minister Wilson Tuckey as irrelevant (see Mallabone, 1999), spoke, inter alia, of an agreement between the two parties to have an independent expert group, including EPA representatives, for the assessment of sustainable yield figures consistent with ESFM principles. Under this agreement Turner, Ferguson, and Fitzpatrick (1999) reviewed the calculations for sustainable sawlog yields and suggested a reduction in the levels to 286 000 m3/yr and 178 000 m3/yr for jarrah and karri respectively. A second ministerial advisory group on karri and tingle forest management was to be formed later the same year.

The RFA document (Commonwealth of Australia and Government of Western Australia, 1999, p.18) as signed by the State and the Commonwealth in May 1999, endorsed 324 000 m<sup>3</sup>/yr for first and second grade jarrah sawlogs and 186 000 m<sup>3</sup>/yr for

karri first and second grade sawlogs until 2003 to be reduced not before the year 2004 down to 286 000 m<sup>3</sup>/yr and 178 000 m<sup>3</sup>/yr for jarrah and karri respectively "to produce a non-declining yield of sawlogs." The WA State Government admitted that the "RFA set ... out the expected sustained yields for jarrah and karri sawlogs from 2004" (WA Parliamentary Debates - Hansard, May 1999b, p. 7757/1), which meant that the allowable cut was left above sustainable levels until the expiration of the then current Forest Management Plan.

The fact that the allowable cut [was] in excess of what ... [was considered] sustainable made it difficult for the WA government to convince many Western Australians, who were told that the RFA [was] giving [them] ESFM. Despite scientific support for the reduction of logging levels, the decision to reduce levels was postponed until 2004 to protect current timber contracts and employment in the timber industry. The controversy surrounding sustained logging levels and the reserve design combined with the refusal to protect all remaining old growth forests under the RFA ensured that, after the signing of the RFA, the debate would continue and ultimately lead to the amendment of the RFA eight weeks later.

# Discussion<sup>86</sup>

## "All that science, and in the end it was all worth nothing"

The previous sections attest to the point that the RFA process tended to rely very much on the scientists, who were heavily involved in the process and that there were a lot of professional people ... employed, [we are] talking about the top scientists in WA. In the beginning of the RFA process, the strong involvement of science was well received by many RFA stakeholders who were welcoming a scientifically based assessment of the forest, hoping that this would be one of [the RFA's] great strengths; instead of the rhetoric, emotion, and the general bullshit that goes on in these debates. This is true in particular for members of the timber industry (The underpinning science of the RFA that we were going to have a comprehensive, adequate, and representative reserve system that protected the full suite of features in a permanent and lasting way).

<sup>&</sup>lt;sup>86</sup> For corresponding collage refer to Appendix XV (CD-ROM).

Quantity, however, does not necessarily deliver quality. In WA, so it seems, the strength of the RFA was to be gauged on the amount of science and number of scientists involved in the process. As suggested by research participants, [i]t was almost a numbers game, and the number of 500 scientists purported to have been involved in the process was stated many times during the RFA (see WA Parliamentary Debates -Hansard, 1999b). The philosophy behind such an approach was described as a sort of religious blessing type approach to science, which means that a process would simply need enough science ... so that it has veracity. Indeed, high numbers meant that the RFA process [was] based on science. Public relations research (Keys Young, 1996) commissioned by the Forests Taskforce of Department for Prime Minister and Cabinet emphasised the need for scientific credibility. WA State Government officials agreed that the use of science [seemed] inevitable and that science was always going to be the critical element in terms of what [the RFA] was going to achieve. However, it was also acknowledged that the use of science in a process like this ... [would] automatically mean ... that there are going to be problems. The main problem was that science did not speak with one voice, neither prior to the RFA nor during the process. At times it was almost like having one group in the debate saying: Look, we have 17 scientists to say we are right, while another group was saying: We have 17 scientists to say that it is not right. Consequently, it was difficult to convey a sense of scientific unity on highly contested issues, and the stumbling blocks for the RFA proved to be (a) the way in which these scientific disputes were dealt with and (b) to what extent science would determine the final outcome.

Interviewee responses gave the impression that the science of the WA RFA was tamed, meaning that dissent was ignored or vehemently rebutted and that science overall was made compliant with a dominant scientific/political viewpoint. This imposition of scientific viewpoints instilled the feeling in RFA stakeholders that science was used as a weapon. Some respondents believed that science was used to build a façade, a façade ... the process would be using science to provide [Western Australians] with ..., answers, and that was publicly acceptable, whereas in reality, the guidance, the levels of forest reservation and so on, was coming from elsewhere, and it was not coming from science. It was this blurring of science and politics that led stakeholders to believe that the RFA process ha[d] not been about science and overall that the scientific arguments were rather unimportant. A number of stakeholders, members of the timber industry in

particular, had confidence ... in the scientific studies and were reasonably happy with the rigour of the assessment work (with the exception of the social assessment work (I had some doubts about some of the social assessment work)), and even conservationists conceded that there was some good stuff in the WA RFA. Still, most were convinced that the RFA had nothing to do with logic or science and that in WA it was all about politics where [e]ven some of the science outcomes were political outcomes (we are looking at very much not a scientific process at all but a political process). In other words, the strong scientific thrust of the WA RFA, as promised by politicians and RFA process management, stakeholders were unable to see.

In this context, commenting once more on CALM's scientific role in the WA RFA process, it seems that CALM was defending more, or perhaps something other, than just a scientific argument. Admittedly, the same could be said of other stakeholders as well. Nevertheless, earlier references to signs of scientific neo-positivism within CALM might have been misplaced. Members of WA's scientific community interpreted the position taken by CALM during the RFA process as being symptomatic of a profession/administration being in denial (they [CALM] are in denial). The issue of denial was raised because some stakeholders believed that there was no way in the world that they [CALM] would accept (a) that they have done things wrong in the past, that they have been over-exploiting the forest ecosystems for years, and (b) they can't seem to come to terms with the idea that community attitudes and values have changed and therefore there are different expectations placed on the forest in the way is to be used. The term denial may also better explain as to why CALM seemingly did not want to know about dissenting views because it would have meant that they might have [had] to change [their] current procedures although [they] have been arguing that [they] do know and what [they] are doing is right. Some interviewees saw this sort of behaviour to be endemic in a lot of those sorts of professions, including for instance the agricultural science fraternity. These professions were considered to be very much a closed shop, and the forestry profession in Australia, for that matter, was also regarded by interviewees to be a closed shop, staffed with graduates from two universities who generally are all buddies. Closed-shop professions, just as any form of organisation, are at a risk of cultural cloning, breeding practitioners with systemic blind spots and myopias towards change around them (Emery & Trist, 1965; Emery, 1997b; Trist et al., 1997). As a consequence, confrontation and fervent defence of culturally entrenched

views can become the norm. Also, perceptions of crisis are rejected and ridiculed, and faults or errors of judgments are not admitted to. This is also akin to what Torgerson (2001) refers to as the limitations of the administrative mind. Administrations are also prone to strongly reject criticisms for it is feared that any admission to errors or flaws would put into question the raison d'être of the entire administrative complex. Thus, in the case of CALM the issue of denial may indeed be seen as two-tiered. CALM exhibited features of a closed shop mentality towards forestry and public relations during the 1990s and during the RFA process, its staff maintaining that [t]here is not really a problem and that all that needs to be done is to tweak the dials and to change the formula slightly. This professional stance also received administrative backing, Consequently the scientific disagreements of the WA RFA, and those preceding the RFA process, should perhaps not only be seen in light of this dichotomy of positivism versus pessimism as suggested earlier but also in connection with a profession and an administration being in denial, with its practitioners and managers responding systematically and apprehensively to challenges to their professional pride, identities, and egos.

Having regard to what the WA RFA delivered, it may not come as a surprise in light of the above that many stakeholders believed that the scientific outcomes [of the CRA work] were not necessarily reflected in the outcomes of the RFA, meaning that [t]he nexus between what the science has found out and what actually happened was not [considered] particular strong. This feeling was also expressed in connection with the amendments of the WA RFA. The RFA was described many times as an "extensive scientific process" with "[m]ore than 500 scientists and experts address[ing] the economic, social, environmental and cultural issues of the ecosystems in the south west forest region"; "a process [that] cannot be overturned overnight" (WA Parliamentary Debates - Hansard, June 1999, p. 9390/3). Yet, the whole thing [was] ... dissolved ... in ten weeks, and the resolution was pretty much a spontaneous thing rather than an outcome of all that good science that had been done. As was put soberly, policies come and go. The nature of the amendments was defended by members of the State Government who saw the forest debate turning into a very emotional debate, suggesting that when emotion gets in you can't better it with science. Still, this argument was countered by other participants who were saying that if the science had been used honourably to really work out the best long-term reserve system, the best silvicultural

methods etc., ...it could have been a much better outcome; possibly, it would never have come to the amendments. To put it differently, the debate turned emotional partially because of a perceived manipulation of science.

It was this treatment of science that was seen to have damaged both science and the process, and it raised the question of whether science should be put in that role to begin with, meaning whether [one should] ask science or scientists for moral guidance in a processes such as this. It was argued by a number of participants that the RFA was damaged because people could not see how science was giving [them] the answer[s]. The problem was that science could not give the answers, as suggested by some stakeholders, because it was science that needed to be given an honest direction; yet, stakeholders did not think that science was given that moral guidance. This guidance was considered important because science itself cannot make this last step to policy and to outcomes in the real world and the real environment and in the forests. It could not ... [produce the answers] because the reductionist nature of science was in this particular case exploited as a weakness ... especially, its weakness as an integrating perspective was absolutely exploited to the maximum by the Department of Conservation and Land Management in order to control the process. It seems that very useful strengths of science to have that precision and that reductionist ability allowed that to occur.

As to the quality of scientific data, stakeholders suggested that there was some very good data ... [t]hat may in the long-term prove useful and some good scientific work. Nevertheless, the WA RFA seemingly failed in terms of being an acceptable scientific process delivering, while perhaps politically credible, scientifically incredible outcomes. It is these sentiments that were also expressed in the work done by Bigler Cole (1998), and it is the results of her study that I now wish to compare with the findings of this chapter.

Many of the respondents in Bigler Cole's study, titled "Perceptions of science in the Western Australian Regional Forest Agreement process", pointed to the exclusion and/or marginalisation of what was coined reliable scientists and bureaucratic elements limiting scientific inquiries and placing restrictions on what scientists could either say or do. This was said to have been particularly true for government employed scientists. Similar arguments were put forth by research participants in this study. Bigler Cole unearthed signs of institutional positivism and a strong sense of disinterestedness, objectivity, and truth among individuals working as scientists for government departments. These aspects of scientific dogmatism within government department were also identified in this study.

Three quarters of Bigler Cole's research participants questioned, not dissimilar to the findings presented in this study, the empirical validity of the WA RFA process. Many expressed concerns about the secrecy involved in the process, a sense of distrust in relation to CALM, and much public confusion about the science of the RFA. She identified many criticisms directed against the CRA studies identifying perceived deficiencies, like this study did, in relation to the quality of the CRA reports, the timeframes allowed for the CRA studies, the stifled publication process, poor public consultation, and the lack of peer review.

A very interesting aspect raised by Bigler Cole is that the RFA process was about integrating science (the integration of broader issues, methodologies, logical and empirical assumptions), however, that it was not the scientists who were in charge with the integration, which also raised the question whether science can deliver on the issue of integration. That point gave rise to the issue of the potential limitedness of pure science in political processes and drew attention to the divide between pure and applied science, in particular, as it relates to truth conflicting truths. Her work highlights the political nature of science, especially in connection with environmental matters where often the line between science and advocacy is difficult to discern. Overall, Bigler Cole's research hints at a stronger role of science in science/policy partnerships and thus echoes statements made earlier with regards to the political engagement of scientists in processes where professional values and ideal can become compromised.

Bigler Cole's case study analysis is restricted, however, to an assessment of participant responses in light of the Mertonion norms of universalism, disinterestedness, communality and organised scepticism and does not engage with a wider discussion of science and the policy process. Yet, it is these more general questions that I wish to turn to in the following chapter drawing together the data produced in this study relating to public participation, science, sustainability, and political processes.

### Conclusion

In this chapter it was my task to provide an understanding of the scientific nature of the WA RFA process. The RFA case study was presented against the background of a broader discussion on the role of science in public processes and policy formulation. The review showed that societal dependence on science today is unprecedentedly strong, yet problematic and controversial due to a sense of alienation by the public from science-driven government processes and wide-spread distrust of scientific dogmatism. Within the broader debate on environmental policy-making and sustainable development science was also shown to be pivotal. However, it was suggested that perhaps a new or more holistic science is needed to adequately address the complex and wicked problems confronting humanity.

The case study data presented in this chapter suggested that many interviewees viewed the science of the WA RFA (a) to have been controlled and manipulated, (b) scientific protocols to have been violated, (c) science to have been used as a political tool and its use to have been tokenistic, and (d) science to have had little impact on the final RFA outcomes. Overall, the science of the WA RFA was shown to have been tame(d).

Stakeholder views identified in this study were shown to be congruent with the findings derived from the study by Bigler Cole (1998), who also revealed a strong sense of stakeholder dissatisfaction with the science of the WA RFA. Her work pointed towards perceptions of procedural flaws regarding CRA work and its analysis, raised questions about staffing decisions, and echoed calls for a stronger participatory role to be played by the science community in government processes.

# **Chapter Seven**

# Contextual Analyses, Syntheses, and Conclusions

#### Introduction

My aim in this chapter is to integrate the case study data and to synthesise my findings with the socio-ecological framework adopted for the purposes of this study. Prior to this synthesis, however, I will introduce three brief analyses as foreshadowed in Chapters Two, Four, and Five as a means of providing a more holistic view of the WA RFA process. The first analysis will explore the roles of personalities within the WA RFA process, assessing the influence of *special* individuals on both the WA RFA process and its outcomes. The second analysis will address the issue of group homogeneity/heterogeneity, in particular concentrating on the views held by members of the Government/Departments/Political Parties group and examining the degree of agreement and dissent among its members. A third analysis will focus on the media's role in raising the public profile of the WA RFA process. Subsequently, I will present a summary of the WA RFA as seen from multiple stakeholders' perspectives.

As part of the theoretical integration, I will analyse the WA RFA in light of the open systems framework introduced in Chapter Two. The insights derived from OST and the socio-ecological commons framework will be used for a systems critique of the events in WA, using the behavioural stakeholder model for CCPRs for an assessment of the outcomes of the WA RFA process and exploring the model's conceptual strengths and weaknesses. This systems analysis will then inform a wider discussion on the implications of this study, which will culminate in a reflection on the notions of system openness and closedness and their implications for the political treatment of science and public participation in processes of environmental policy-formulation.

# The Role of Personalities in the Western Australian RFA<sup>87</sup>

In this section I will explore the significance of individual actors in the forest debate as perceived by RFA stakeholders and the impact their involvement had on the RFA process and its outcomes. I will also look at the roles of individuals within government

<sup>87</sup> For corresponding collage refer to Appendix XXII (CD-ROM).

departments and assess the impact of any divergence between personal agendas and departmental views during the course of the RFA process.

The focus on individuals is important for it needs to be recognised that individuals play a critical role within participatory processes. It is important also for analyses of political processes usually concentrate on group dynamics but, as suggested by Buchy and Race (2001), direct insufficient attention to what they coin special individuals in whom power is vested due to their socio-political or professional status. The concept of power is generally understood in terms of power inequalities between groups and as having the "capacity ... to control and dominate ... social structures and natural resources" (Kaufman, 1997, p.154). In the context of political processes, the distribution of power is considered to be predetermined by those who initiate and control those processes. In other words, powerful groups are seen to be in control of political processes and shape their directions and outcomes. However, special individuals also have the ability either to reinforce or to challenge established power structures, which in turn suggests that paying closer attention to the roles of those individuals can lead to a better understanding of the dynamics of political processes. Therefore, in what follows focus will be placed on special individuals in the context of the WA RFA in an assessment of their roles in, and their influence on, the process as seen by RFA stakeholders.

I suggested in Chapter Three that the involvement of prominent individuals in the WA RFA process lifted the public profile of the forest debate and impacted significantly on the public mood in relation to forests and the RFA. The change in public sentiment proved to be decisive because, as indicated by one interviewee, [i]t was the general public's concern that changed the day. In fact, it was suggested by a member of the WA Coalition Government that it was not the Conservation Council or the Forest Alliance that really generated the debate. You did not see the change in the community with those groups raising the banner so to speak. That happened essentially when Mick Malthouse got involved. The debate changed very much in the community's opinion when you have a coach of a very successful AFL [Australian Football League] team, a winning team, enter the debate. Media content also supports the notion that "the televised outrage of West Coast Eagles coach Mick Malthouse" was "the turning point in the debate" (O'Brien & Martin, 1999, p.1).

In May 1998, Mick Malthouse, then the popular coach of one of WA's AFL football clubs, took a public stand against old growth logging and CALM's forest management practices (Malpeli, 1998). Malthouse's televised statement angered many timber workers and timber town residents, who felt betrayed and regarded his actions as an abuse of his high public profile. His public opposition towards old growth logging resulted in cancellations of football club memberships, the burning of the club's flags, and threats by fans from the State's south-west to boycott future games and to shift their business away from the club's main sponsor (Miller & Burns, 1998; Rechichi, 1998a). However, Malthouse's actions also mobilised a group of prominent Western Australians, who saw their role in swaying public opinion in relation to old growth logging (I believe that my business profile and my credibility as a business person had an influence on raising the awareness of the seriousness of the forest issue and shifting it from being an issue that was - or perceived to be - a protest issue by so-called unemployed youth or ferals as they are called ... shifting it into the business community and into the city where other people could actually say: Yes, that's exactly what I believe in as well). This group came about because ... a group of ... business people [were invited] for a briefing in Dame Rachel Cleland's (Liberal Party matriarch) lounge room on a Sunday morning. There were community leaders and mayors, sports people, Aboriginal representatives, and artists; just a whole range of people from the community that were concerned about forests (see also Malpeli, 1998).

The group became active throughout 1998 and 1999, and its members could frequently be seen as guest speakers at RFA-related public seminars, anti-logging protests, and rallies (Armstrong, 1998; Wainwright, 1999). In particular, in mid-1999 when the forest debate reached its zenith around the time of the signing of the WA RFA, the group's members featured regularly on the front-pages of local and national newspapers showing their support for forest protesters in their efforts to stop old growth logging (O'Brien & Martin, 1999; Rechichi, 1999b); some were even arrested during forest protests, which served to fuel the public debate (Mayman, 1999). Concurrently, antilogging sentiments were expressed by groups such as the Anglican Church (Capp, 1998b), medical doctors (Conservation Council of WA, 1998), musicians (Armstrong, 1999d), the National Trust (Armstrong, 1999a), prominent environmentalists like David Bellamy and David Suzuki (Pryor, 1999), and Western Australian business people (Anon, 1998). This somewhat unlikely coalition proved successful in placing the "stopold-growth-logging-message" into the public's gaze creating synergies with widely publicised slogans such as "stop a virgin from rape" (Friends of Jane, 1998) and "old-growth carnage" (Schultz, 1998) by conservation groups, which had been campaigning for the protection of old growth for many years. These combined efforts were cause for much public agitation and arguably caused "thousands to join the fight for forests" (Miller, 1999) at anti-logging protests in Perth mid-1999.

The work undertaken by the group of prominent Western Australians also attracted critics who perceived its lobbying efforts to be a means of turning the forest issue very emotive. Members of the group admitted to having become involved on the emotional basis of having an attachment to those old trees (Simply because of my personal attachment to those old trees I did not think there was any justification for knocking them over). Another reason for this group's engagement in the RFA was a stated attachment to the democratic process and a belief in an individual citizens' democratic right to object to the destruction of what ... [was thought to] rightfully belong ... to the people. In their view, formed on the basis of opinion polls (Westpoll, 1998; AMR: Quantum Harris, 1999), 85 to 90 per cent of people wanted to stop the logging (The cessation of the logging is what the community wants, cessation of the logging in our old growth forests is the only acceptable outcome). It was felt that the government was not doing it, and it was considered offensive that a government in a democracy ignores the wishes of the overwhelming majority of the community on a subject such as this. In other words, the group members had no faith in the Regional Forest Agreement and wanted to become involved for they saw the forest debate as a personal, community, and social justice issue.

The timber industry was angered by the interference of the group, especially since the amendments to the original RFA document in July 1999 were seen to be the result of that interference (This also relates to the role of the media during that time period, which I will turn to at a later stage). Purportedly, members of the industry attended a meeting with Richard Court ... where the Premier said that he had spoken to Mick Malthouse, Liz Davenport, one of the local QCs and his wife, Janet Woollard, and he had come to the view that, notwithstanding that he signed the RFA, he was going to reduce the karri volume to 50 000 m<sup>3</sup>. It was felt that [h]e basically tipped the RFA on its head for political, expedient reasons. Industry members were under the impression

that the Premier was quite prepared to listen to ... or to be influenced by Mick Malthouse more than he was prepared to be influenced by his own and independent scientists, which they saw as political expediency in its worst form. The industry's anger was also fuelled by the fact that a number of the 'celebrities' campaigning against them were users of their products (we are talking about people who were campaigning against us who are big users of our product), relating back to the issue of alleged akrasia mentioned earlier in Chapter Five (Liz Davenport shops are full of jarrah. Even the Liberals for the Forest in their Nedlands office have a beautiful jarrah floor). Moreover, some of the group members' attitudes towards logging and timber usage (e.g. I think there is a case for harvesting very small amounts of timber for fine furniture) were considered elitist for it meant that the rich people from the Western suburbs can ... buy [their] rich bit and everybody else can get pine.

Other SRG members also believed that the Mick Malthouses, Liz Davenports, and the general public ... [had] more influence on policy making than the beekeepers and the tourism industry, who were official stakeholders. However, while timber industry representatives regarded this as another nail in the coffin of our democracy, other SRG members did not view this as problematic but rather as what a democracy is about. This reaction is explainable in light of SRG members growing frustration with the RFA process, as indicated in Chapter Five, which resulted in many stakeholders siding with the conservation movement whose message was amplified by the involvement of WA's 'celebrities'.

Chapters Three and Six indicated that the amendments to the RFA led to an increase in the reservation of areas of karri old growth, which – as shown above – was attributed by stakeholders to the involvement of people like Mick Malthouse. Also, a member of the Coalition Government conceded that the amendments to the RFA were in response to the pressure applied by members of that group and their supporters (The Premier said: Ok, lets then work on the basis of karri because the pictures that were being shown were the tall karri trees). In other words, it seems reasonable to suggest that the group of prominent Western Australians succeeded in its pursuit of swaying public opinion towards the RFA and to change the trajectory of forest policy but without addressing substantive policy or operational problems such as existing timber contracts, retrenchments, and other matters of transitional management (it's a very simple process. It will cost millions of dollars, they just have to make a hard decision at some stage and then work around it). While the amendments to the RFA might strike as a victory for the democratic process, a later discussion will give consideration to the concerns raised by members of the timber industry and look at the problems associated with sudden changes in political direction brought about by an influential minority.

Another issue of importance in connection with the WA RFA is that of individuals' influence within, or over, government departments. This is because there is evidence to suggest that it was the pursuit of individual goals that intensified the forest conflict in WA and indeed gave rise to the RFA process nationally.

In WA, one individual featuring prominently in the controversies prior to the commencement of, and during, the WA RFA process was the head of CALM, Dr Syd Shea. During the early 1980s, Shea was influential in setting the Australian Labor Party's forest policy in the capacity of senior advisor to the Burke Labor Government in WA, and he was the principal architect of CALM during those years prior to the department's inception in 1985 (see Sharp, 1983). Since, Shea was the CEO of CALM and maintained his position under the Burke, Dowding, and Lawrence Labor governments and another six years under the Liberal-National Party coalition, serving a total of six ministers. During that time, he is reported to have ruled the department "with an iron hand" (Capp, 1999b, p.10), politically surviving the Barnett Inquiry, the Federal Government's Industry Commission, and constant attacks from conservation groups.

As indicated in Chapters Three, Five, and Six, CALM was at the centre of many controversies, which according to some research participants were largely a result of the stance taken by the department's CEO. For instance, in relation to the 1992 Draft Forest Management Plan it was suggested that Syd Shea was able to convince Bob Pearce [then WA Minister for the Environment] ... that what was proposed [by CALM] was completely right, irrespective of the enormous public outrage. During the public response period to the Draft Forest Management Plan there was a huge amount of public agitation, which, however, had no effect whatsoever, implying that in the end there was almost no difference between the draft and the final documents. [A]ll of this was allegedly orchestrated by ... Syd Shea, meaning that the entire conflict over

CALM's Forest Management Plan was a Syd Shea-driven process. Much of this kind of anecdotal evidence I collected during the interviews with RFA stakeholders (1 bet you hear interesting stories about Syd Shea), who hinted at the centrality of Shea to CALM's public relations and successive State Governments' forest policies. Since Dr Shea did not participate in this research project, for the sake of balance and fairness I shall only concentrate on more general interview data pertaining to his role throughout the 1990s to give an understanding of stakeholders' perceptions of his influence on events prior and during the RFA process.

Overall, according to RFA stakeholders, controversies arising over the 1987 Timber Strategy, CALM's initial opposition to the CALM-AHC joint assessment of the southern forests, the 1992 Draft Forest Management Plan, the EPA assessments in 1992 and 1998, the DFA, and the RFA itself were processes controlled by Syd Shea. In relation to the DFA, for instance, it was suggested that Peter Voss, Environment Minister for WA at the time, was either completely misled by Shea with regards to, or absolutely complicit in, what was considered a deception about the state of the forest, which helped shape the belief among stakeholders that an outrageous presentation and deception ... led [the Western Australian public] into the RFA.

At the onset of the WA RFA, Shea was said to have taken control of the process, leading the debate with the Commonwealth. Purportedly, [i]t was always a debate between Syd Shea and the Commonwealth because of a power relationship between the negotiating parties and because of a general distrust of the Commonwealth in the east in Western Australia. Furthermore, Syd Shea was believed to have employed a conscious tactic to have a process of: we will try and slow them down as much as possible, give them as least information as possible and you just obstruct as long as we can, which supports assertions made in Chapters Five and Six about transparency and CALM's alleged stalling tactics during the WA RFA (information is power ... we will never allow the Commonwealth to have that information - and - CALM ran stalling tactics as much as they possibly could).

Overall, the RFA in general was considered to have been very much controlled by CALM, by Syd ... giving directions on a daily basis to Alan Walker who was the manager of the RFA process and maybe to Geoff Stoneman from time to time who was

the scientific person. The philosophical position allegedly taken by senior CALM staff at the beginning of the RFA was that ... they hated greenies, especially after the mauling they received over the Forest Management Plans, which is perhaps why it was believed that CALM vetoed [the] participation [of conservation groups] on the Steering Committee. It was also alleged that CALM had taken the position of: we have given away enough forests as parks and reserves; we don't want to be placed in the position of having to have more parks and reserves taken out of what's left. This may serve as an explanation for the protracted nature of the negotiations between CALM and the Commonwealth about the original forest extent, oldgrowthness, and the extent and the design of the forest reserve system discussed in Chapter Six.

Support for the director of CALM came from members of the WA State Government, who suggested that Shea was a victim of a smear campaign and that [p]eople tried to pin Syd Shea up there. Any suggestions that CALM would unjustifiably protect industry interests were rebuked. Instead, it was argued that it was Shea who pioneered ideas for the restructuring of WA's timber industry and that it was he, as early as 1992 and 1993, who was actually driving down the industry take. Attacks on himself and CALM were largely attributed to personal vendettas carried out by members of the conservation movement. For instance, Dr Beth Schultz, a former CALM employee and later vicepresident of the WA Conservation Council, was warning together with others at the time of the formation of CALM of a conflict of interest within the department. Since her departure from CALM she has been an ardent campaigner against the department's forest management practices. Against this background, it was claimed that there were some personality conflicts between her and Syd Shea and that public accusations made by her against him would need to be seen in light of the fact that she would have no kind words whatsoever to say about Syd at all. Consequently, these personal differences were seen to have evidenced themselves out in the public arena, and it was considered unfortunate for them to have been so very heavily portrayed. Dr Shea also received praise from other RFA stakeholders outside of CALM for the work he had done as the director of CALM. For instance, it was acknowledged that CALM had the best nature conservation organisation ... of any state in Australia because Shea used to divert a lot of the forest royalties into real conservation activities like the Wheat-Sheep-Belt and threatened species (The animal recovery programmes that CALM continues to run, they are good things). Notwithstanding, the tenet remained that Shea had taken his hubris a

bit too far in relation to the forest[s], and with regards to the RFA it was thought that he had done a lot to the process, ... [meaning that] he damaged the whole thing right through.

Essentially, by his defenders the director of CALM was seen as a victim of public opinion (CALM really became the meat in the sandwich), a notion seemingly supported by the director himself who is reported to have said that the conflict over forest management was "based largely on subjective value judgements" and that the "dispute [over forests] was a political issue", a "government policy issue" which "would have to be resolved by the Environment Minister" (Mallabone, 1998a, p.3). But who was in charge of forest policy? Certainly, Shea and members of the WA State Government maintained that forest policy is government policy and that to blame CALM for it ... [would be] unreasonable (the debate was a political debate, and it should never have been a debate against CALM). However, the question posed by many RFA stakeholders, either explicitly or by implication, was whether Shea, with this huge .... power structure that [he] established ... and those people with an enormous loyalty to him and to the approach that he perpetrated in the department, essentially determined forest policy (The government's ... problem is it listens to CALM). Indeed, CALM was a single agency both responsible for the policy and the operational side with a figure head who was very influential, and while the degree to which Shea could hold sway over the Minister responsible will remain subject to speculation, many RFA stakeholders were convinced that Shea was the person ultimately responsible for forest matters in WA.

Finally, I would like to address briefly the issue of departmental leanings. Members of the timber industry felt that the genesis of the RFA process nationally was triggered by the deliberate abuse of office by staff of the Australian Heritage Commission (AHC). Allegedly, AHC staff refused to grant the more or less automatic rollover of carryover coupes in the early 1990s, as discussed in Chapter Three, although nothing had changed in official policy direction or forest management at the time (We had a situation where from one year to another nothing changed in terms of management plans but the advice to the Minister from the Heritage Commission changed). Purportedly, AHC staff used their position to compel the government to engage in Regional Forest Agreements. In other words, industry members were convinced that the AHC calculatingly changed its advice to the Federal Minister for the Environment so as to pursue personal goals of individuals within the Commission instead of acting upon their official mandate.

Similar views were also held by industry representatives in relation to the conduct of members from Commonwealth departments during the RFA process. It was argued that, for instance, staff from the Commonwealth Department Environment Australia (EA) felt that it was quite legitimate to pursue [their] own personal green ideals within the bureaucracy irrespective of what government policy would be (Commonwealth officials that came from Environment Australia that very much had a Green agenda as opposed to people in the Commonwealth process that maybe set within the Department of Prime Minister and Cabinet, or AFFA). Ostensibly, it was quite common that people had a personal view that they were projecting as a Commonwealth official rather than ... a government policy view. It was thought that for individuals who had a few letters after [their] name that [it] was quite legitimate ... that [they] were pursuing a personal view rather than a government view, and [that they] could use the bureaucracy to justify that view. Suggestions such as these were countered by Commonwealth staff, suggesting that their behaviour was misinterpreted and that a distinction should be made between activism and maintaining professional relationships. It was held that there was a great deal of suspicion and hostility about the relationship[s] between Commonwealth departments and outside interest groups, particularly between Environment Australia and the conservation movement. It was considered hypocritical that it was perfectly alright for Commonwealth officers on the industry side and industry portfolios to have very close working relationships with industry groups, whereas for EA staff any contact with the environment movement had to go through senior management. This meant that during the RFA process the communication [between EA] with both the scientific and the conservation community ... was constrained, as direct contact would have been interpreted as liaison with the enemy (the RFA itself became superimposed on how people could dialogue or, as it turned out, people could not dialogue). While there was said to have been communication between Environment Australia and WA conservation groups and the scientific community (there was a lot of informal contact - and - We were in constant contact over the phone - and - [They were] leaking us documents, giving us information, warning us of things, expressing their frustration), this exchange occurred surreptitiously and remained unofficial (Commonwealth officers had to be extraordinarily careful).

The above illustrated how *special* individuals, as seen by stakeholders, influenced the forest debate in WA and indeed gave rise to, and changed the course of, the RFA process itself. A minority of influential, private individuals was believed to have been able to exert more political pressure than a sizable protest movement, although it needs to be acknowledged that the success of this minority would not have been possible without the efforts of the conservation movement. Individuals within government bureaucracies were considered to have been more powerful than the Ministers they were answerable to, essentially single-handedly steering the direction of policy debates and outcomes. Also, the efforts of individual actors within positions of relative political influence were thought to have set in train, influenced, and to have been protected by large political processes.

It was also shown that perceptions of, or reactions to, individual conduct differed depending on the degree to which such conduct challenged dominant views and from where these 'blows to the system' were being dealt. For instance, for many years the vocal opposition to forest policy from the conservation movement in WA could effectively be ignored by political decision makers as it could successfully be framed as extreme, fringe or left-wing. However, once the 'green message' was being echoed from a select number of prominent businessmen and women and other people of high public esteem, the newly found enemy from within caused sudden change within the political realm. Such reactions became visible when the involvement of high profile Western Australians not only changed the public sentiment towards the RFA but also caused much internal friction within the ranks of the ruling Coalition Government, which led to the amendments of the RFA. Moreover, the comparison between EA and other Commonwealth departments on the issue of departmental leanings showed that departments subscribing to orthodox economic or neo-liberal development agendas could have been forgiven for, or may have even been expected to be, liaising with their respective private sector counterparts (e.g., the mining sector) whereas departments the portfolios of which require the inculcation of views running counter to the dominant perspective were essentially denied contact with their constituencies. While there may be substance to claims of activism, and the abuse of office, within certain departmental ranks the forcing underground of undesirable departmental communication with the outside world only serves to strengthen views of bureaucratic anxiety towards heterogeneity of thought and plural perspectives as argued in Chapters Five and Six.

The sections above, or the entire thesis for this matter, dealt with individuals through methodological layers of distance and abstraction so as to anonymise the research data and to de-link research participants and individual players in the RFA process. It was shown that process dynamics were greatly influenced by *special* individuals who, as a matter of perspective and conviction, could be described as either local heroes or autocrats. Chapters Five and Six spoke of process constraints, which were often systemic in nature and, as shown above, either reinforced or actively challenged by individuals active inside and outside the RFA process. In this context, constraints affecting open communication and freedom of expression featured prominently. These perceived process constraints also affected this thesis methodologically, meaning that the methods I employed were a mirror of the process restrictions themselves. For instance, openness and transparency were re-occurring themes in this thesis and were identified by stakeholders as key obstacles to effective participation and science communication in the RFA process.

While through the use of interviews I was able to unearth perceptions of process constrainedness, the insights gained could merely be relayed in an opaque fashion employing stakeholder groupings and colour-coding. This was because the notion of process constrainedness gave rise to the issue of data sensitivity, which resulted in the use of methodological safeguards (I better be careful with that. They can get into heaps of trouble - and - what you hear from me on this you probably won't hear from anybody else. So you have got to be careful how you use it - and - In fact, don't put this down - and - but, you know, be careful with that). These safeguards meant that I directed attention away from the individual onto groups as a dejeopardising technique, which enabled me to give expression to an individual's perceptions of the RFA while protecting that individual via the anonymity granted by group membership. Therefore, in a way, all that is left is the group as an expression of method, which is why I now wish to turn to a discussion on the stakeholder groups I devised for the purposes of this study. The discussion sets out to deconstruct these groupings, to test earlier assumptions about group homogeneity/heterogeneity (see Chapter Four), and highlight issues related to multiple group memberships.

## RFA Stakeholder Group Homogeneity/Heterogeneity<sup>88</sup>

In Chapter Four I introduced discourse groupings, employed in this thesis for the analysis of the case study data. The grouping of individuals is inherently problematic as it harbours the risk of inappropriate homogenisation, as there is a tendency to see those groups as undifferentiated wholes, although they are usually embedded in complex circumstances with multidimensional intra-group relations and interacting group attributes (Slocum et al., 1995). In Chapter Four, I therefore highlighted the arbitrary and provisional nature of these groupings and alerted readers to the potential for, and indeed the likelihood of, heterogeneity within *any* of these groupings.

Of the five groups delineated, three groups appeared to hold internally consistent views. These groups were the Timber Industry/Industry Groups/Unions group, the Stakeholder Reference Group/General Public group, and the Environment Groups group.<sup>89</sup> As to the timber industry, it was shown throughout Chapters Four, Five and Six that industry representatives were generally accepting of the participatory nature of the RFA process, its science, and the outcomes it delivered prior to any amendments to the policy document. Overall, merely some national/regional differences between members of the industry relating to the expectations on the process and its overall desirability (necessity for it) could be identified.

Interview data derived from members of the Stakeholder Reference Group/General Public group also revealed a strong degree of group homogeneity, although this group represented a forum which comprised of over 60 interest groups. While this outcome seems unlikely it is explainable in terms of the discourse groupings developed for this study and the sampling method employed. The sampling design used in this study resulted in both *discursive allies* and *discursive opponents* within the SRG group being recommended by research participants as candidates for inclusion into this study. However, the separate treatment of the timber industry and its interest groups as part of

<sup>&</sup>lt;sup>88</sup> For corresponding collage refer to Appendix XXIII (CD-ROM).

<sup>&</sup>lt;sup>89</sup> This claim for homogeneity can only be made in light of the themes pursued in this study. This is not to suggest that the Timber Industry/Industry Groups/Unions group, the Stakeholder Reference Group/General Public group, and the Environment Groups group were homogenous groups per se. While there was no indication of dissent during the interview process and the data analysis, it seems improbable for the views of group members to be fully consistent.

the Timber Industry/Industry Groups/Unions group meant that pro-timber views were not expressed by members of the Stakeholder Reference Group/General Public group, yet in actual fact timber interests were represented at the SRG level. The referral system used for the snowball sampling method also meant that views outside the divide between timber and non-timber interests were ignored due to the nature of the recommendations made by interviewees. This in turn helps explain the concurrence of viewpoints among the SRG members interviewed, who were largely members of local governments, the tourism industry, Indigenous groups, and concerned citizens. They shared a concern about the accessibility of the process, exhibited a degree of distrust of CALM and the department's forest management practices, and were sceptical of the science of the WA RFA.

The highest degree of homogeneity among stakeholders occurred within the Environment Groups group, of which members both from the national and regional level provided a coherent and internally consistent account of the WA RFA process and its outcomes. In Chapters Four, Five and Six I demonstrated that there was a consensus among Environment Groups members on the expectations placed on the RFA based on their interpretations of the NFPS and subsequent events, its scientific credibility, its inclusiveness, and on what the process had delivered in the end. These findings support the idea of commonly shared values and beliefs among members of the conservation movement. Commonalities can also be explained by the degree of cooperation among, and organisation by, members of environment groups which attests to the strength of the national network of environmental activists, which formed in Australia over the last thirty years (see Chapter Three).

The Scientific Community group was shown to have been broadly divided into two groups on two levels. On the State level, there was a division between CALM and non-CALM scientists, as illustrated in Chapter Six, respectively supporting and criticising the scientific integrity and credibility of the WA RFA. Disputes between CALM and non-CALM scientists were also shown to have been somewhat historical, relating back to earlier disagreements on forest management prescriptions. Thus, these disputes were prone to have an impact on the nature of the scientific debate during the RFA. The second level of division was at the State-Commonwealth level between CALM scientists and Commonwealth officers. This division is not particularly clear for its entails a blurring of the lines between science and government bureaucracy, which also relates back to the double-coding of research participants' interview data as discussed in Chapter Four. Thus, this level of division is going to be addressed below in conjunction with an assessment of the homogeneity of views among members of the Government/Departments/Political Parties group. It needs to be recognised, however, that due to data sensitivity some of these issues cannot be fully disclosed and will need to be addressed implicitly and via reference to previous chapters.

The Government/Departments/Political Parties group proved to be the most heterogeneous of all discourse groupings devised. This is largely because this group was the broadest in terms of membership, comprising members from the WA State and Commonwealth Governments, their respective departments, and individual members from both houses of the WA parliament as well as non-elected independent political activists. A divergence of views was therefore inevitable. The interview data presented in Chapters Five and Six illustrated that discourse divisions existed between members of that group in relation to the DFA, the RFA process, its participatory and scientific nature, and the outcomes achieved by the RFA. Such divisions ostensibly grew between the WA State government and the Commonwealth Government and their respective departments and between the WA State government and other members of the WA State Parliament and independent political activists.

From a State perspective, the RFA was considered by some a Commonwealth imposition on what was essentially regarded a matter for the state (I actually considered the RFA an imposition by the Federal Government), and great doubts were expressed as to whether a sophisticated and highly centralised political process imposed by Canberra would be the best way of actually getting to the heart of the issues (Their [the Commonwealth's] entering into a whole national process of forest reconciliation, as I suppose it ideally would have been, was not necessarily going to be a very effective process). Others were more supportive of the RFA, believing that it can be a good thing ... when the Commonwealth can drive a policy benevolently and force the states along. In fact, it was hoped by some that the Commonwealth had played more of a leadership role because the Commonwealth's view was a bit more progressive than the State's and far more open to engage with stakeholders. These divisions of opinion I found across the entire political spectrum in WA. From a Commonwealth perspective

this was merely a repeat of the age-old argument of State rights versus Commonwealth rights: you want the Commonwealth when do you do not like something going on but you do not want the Commonwealth otherwise.

Opposition to the Commonwealth Government's involvement also came from within the WA State Government and its agencies. CALM, for instance, reluctantly engaged with the RFA process because the department had a strong belief in their own existing systems and their own approaches to forest reservation, and they were ... pretty strongly of the view that the process should endorse their existing arrangements (... they had the fundamental belief that they had their own ticked-all-signs-off process through the Management Plan). This was a strong perception from the Western Australian government but probably more strongly from the Department of Conservation and Land Management (I think it's fair to say that they were sort of disquieted with the idea of the Commonwealth involving itself in what they felt to a large extent was something that they had responsibility for and were doing what they believed to be well). As a consequence, [t]here was considerable resentment by State people against the Commonwealth officers who [did] not understand the forests (hardly any of them had any great knowledge of WA or forests that we could see) and came across pretty much with a mindset of the Eastern States where perhaps aspects of forest management had been detrimental to nature conservation (Commonwealth people largely had this sort of prejudices when they came across). Seemingly, CALM feared that there would be an automatic assumption that any logging is a bad practice environmentally. Another source of resentment towards the Commonwealth's involvement was that CALM had all this information so that the whole process seemed to be re-inventing the wheel to a large extent. These sentiments helped reinforce the Commonwealth officials' perceptions of CALM cited above, resulting in a stalemate and, as addressed in Chapter Six, in a number of technical disputes between CALM and Commonwealth representatives.

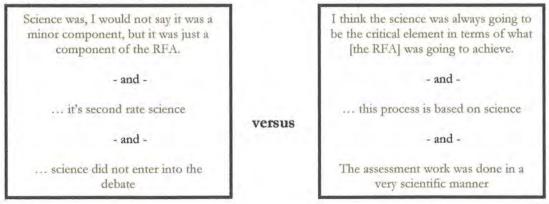
Overall, the State's concerns in relation to the Commonwealth's involvement cited above found reflection in the dynamics between the State and the Federal Government. The relationship between WA and the Commonwealth was marked by a fair bit of friction as the relationship was described as not as cooperative ... as [one] could have engendered. Apparently, there was some tension there in the relationship and an element of tension in the discussions because, in addition to its constitutional powers, the Commonwealth had financial power (to fund the restructuring of WA's timber industry) whereas WA had power in terms of that they had data and the control of data (on this point see Chapter Six). Consequently, the Western Australian Government was at loggerheads with the Commonwealth because essentially there were two governments ... aspiring slightly different outcomes from a process. These dynamics, however, were regarded as fairly predictable, and in sense typical for intergovernmental negotiation[s] of this kind, especially since WA [has] always fought with the Commonwealth. In other words, conflict was historically pre-programmed because there has been quite a long history to it and because of the nature of the whole process. Nevertheless, while State-Commonwealth relations were described as quite variable, overall their cooperative nature was stressed by State and Commonwealth senior officials alike.

State-Commonwealth dynamics changed with a change in government at the federal level, which impacted on the dynamics of the WA RFA process. When the Keating government was still in power in Canberra, then the Commonwealth was pushing very strongly to ensure that they would drive the process (The process was initially driven by the Commonwealth to meet their obligations to discharge forest policy under the National Forest Policy Statement). Commonwealth efforts, however, were frustrated by a complete lack of willingness of many of the senior bureaucrats, especially by State Government officials who just did not want any more "greenness" in the forest. As soon as Keating lost power and Howard came in, the Commonwealth kind of took an attitude: we just want to get this over and done with, with the minimum of fuss, which meant that the Commonwealth power base fell like a heap of cards and ... that the State continued to drive the process while Commonwealth officers who were involved became mere functionaries. In other words, the Commonwealth left the door open ... to the West Australian government dictating how it was going to deal with the process (I think it did leave the Commonwealth vulnerable to a very strong representation from the West Australian government and probably other State governments), which enabled senior bureaucrats within CALM, to play that game, too, and in such a way that CALM became the lead agency in Western Australia (Once the process started in WA, the process was absolutely driven by the WA side, by CALM). Perhaps unsurprisingly, from a CALM perspective this meant that the RFA got better and got stronger and more cooperative as the process went on, particularly, as it moved towards its completion.

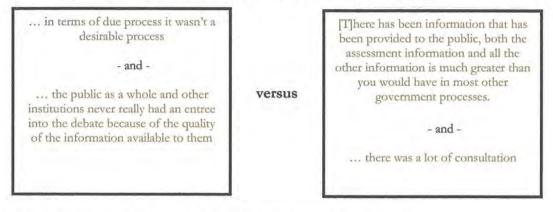
State-Commonwealth relations changed again towards the finalisation of the WA RFA because of the creation of a new federal ministerial office for the RFAs to which Wilson Tuckey was appointed by the Howard Government. His appointment and subsequent involvement in the WA RFA was the cause of much publicised friction between the Commonwealth and the State (e.g. Mallabone, 1998c; Capp, 1999d), whose representatives thought that the introduction of the third person at that very late stage ... was not complementary to the finalisation of the RFA, especially since the new person coming in ... was representing one side; that was the timber industry ([I]n the WA RFA, the intervention of Wilson Tuckey as the Minister fundamentally changed the ... honesty of which the Commonwealth could be viewed in the process). Tuckey was fully supportive of WA's timber industries and thus critical of what he considered to be concessions to the conservation movement in relation to forest reservation granted by the State Government, which served to fuel the already intense conflict over forests in the WA (e.g. Mallabone, 1998b; Capp, 1999c; Dore, 1999).

Within WA, as indicated in Chapter Three, the political landscape was divided over the forest issue. While the ruling Coalition Government defended the credibility of the RFA and highlighted its benefits to conservation, forestry, and the industry, as shown in Chapters Five and Six, opposition party members as well as independent members of parliament (MPs) and political activists became increasingly vocal in their opposition to the RFA process and its outcomes, which was encouraged by the swing in popular opinion about the RFA. Traditional supporters of the Coalition Government even moved to set up a new pro-forest party called Liberals for Forests as an act of demonstrating their discontent with the direction of the coalition's forest policy. These new liberals (This Liberals for Forests party is an entirely separate group from the Liberal Party although it has a lot of ex-Liberal people in it) had a simple message: stop the logging of our oldgrowth forests, which they perceived as the only proposal that [would] achieve majority community support. Party members saw in WA's forests a public asset, the disposal of which should be dependent on community support. However, the RFA in their view did not make any genuine concessions for it merely acceded to the demands of all sort of different minority pressure groups, resulting in a permission of a programme of logging designed to fulfil the wishes of the timber industry and CALM and a formalisation of continued logging plans designed to suit the commercial purposes of the timber industry. While the amendments [to the RFA] were [seen as] a step in the right direction, they were only a very small step. The amendments were only of modest benefit because they merely meant a reduction in old growth logging, ... notwithstanding that the community view was that it should all stop. Similar sentiments were expressed by other MPs and parliamentary candidates, unelected individuals who entered politics 'on behalf of the forests'. In their view, the RFA did not go far enough in terms of what the community wanted (it just was not what people wanted), people wanted their trees but the government ... refused to listen to the people [who] elected it. The RFA was thought to have held little regard for the workers and that no thought given to the communities. [C]onservation issues were [not] adequately represented for political reasons, people ... tinkered with the edges of the RFA, and the RFA itself did not bring about substantial change for WA's forests (I think no particular major change has occurred, only little incremental change was made along the way; some of them forwards, some of them backwards). Overall, there was agreement that the process should have been more open, that conservation groups and external groups should have had a greater involvement, and that more emphasis should have been placed on environmental or conservation outcomes.

The differences in perception shown above hardly strike as surprising as they are largely reflective of the State-Commonwealth and government-opposition dichotomies identified in Chapters Three, Five and Six. However, while differences of viewpoints between the State and the Commonwealth as well as between the WA State Government and members of the political opposition were somewhat to be expected, the occurrence of strong differences in perception among members of discrete groups such as individual government departments is noteworthy. Although this is an area an in-depth analysis cannot be carried out due to reasons of data confidentiality, it can be noted that differences in perception existed within and between government departments in relation to the role, and the quality, of the science in the RFA (see Chapter Six), ...



the participatory nature of the RFA process (see also Chapter Five), ...



as well as its overall efficacy of the RFA, only to cite a few examples.

The outcomes from the process ... represent an unambiguous failure of policy in that the policy settings that were established in the NFPS by any objective measure failed to have been met in terms of conservation.

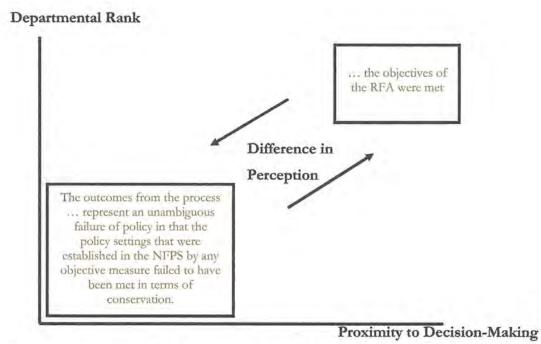
- and -

The final agreement bore no semblance of the real changes that needed to be made in terms of managing native forests. [T]he Regional Forest Agreement was
a well balanced document that met the
objectives of the Regional Forest
Agreement process as laid down ...
coming out of the NFPS and the
JANIS criteria.
 - and ... the objectives of the RFA were
 met

Overall, disparities such as these were particularly strong within departments with environmental portfolios and between them and those working on behalf of either State or Federal Cabinet. In relation to these inter and intra-departmental differences in perceptions of the RFA, it is also worthwhile pointing out that there was a discernible relationship between an individual's departmental rank and affiliation as well as proximity to the decision-making process concerning the RFA and that individual's views of the RFA itself. As shown in the example in Figure 7.1, individuals of lower departmental rank and lesser influence in terms of decision-making were more likely to be critical of the RFA than their superiors within the same department. This was true for all State and Commonwealth departments where interview data permitted comparisons of this kind and was applicable to issues pertaining to the participative nature of the RFA (see Chapter Five), the science employed (see Chapter Six) as well as efficacy of RFA. the overall the This means that although the Government/Departments/Political Parties group was a highly heterogeneous

assemblage of stakeholders per se, homogenous *packets* existed within that group, members of which not only shared similar perceptions but also similar degrees of influence over the process and similar ranks within the political/bureaucratic hierarchy. The hierarchical and influence-based relationship depicted in Figure 7.1 also seems to reflect a more generic relationship between an individual's degree of influence over a process and that individual's perception of that process. This is supported by the data presented in Chapters Five and Six which showed that the members of the Timber Industry/Industry Groups/Unions group, the Stakeholder Reference Group/General Public group, and the Environment Groups group who, of all stakeholders interviewed for the purposes of this study, proved to be the most critical towards the RFA, but were also the most remote stakeholders in terms of access to the RFA decision-makingprocess. This would suggest that both power and perceptions are relational as well as mutually determining.

An analysis such as this is complicated by the fact that multiple affiliations and varying degrees of allegiance blur the boundaries of the categories used for the purposes of this study. This blurring effect is compounded by my inability to provide full disclosure of relevant data which would enable a disentangling of stakeholder affiliations and allegiances. Thus, one is left with mere imputations on RFA stakeholders' values and Nonetheless, it is reasonable to suggest that people with multiple motivations. stakeholder memberships were affected by what could be seen as a multiple hat dilemma, a conflict of multiple and varying allegiances, which in part explains the disparity of views among stakeholders with similar affiliations and the strong reactions by certain stakeholders who viewed group dissent as a transgression. Multiple memberships meant that individuals' senses of belonging to particular groups varied and that, metaphorically speaking, stakeholders acting on behalf of one stakeholder group were in fact wearing the hat of another whom they had stronger allegiances to. For example, public servants who have private affiliations with the conservation movement are likely to be torn between their departmental brief and personal views, which find expression in their outside work activities, should these two be in conflict with one another. Thus, challenges, as those put forth by members of the timber industry, stating the abuse of office for the pursuit of agendas external to that office do seem plausible. In fact, one would expect individuals to engage in strategic behaviour to either further their own interests or those of a group, the goals and values of which they share. In particular, an individual can be expected to act strategically should the goals and values held within the environment that individual is operating run counter to the goals and values held by that individual.



# Figure 7.1: Differences of Perception of the RFA in Relation to Departmental Rank and Proximity to Decision-Making Process

Overall, this section highlights the role of the individual as well as an individual's affiliation, values, and beliefs at work within large systems and processes, as they can influence system behaviour and process dynamics either by virtue of the power vested within an individual, the tactics he/she employs or a combination of the above. Often, however, changes resulting from influence exerted by an individual are socialised, meaning that individual actors are effectively hidden (or hiding) behind the dynamics of change or the momentum they have or create. Hence, little attention is being paid to individuals per se, especially within large systems and processes, although it is often an individual and the synergies he/she can create that ultimately drive or bring about change.

It was shown in this section that earlier assumptions about group homogeneity could be supported for three of the five discourse groupings devised, namely the Timber Industry/Industry Groups/Unions group, Stakeholder Reference Group/General Public group, and the Environment Groups group, the last proving to be the most homogenous of the three. In contrast, a substantial, albeit predictable, degree of dissent was identified among members of the Scientific Community group and members of the Government/Departments/Political Parties group. It was shown that individuals differed substantially in their perceptions of the RFA. These differences could be indexed against stakeholders' affiliation and relative influence in the RFA process. This section also highlighted that, while a treatment of perceptions within groups, as necessitated here by research conditions, can be useful in terms of highlighting differences and similarities of opinion, an approach such as this is inherently limited to a superficial analysis, as underlying issues remain unaddressed. Yet, individuals, their allegiances and affiliations as well as their impact on power relations are what largely determine system and process behaviour.

### The Public Profile of the RFA and the Role of the Media<sup>90</sup>

In Chapter Two, I mentioned that the role of the media during the WA RFA process was controversial. Controversy arose over the issue of one-sidedness and bias in relation to the media's portrayal of the RFA debate. The media was also seen to have been critical in accentuating the involvement of celebrities in the forest debate and in raising the public profile of the RFA. These issues are now going to be addressed in light of stakeholders' perceptions of the media coverage of the RFA.

Accusations of biased media coverage of the RFA came predominantly from timber industry representatives and WA State Government officials. It was suggested that Greens actually [had] the media behind them, meaning that media and the Greens were putting on all this misinformation (e.g., ... people are of the opinion that we are clearfelling jarrah. Jarrah forests have never ever been clearfelled), using myths which were able to create fear. The media was held responsible for showing people these moonscape pictures on a regular basis instead of the sight two years later, five years later, and ten years later, which meant that the RFA debate turned into a very emotional debate. The alleged alliance of conservation groups and the media resulted in the framing [of] a bad picture when there [was] not a bad picture to be painted.

<sup>90</sup> For corresponding collage refer to Appendix XXIV (CD-ROM).

It was also alleged that there was not any intellectual rigour attached to the media commentators. People unable to differentiate between a native forest and a softwood plantation ... [were] given air time and credibility on talkback radio in Perth while [p]eople [who] wanted an argument based on facts did not get a great deal of time because that was not what the people in the media wanted (There was some interesting form of censorship that went on, particularly in terms of talkback radio. When you rang up and put a pro industry and pro RFA position it was mostly like: Thank you very much for your view). Implicit in that critique is also a metrocentric bias of the media.

The media was also seen to have lacked balance in that it presented a one-sided media coverage of the entire issue, showing forest block(s) on TV that ha[ve] been clearfelled and burned [b]ut they [did not] go and show the hundred year old forest that was clearfelled Karri forest and cleared to a wheat farm that failed and has now grown naturally back to a Karri forest. Also, the media [did not] publicise actions of forest protestors who vandalise[d] ..., machines (they ride on them, scribble all over them, throw the fuel caps away, let the tyres down) and unlawfully disrupted forest operations of people who were going about their work, which they have got a contract to do, and legally they should be there (When I had that incident with the log truck and the Greens standing in front of the log truck I contacted the media but there was no response. They did not want to know). In other words, the *truth* about the forests and the nature of the debate did not get reported back to the city people.

Other stakeholders perceived the work of the media as a valuable contribution to the RFA debate in that it raised people's awareness of the issue(s). [T]ere was a huge media campaign, which meant that suddenly on television you had graphic footage of what actually goes on. While it was conceded that this kind of coverage was selling papers, it was largely seen as means of informing Western Australians about the details of the RFA debate, such as the way that areas of non-forest were included as if they were forest, the definitions that were used of, for example, old growth forest were completely wrought and re-written to avoid protecting old-growth forest (Some of the revelations that came out were some of errors ... with the reservation of paddocks as old growth forest). So, while timber interests thought that the media ha[d] a lot to answer for and had done a lot of damage by effectively driving a pro-green propaganda war, other stakeholders saw the role of the media as more benign in that it laid out the issues and

gave protesters a real platform, triggering [p]eople [to] change their views about forestry. In their view, due to the awareness-raising role of the media, the RFA [Western Australians] have got [now] was a bit better than [they] would have got before.

The above data illustrates how divided stakeholders were about the role of the media during the RFA process. From a pro-RFA or pro-industry perspective the media coverage was considered biased and misleading whereas stakeholders with alternative perspectives of the RFA saw in the media's role a service to society. Chapters Three, Five, and Six drew attention to the dramatic newspaper headlines used during the RFA process, employing a language of open conflict, even warfare, which certainly added to the emotional charge of the RFA debate. The media's portrayal of the debate hardened the conservation-industry dichotomy and helped fuel scepticism about forest management practices, the rigour of RFA science, and the acceptability of the process itself and the outcomes it produced. The nature of media coverage, however, needs to be seen in context.

At the onset of the WA RFA, forest issues - from a media perspective - were not front page material, and the reporting of the progress of the RFA process was largely based on government media releases. As the process evolved, conservation groups made increasing use of the media to expose what they perceived as flaws in the RFA. Yet, their opposition to the process was largely covered by opinion pieces in local newspapers, and thus they still needed to rely on flyers, newsletters, and online publications. The degree of media attention changed significantly once prominent Western Australians entered the forest debate, turning the RFA into a mainstream issue. From then onwards, the nature of the media coverage changed, and critics point out correctly that much of the media content focused on green viewpoints, which is what gave rise to the notion of a biased presentation of the debate. Yet both groups, conservationists and industry supporters, were keen to seek access to media outlets. In the end, however, it was the conservation movement that proved more effective in terms of media access, arguably because it offered a product with greater graphic and semiotic strength (see Figure 7.2 and Plate 7.1), which initially resulted in prominent, and subsequently in public, support for the green argument. This mélange of drama and celebrity involvement made an impact on a largely urban readership, the views and opinions of which proved to be of political significance given its electoral weight. In

that sense, a rural opposition was never likely to succeed in influencing political decisions in view of likely ballot box results, as people up here in the metropolitan area ... [were] having a very strong position, which did not match the position down in the South-West; thus, the earlier accusations of metrocentricism. The nature of the media coverage changed again, once the social fallout from the amendments to the RFA became visible. Following the amendments to the WA RFA, the plight of timber workers and their towns was heavily portrayed, however, at that point in time [t]he noisy people in the metropolitan area and Green metropolitan politics had already decided over their fate, and the media was seen to have contributed to that outcome.



Figure 7.2: Advertisement by the WA Forest Alliance and The Wilderness Society (Source: The West Australian 20<sup>th</sup> August 1998)

The media reaction to the unfolding of events in WA is understandable, especially in light of the underlying economic rationale of news reporting: sensation = sales. It raises questions, nevertheless, about the trustworthiness of media outlets on the score of *objective* reporting of current affairs, especially on matters where the nature of the information presented is decisive in terms of shaping public opinion. The media as a receptor and re-interpreter of public opinion faces a kind of *double hermeneutic* (after Giddens, 1984, p.284), which means that media coverage and public opinions are inexplicably linked in that public opinions affect media coverage, which in turn affects public opinion and its media coverage. These feedback loops can be subject to

deliberate dampening and amplification; however, the exact delineation of the drivers behind such interventions is problematic. Sensationalism as such can be seen as a form of intervention and its use regarded as both economically and/or politically motivated. Media sensationalism is not a new phenomenon, and in today's largely privatised and deregulated media markets audiences are expected to read between the lines, as highlighted by the coverage of recent international conflicts or debates on gene technology and climate change. Yet, the desirability of this trend is questionable for it has far-reaching implications in relation to information dissemination, the power of the media, and those who control it in the face of a growing need for *objective* reporting.



Plate 7.1: Clearfelled Karri Coupe (Photo: Simon Judd)

An in-depth media content analysis would have been beyond the scope of this thesis, and therefore any conclusions as to the role of the media during the RFA process will necessarily be speculative. Still, it can be asserted that the media did play a role during the RFA process in that it impacted on people's levels of awareness, and perceptions, of the nature of the forest debate. The issue of bias, however, is perceptual and thus difficult to address. Language use as well as the depth and focus of coverage during the peak of WA's forest debate in 1999 could easily be construed as a reflection of the state of the debate at the time, a deliberate attempt to sell news, to change the nature of the debate or as a combination of the above. As to the methodological issue of bias and filtering, as raised by Butteriss et al. (2001) in connection with media content vis-à-vis interview data (see Chapter Two), this thesis could not identify instances of non-corroborating data, meaning that the media content considered in this thesis<sup>91</sup> could be supported with interview data. However, certain interview data I could not substantiate with media content, which gave rise to some thematic groups being weaker than others throughout Chapters Five and Six. This can be explained by the personalised, and highly contextual, nature of interview data. Personal accounts, especially on sensitive subjects, can provide more detail and context than can often be obtained by media reporting. This, however, is not to deny the existence of biases and filters in media content; it merely explains the differences between the two data sources identified in this study. The media's interpretation of events is inherently subject to bias and filtering due to the abovementioned social embeddedness of media reporting, meaning that the media is internal to its subject matter. Again, these biases may simply reflect societal biases or indeed reflect the institutional bias of a media outlet, its agents or constituencies. Hence, irrespective of the possible existence of biases and filtering relating to the media in the case of the WA RFA, research projects such as this should generally include a wide variety of data sources. An exclusive reliance on media content may harbour the risk of merely unearthing mainstream perceptions, leading to asymmetrical data analyses. The inclusion of interview data, for instance, offers the advantage of providing insights into a wider spectrum of perceptions within a target group. The high degree of data overlap between interview data and media content in the case of the WA RFA needs to be seen in light of the fact that certain views on forestry, which were historically held by members of political minority groups, temporarily became mainstream. Whether the media was indeed a driver of this perceptual transformation or merely acted as an information relay in the public sphere will remain subject of debate.

### A Synopsis of Stakeholders' Perceptions of the WA RFA<sup>92</sup>

This thesis provided insights into RFA stakeholders' perceptions of the WA RFA; its history and evolution, the processes and dynamics involved as well as the outcomes

<sup>&</sup>lt;sup>91</sup> The inclusion of certain media content was a matter of availability but not one of selection.

<sup>&</sup>lt;sup>92</sup> For corresponding collage refer to Appendix XXV (CD-ROM).

achieved. Based on their descriptions, understanding, and evaluation of these events, in what follows I shall present a stakeholder-informed synopsis of the WA RFA.

In WA, [t]he forests in the south-west ... had long been very contentious with the local environmental groups, and there was a lot of concern from conservation groups about forest management practices and the levels of reservation in WA. There has [also] been a long history of acrimonious dispute and debate in the scientific community over forest management in the south-west of Western Australia. However, the tension that was there in relation to the forest issues was not just in WA but all over Australia. In fact, [n]o other environmental issue has caused so much conflict and divisiveness in the community as the forest issue in Australia's history.

Nationally, very intense campaigning [by conservationists] in the 1980s ..., amongst other developments, culminated in the Resource Assessment Commission being established to conduct a full scale inquiry into what was happening to Australia's forests. Against a backdrop of much national agitation over forestry and changes in the international environmental policy context, in 1992 an agreement was reached between the Commonwealth and the States as to the future management of Australia's forests. This agreement became known as the National Forest Policy Statement, which laid the groundwork for the RFA processes. The NFPS aimed at resolv[ing] the long-running conflict over forestry, promising the establishment of comprehensive, adequate, and representative reserve system[s] and security of resources for the timber industry. Yet, the NFPS was interpreted differently by different stakeholders. To some it was a clear statement about multiple forest uses in Australia and that Australia [would] continue to use native forests for sawlogs, and those native forests that are not considered to be of high conservation value or have wilderness values or oldgrowth values [would] be able to be used for the production of timber and the production of woodchips. Others saw in it a fairly radical document that set a framework, which would protect oldgrowth and wilderness forests and looked at implementing ecological sustainability in forest management.

From 1992 onwards, [t]he Policy just sat there, it just languished, [n]othing had been done. However, the uproar each year over export woodchip licenses continued. The issue of woodchipping and woodchip exports was controversial because woodchip exports required a Commonwealth license. The Commonwealth approved the export licenses on a yearly basis and there was a controversy every time they went about to approve a license. The lack of political movement in relation to the forest issue resulted in the Tasmanian Conservation Trust [taking] the Federal Government to court over woodchip export licenses on the grounds that it violated the agreed National Forest Policy, big demonstrations before parliament house by green groups who did not want to see an increase in the woodchip export quantities, and logging trucks blockading the federal parliament over the government's subsequent withdrawal of woodchip licenses. The political crises ... [over] the annual renewals of the woodchip licences in late 1994 ... to the early part of 1995... was on the front pages of newspapers around the country for about three months. It was a problem that simply would not go away. Thus, the genesis of the RFA exercise was a realisation by all players and particularly at the political level of Federal Government that the annual process of deciding what was going to happen with exporting woodchips was an inefficient and ineffective process. In that sense, the RFAs were a political solution to an even bigger political problem for the Commonwealth. The RFAs were a political attempt to get away from the ridiculous situation that had arisen over woodchip exports and the licensing arrangements which just engendered the political games between the Commonwealth and the State governments. The driving force behind the RFA processes was a desire to get the Commonwealth out of forestry, to grant resource security to industry, to get the conservation lobby and the broader community off the governments' back (both State and Federal), and to bring an end to this constant bitterness and squabbling.

Environmental benchmarks were needed to operationalise the words of the Forest Policy Statement. The government realised that [f]orest management needed to be done on a longer time horizon than on an annual renewal basis which also caused political and public pain, uncertainty in industry, and uncertainty from a conservation viewpoint. Therefore, instead of having all these fights block by block and tree by tree, the need was recognised to develop in advance ... [a set of] criteria [that would be] building on the National Forest Policy. [E]stablishing the criteria in advance [meant avoiding] controversy, so [that] a successful Forest Agreement [would] be one in which these [predetermined] environmental criteria [were] met. Scientists were entrusted with the task of developing a set of criteria for old growth, wilderness, and biodiversity protection and came up with a set of prescriptions in science, which were then put out to the policy people ... who then took the view on where those policy guidelines should be put in place or where the targets should be set. The report released by JANIS in 1997 contained a set of national criteria agreed upon by the Commonwealth and the States for the assessment of RFA areas. The report was controversial in that there was no theoretical or empirical basis ... for putting quantitative restrictions on forest management and because the criteria proposed were based on an element of political judgement by bureaucrats, also containing a lot of "may" or "if it's appropriates" etc., which meant that there were questions about the strengths and validity of the criteria underpinning the RFA processes.

The RFA process in WA was coordinated by a Steering Committee, which was portrayed as a facilitator and process mover to manage the process for the governments, to try to have that process running as efficiently as it could and identify issues which required decisions by Ministers and putting briefing notes to Ministers to get those issues resolved so that the process could move forward. The committee comprised of four people from the Commonwealth, [and] four people from the State government with a sharing of the chairmanship between the senior State Government official and the senior Commonwealth official. Conservation groups feared that the Steering Committee was going to be run by CALM and demanded representation but were refused the opportunity to be on the Steering Committee. Instead they were invited to be part of the process in the Stakeholder Reference Group, which had about 60 officially registered stakeholders who were to provide consolidated advice to the Steering Committee on issues relating to the strategic management of the Comprehensive Regional Assessment process in the south-west forested region of WA. Conservationists felt that their concerns were going to be sidelined as in their view the Stakeholders Committee [was] treated with total contempt and thus decided that there was no point in [their] continued involvement in the RFA process.

Promises of extensive stakeholder consultation were made in the NFPS and echoed in information materials released for the WA RFA. The Stakeholder Reference Group was advertised as means of giving a voice to stakeholders (come and have your say and input) during the governments' public consultation process for the RFA, which gave stakeholders the chance to ask questions, to make submissions, and to express their opinions. While the SRG was officially portrayed as a forum for participating in the process of developing RFA options for government consideration, many participants did not perceive it as a very satisfactory arrangement for, in their view, it made inappropriate use of the stakeholders. There was a widespread perception that CALM totally controlled the agenda, minutes were unsatisfactory, there was no public debate, and that the RFA seemed to exclusively look at the needs of the timber industry. In the end, many stakeholders accepted that the public process was not transparent and that it was not a public process, which resulted in many calling for a proper process and true consultation.

Science, the critical element of the RFA process, was also contested. In WA, it was perceived that science was conducted in a climate of fear or uncertainty, which inhibited good, fruitful, and honest debate. Science was seen to have been very much dominated by CALM, meaning that certain scientific views that have been expressed about the ecology of the south-west forests ... did not find their way into any of the RFA documentation. [I]t was [seen as] a rushed process, in which information [was] very, very tightly controlled as well as limited, data access was allegedly stymied in that databases ... were not made available to scientists, and datasets that were available [were at times] totally inappropriate. Also, it was alleged that scientific reports went through some sort of haphazard review and a very stifled publication process. In toto, despite assurances by both governments that the RFA itself was ... a scientific process, the science of the RFA was widely regarded as second rate science because the science ... became politicised and was used as a façade and a weapon, which ultimately damaged both science and the process.

When the WA RFA was signed in May 1999 it triggered a groundswell of dissent, as the community felt it had been misled about things in a process that was very much controlled by CALM and [gave] the timber industry ... virtually all they wanted. Hence, many stakeholders had no trust in the process. While what was signed in the RFA was considered by both the State and the Commonwealth ... [as] green of the balance and as a fair outcome by a timber industry, which overall thought that the RFA process itself was fine, the RFA was rejected by the wider community because the RFA was too alienated from, and the basic decision making mechanism was arrogant of, the community. After eight weeks the WA State [G]overnment [was] succumbing to political pressure and amended the RFA, reducing the cut in karri. This change of

policy direction by morning press release was viewed by conservationists as a side-step in response to huge community concern, by others as a step in the right direction. While government representatives remained convinced that the WA RFA delivered a good outcome and an outcome that was justifiable in all its aspects, the RFA remained open to the charge that it did not achieve the outcomes it set out to do, and, in particular, that the amendments to the RFA delivered an absolute antithesis of the RFA objective by having done a lot of damage and having caused enormous unrest, uncertainty, and discomfort in the timber communities.

## A Systems Critique of the Western Australian RFA<sup>93</sup>

Open systems thinking, as described in Chapter Two, is concerned with the organisation and behaviour of systems and their survival within changing environments.<sup>94</sup> To recapitulate and expound, the theory sheds light on system-environment relation by conceptualising the internal ( $L_{11}$ ), transactional ( $L_{21}$ ,  $L_{12}$ ), and contextual ( $L_{22}$ ) interdependencies that exist within and between systems and their environment. The theory's notion of changing environmental textures highlights the dynamic nature of the relationships between systems and their environments, giving rise to complexity and relevant uncertainty and underscoring the need for adaptive system responses to cope with environmental change. In that sense, OST enables the articulation of a response repertoire for human systems operating within dynamic environments.

The "loss of the stable state" (Trist, 1997, p.118) characterises today's environment (constructed and natural). The environment is described as turbulent (Type IV), as amplified and resonated system responses lead to high rates of change and interconnectivity in the environment (Emery & Trist, 1965). In other words, the environment itself becomes a source of turbulence, increasing the potential for unintended consequences caused by system responses and in turn enlarging the relevant uncertainty faced by systems. The increase in environmental variety ( $L_{22}$ ) increases the risk of maladaptive system responses to change for systems potentially lack the *requisite variety* for their survival. According to Ashby's Law of requisite variety (Ashby, 1960),

<sup>93</sup> For corresponding collage refer to Appendix XXVI (CD-ROM).

<sup>&</sup>lt;sup>94</sup> For an explanation of the multiple connotations, and socio-ecological interpretation, of the term *environment*, refer back to Chapter Two, p.13.

the response repertoire  $(L_{11})$  of a system ought to match the variety of its environment to ensure system survival. For human systems, the term *variety* translates into pluralism, broadly to be understood as "the acceptance of difference", recognising that "diverse understandings are bred by varied experience" (Schlosberg, 1999, p.110).

Survival is a function of learning as it underpins planning in anticipation of, and in response to, environmental change. Interactive planning (see Ackoff, 1997) is seen as the most appropriate system response in the face of environmental turbulence for planning becomes pro-active and continuously adaptive. The interactive mode focuses on learning and problem solving via collaboration of interest groups, the identification of shared values, continuous learning, evaluation, and modification (Trist, 1997). The metaproblems arising in Type IV environments are seen to defy an understanding solely derived from reductionist and other left brain dominant forms of knowledge construction. Therefore, synthetic and holistic approaches for the capturing of the "gestalt of system-connectedness" are considered "pertinent to the development of response capability to meet Type IV conditions" (Trist, 1997, p.524).

A systems approach to learning and planning has implications for system structures in which learning and planning is meant to occur. The onset of turbulence in the last quarter of last century (evidenced by stagflation, unemployment, resource depletion, growing income gaps, and environmental decline) saw a growing dysfunctionality of hierarchical structures (Trist, 1997), perhaps best signified by the cost-blowouts of western world bureaucracies from the late 1970s. It is these traditional, western world structures that often prevent what Argyris and Schon (1978) refer to as double loop learning, a learning to learn how to cope with change, and therefore respond poorly to increases in environmental variation and suffer from entropic effects. Hierarchical structures are what Emery (1967) calls DP1 structures, where learning is experience based and incremental but contextually blind. DP2 structures, in contrast, are collaborative arrangements where cooperation and learning towards shared goals are encouraged, facilitating the communication of assumptions and values and creating a consciousness of context (Emery, 1997b). DP2 structures are essentially democratic in nature and represent a shift away from a hierarchical to a socio-ecological order based rather on interdependence than dominance.

From an OST perspective, the WA RFA was a process occurring amid Type IV conditions. Even prior to the commencement of the WA RFA process environmental turbulence was already salient as over many years forest stakeholders' actions, perceivably inappropriate first and second order responses, led to high degrees of complexity and relevant uncertainty for political decision makers and forest stakeholders alike. Nationally, for instance, in the face of a changing environmental ethic a growing societal segmentation over forestry led to high degrees of polarisation and the freezing of entrenched positions.

In WA, for example, challenges to forest management practices were met with ignorance (superficiality), neo-conservatism, and/or aggressive counter-attacks (dogmatism) by the government bureaucracies. The resultant turbulence was what arguably gave rise to the RFA processes nationally, which were meant to serve as a dampening element, a tool to reduce turbulence and relevant uncertainty for stakeholders (see Figure 7.3); members of industry were to be certain of future resource availability; conservationists were to be assured of the long-term ecological integrity of the forest areas; and even politicians were to be safe from any future political fallouts over forestry, the Commonwealth in particular.

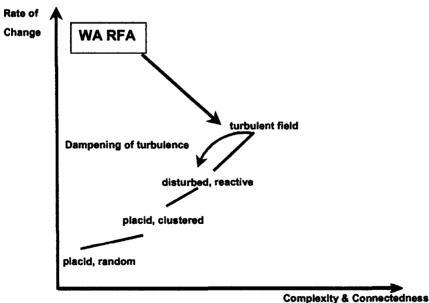
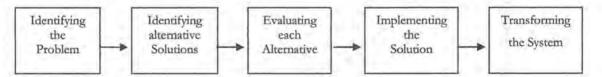
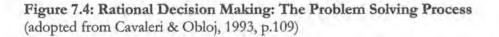


Figure 7.3: The RFA Process as a Means of Turbulence Reduction (based on McKenna, 1996, p. 29)

The term *dampening* does not only relate to environmental complexity but also to system complexity or variety as, referring back to Ashby (1960), the amount of variety within a system as well as the amount of relationships that exist among its parts define the complexity of that system (Beer, 1984; Klir, 1985). The history of the forest dispute (see Chapters Three and Six) bespeaks the difficulty of the management and governance of systems with large variety (e.g., networks of forest stakeholders at the national, state, and local level with conflicting agendas).

Despite the presence of environmental turbulence, the WA RFA represents a process that exhibits a high degree of closedness and pervasive DP1 structures, indicative of poor system responsiveness to change. The RFA process was hierarchical with stark power differentials between the national, state and local levels, which determined the degree to which individuals could influence the decision-making processes. Ostensibly, these were centralised and controlled by those in the higher echelons of the State and Commonwealth hierarchies. From a stakeholder perspective, the process format was as rigid as the process structure itself, as both structure and function of the RFA process were based on the DP1 paradigm. The process structure was linear and analogous to what Feldman and Kanter (1965) call rational problem solving (see Figure 7.4), a hard systems approach often criticised for its reductionist and often too simplistic treatment of complexity and dynamism as well as lack of contextual sensitivity (Rowe, 1989; McCall & Kaplan, 1990).





The limitations of this approach are seen to lie in its closedness, exacerbated in the case of the WA RFA in that problem specifications were pre-determined and endpoints assumed rather than negotiated (on associated problems see Emery, 1995). RFA stakeholders felt confronted with a set forest problem and already established guidelines for problem resolution. Consequently, the RFA process could not cater for aspirations beyond process parameters, which is why process management found that what many stakeholders wanted was outside the policy framework [they] were operating in (e.g., It's very hard to have a process that would make the people happy when their main issue was with the rules with which the whole process was being conducted). This suggests that the process was divorced from its social context, effectively excluding those who were to be affected by the process outcomes and for whom the process was supposedly initiated.

The forestry problem, as addressed by the RFA process, was to be solved using the best science available, this however was understood as being abstract, reductionist knowledge. Alternative modes of knowing, knowledge creation, and other levels of expertise were largely ignored during the RFA, as inputs from the Indigenous community (1 mean we would argue that if you left the land we could manage it just like our ancestors have been doing it for thousands and thousands of years [but] [t]he government does not see it as a practical way of scientific management), dissident scientists (they ignored all of our recommendations), and stakeholders with local knowledge (the stakeholders who were involved at the local level would have a lot of experience and knowledge to offer to the process ... [but they] did not intend ... stakeholders [to] have any input) were impeded. So, stakeholders not only perceived a hierarchical process structure and decision-making hierarchies but also a hierarchy of experts. Chapter Six showed that sharp distinctions were drawn between the different types of research that formed a part of the CRA process, scientific and social studies, inferring different degrees of value, credibility, and importance. Wide-spread perceptions of the dominance of CALM science and its connection to the economic and political apparatus indicate a sense of capture and cooption of the RFA science by DP1 structures since, as was shown in Chapter Six, values were neither shared nor differences appreciated but instead attacked and discredited. This suggests that the scientific approach to the RFA was one rather based on exclusion than collaboration.

The issue of exclusion and closedness may best be illustrated using an example borrowed from the social sciences applied here to knowledge systems. Science, *hard* science in particular, distinguishes between valid and invalid modes of knowing. Abstract, reductionist knowledge is elevated to the status of accepted scientific knowledge, whereas other modes of knowing and knowledge outside the empirical realm of science are seen as inferior and of less value (at least within the context of scientific inquiries). Figure 7.5 shows what is called the Möbius strip of topology (see Booth, 2000), symbolising here the field of human knowledge, which expands as the ribbon is being stretched. Following the analogy, the outer side of the ribbon represents accepted modes of knowing distinct from the inner side of the ribbon, which represents alternative modes of knowing. Both sides are separated by the outer edges of the ribbon and remain separated, even if the ribbon's ends (AC and BD) are joined together.

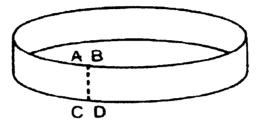


Figure 7.5: The Separation of Modes of Knowing (adopted from Booth, 2000, p.93)

OST advocates a holistic and synthetic understanding of the world, akin to Pepper's (1942) contextualism, which requires connections to be made between the two sides of the ribbon. It is recognised within open systems thinking that boundaries are break points (after Emery & Trist, 1965), which need to be overcome to improve the chances of successful system adaptation under inherently complex Type IV conditions (Trist, In this context, OST ascribes a greater degree of complexity to system-1997). environment relations than is generally acceptable to empiricists. This larger complexity, manifested in so-called messes, systems of problems or metaproblems (see Ackoff, 1997; Trist, 1997), is considered a product not only of measurable events but also of processes and mechanisms that defy measurement. This perspective challenges the foundation of reductionist science premised on the Humean worldview which equates empiricism to realism. OST, on this point more closely aligned to Bhaskar's (1975) critical realism, questions the wholeness and appropriateness of reductionist approaches, which are exclusively focused on the establishment of causalities, in light of a realism that is understood to be greater than empiricism. This does not invalidate empiricism, it merely puts it into a new perspective. This new perspective may be described by the scenario depicted in Figure 7.6, where the connecting of the ends (AC and DB) of the ribbon with a twist creates a singular surface which, following Gorsz' (1994) interpretation of this re-conceptualised topology, brings together the inside and the outside. The duality between accepted and unaccepted modes of knowing is demolished for they are now one. The dichotomies of objectivity and subjectivity, experts and non-experts, *hard* and *soft* science become intertwined, rendering reductionism only one of many modes of knowing along the spectrum of knowledge. Treating different modes of knowing as valid enables a synthesis of knowledge and understanding, enhancing a system's contextual sensitivity ( $L_{21}$  and  $L_{12}$ ) and hence improving its adaptive capacity.

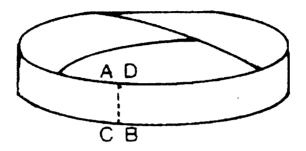


Figure 7.6: Connecting Different Modes of Knowing (adopted from Booth, 2000, p.93)

The RFA was meant to deliver an integration of knowledge, drawing from the best expertise available. A process such as this could have been expected to make the connections between the different modes of knowing relevant to forest use and management. Yet, as occurred in the years prior to the RFA, this integration was seemingly restricted due to the domination of reductionist thought. As the entrenched hierarchy of knowledge was maintained during the RFA process, a detailed communication of RFA management with its socio-ecological environment was precluded, which resulted, as perceived by many stakeholders, in a scientific, incomplete endorsement of the status quo. So, instead of breaking down barriers within the scientific community and between the expert and non-experts realms, the RFA seemed to have hardened them.

The closedness of the RFA science was reflective of the structure of the RFA on the whole, as many stakeholders lamented the existence of similar constraints on many levels and aspects of the process. Chapters Five and Six documented a list of constraints that stakeholders thought affected their ability to participate, to obtain information, to gain access to decision-making processes, and thus to influence the overall direction and outcomes of the RFA. Arguably this is why the forest use options presented in the Public Consultation Paper (Commonwealth of Australia and Government of Western Australia, 1998c) and the final RFA document itself, were

viewed as narrow, neither reflective of public opinion nor best science, and essentially mere variations of one option (e.g., ... what you are saying to the community is: get stuffed, basically. There was no admission that the vast majority of submissions on the RFA were opposed to what the RFA was suggesting). The RFA was therefore criticised for failing to take into consideration the views and aspirations of its stakeholders.

The alleged failure to include and increase system variety raises the question of political commitment and will to enable system transformation. Stakeholder data suggested that there was an overall lack of political commitment to transformational change, evidenced by the restricted roles available to stakeholders. This lack of commitment was said to have found reflection in a structure and a process which arguably also militated against such a commitment, a point I now shall expound. The RFA process was described by stakeholders as one of great power concentration because of highly centralised processes dealing with decision-making, communication, the commissioning and evaluation of scientific work as well as the interpretation and relaying of information. Ostensibly, this high concentration of power led to instability as the maintenance of these power relations (a) reduced the variety within the decision-making realm (b) reduced the variety of the science underpinning the RFA but (c) increased environmental variety and turbulence, evidenced by growing community disquiet, the somewhat unexpected, yet critical, involvement of prominent citizens, and mounting scientific and political dissent. However, established power structures proved nonresponsive toward these developments as political system-environment relations had already stalemated. The closedness of the decision-making structures arguably prevented the acknowledgement of growing turbulence as a perceivably noncompromising course was maintained by decision makers, which further intensified already volatile Type IV conditions.

As a means of illustrating decision makers' inability (or unwillingness) to respond to environmental change, an appropriate analogy may be that of a cyclonic silo where from within the intensity of the storm outside cannot be gauged. RFA management within the silo felt safe and justified in its approach as, judged from its position, everything appeared calm outside; yet, it was the eye of the cyclone. Only upon the emergence of Type V conditions (after McCann & Selsky, 1984), which threatened to destroy the silo, was action taken to secure it. The signing of the RFA document by the Prime Minister

and WA's Premier created hyperturbulent conditions, triggering mass protests, rallies, and public disobedience, which not only posed an external threat to the silo but also challenged the tranquillity among those living within the structure. The amendments to the RFA to a degree dampened the turbulence both within and outside the silo. However, for some people outside the silo the rapidity of environmental change, brought about by temporary hyperturbulence, was far beyond their level of influence and control; they became victims of social vortices. Once the RFA was amended, those casualties became known as the social fallout from the RFA process, the timber workers and timber towns in the south-west of the State. In the end, the supposed strength derived from the concentration of power became a fundamental weakness of the RFA, as it led to unintended consequences ultimately hurting those the process promised to protect. Also, it could be argued that the silo itself collapsed under its own weight as the Coalition Government lost power in the subsequent state election. The guiding fear that the relinquishment of power, both in a scientific as well as participatory sense, would lead to the loss of power gave rise to added closure of an already closed political system and further centralisation of power. However, closure and power centralisation seemingly proved to be the precise cause for the loss of power as feedbacks triggered by existing DP1 structures not only served to harden those structures but also to amplify further the feedback loops to a point where the structures collapsed. As suggested by Emery (1995, p.8), "maladaptive dynamics are often associated with participative events as the result of DP1 structures and forms of management which introduce elements of that design principle", which in the case of the WA RFA meant that the structure collapsed for the dynamics it created eroded its foundations. Ironically, resistance towards change is what seemingly brought about change in the end.

## The WA RFA in Light of the CCPR Model

Selsky and Memon's (1995) CCPR model, as introduced in Chapter Two, served as a structural tool through which the RFA was situated and described. Accordingly, the resource system itself and the governing institutional arrangements were described, treating the RFA itself as a political arrangement designed to determine future forest use and management patterns. Chapters Three to Six provided insights into the history-rich and conflict-laden contexts in which negotiations on future forest use and management took place, highlighting the applicability of the CCPR framework to the case of the WA RFA. Stakeholders' overlapping and conflicting demands on a limited natural resource

were shown to have given rise to much conflict, which over the years became a political problem the RFA sought to resolve. This section will examine the outcomes of the RFA in light of the behavioural model and assess the model's conceptual strength when applied to the WA experience.

The RFA promised a transition towards sustainable forestry, timber industries, and forest conservation. Therefore, the issue to be addressed at this point is the nature and sustainability of the emergent use and management patterns that emanated from the WA RFA. However, at present the biophysical sustainability of WA's forest ecosystems cannot be assessed as this will need to be determined in years to come. Then, interim assessments will be conducted of the new Forest Management Plan which, incorporating the outcomes of the RFA, comes into force in 2004. Ongoing monitoring and evaluations will then enable an analysis of whether the RFA advanced efforts to bring about ecologically sustainable forest management in WA's south-west, delivered an adequate forest reserve system, and helped the native timber industry to become more sustainable and internationally competitive. Similarly, more time may need to pass to allow judgements on the long-term socio-economic and socio-political outcomes of the RFA. Yet, turning the focus to the more immediate outcomes of the process, based on stakeholders' reactions, the RFA may be seen to have triggered emergent patterns with long-lasting implications for the future governance of WA's native forests.

Chapter Five detailed forest stakeholders' perceptions of the RFA process and its impact on their trust in political decision makers and the political system per se. The data revealed that a sense of disillusionment and disenfranchisement with the process was prevalent among stakeholders, which arguably weakened further an already fractured relationship between the political apparatus and the electorate with regards to environmental policy. A general distrust of RFA management was shown to have permeated many facets of the RFA (e.g., science, process, participation, decisionmaking, power structure etc.). Decision makers were considered oblivious to the hopes and aspirations of stakeholders and arrogant in their management of the RFA process. Stakeholder perceptions were fuelled also by a lack of trust in the State Government department in charge of the RFA and its leadership. The CCPR model treats emergent patterns as "an intervening variable between institutional arrangements and outcomes" (Selsky & Memon, 1995, p.266), allowing here for an illustration of the divergence between policy intents and stakeholder responses. In its conception the RFA can be seen as a trust building exercise for forest stakeholders and governments, an attempt to settle past conflicts by working jointly towards a resolution of the forest conflict as a means of creating certainty for forest users and managers. The longevity of the RFA, as signed in May 1999, was thus to be determined by the degree to which trust could be established throughout the process for that was to affect the RFA's political and social acceptability. For reasons explored earlier on, attaining acceptability proved illusive as both the structure and process rather served to feed cynicism and distrust resulting in the public rejection of the agreement. Distrust can therefore be seen as an emergent pattern of the RFA, which undermined the sustainability of the original agreement.

The public rejection meant that the RFA was not going to be politically sustainable, prompting ad hoc amendments to the agreement by the Western Australian Government only eight weeks after it had been signed. The amendments to the RFA constituted a change in the institutional arrangements governing the south-west forests, a substantial shift in policy direction, which resulted in much confusion as to the status of the RFA; whether the agreement, and which of the agreements, was in force. The State Government's erratic response to public pressure gave rise to the perception that the amendments to the RFA were merely politically motivated and not based on due process, best science, and community input, changing the fate of rural communities over night. Consequently, the meaningfulness of the preceding three years of negotiation and research was brought into question. Also, doubts were raised over the reliability and permanence of political decisions, all of which resulted in even greater cynicism towards politics and a general unwillingness by stakeholders to participate in future government processes.

Interview data pointed towards a considerable discrepancy between policy intent and stakeholder responses. The RFA promised certainty and conflict resolution, yet many stakeholders did not see these aims fulfilled. Instead, the policy was seen to have created greater uncertainty and conflict and to have fed stakeholders' suspicions about political processes. While it remains to be seen whether the RFA will have a lasting effect on stakeholders' views on environmental policy-making, interview data showed that the process did not help improve government-stakeholder relations. Relationships such as these shape the institutional arrangements that govern the use and management of natural resources and thus potentially affect their future resource sustainability. On this front, the RFA did not contribute to the future sustainability of WA's forest resources but potentially threatened it.

In this context, the question of what constitutes sustainability is vague, however, and proves problematic within policy processes. Implicit within Selsky and Memon's (1995) CCPR model is a recognition that sustainability cannot be understood in absolute terms for a definition of the concept is always perception-based and context-dependent. Sustainability means different things to different people and does not represent only one best way of human-environment relations. While, for instance, sustainability may be understood by timber industries in terms of constant returns from the forest resource in perpetuity, conservationists may approach the concept on ethical and spiritual grounds, arguing against the commodification of natural assets on the basis of forests' intrinsic values. At a later point, I shall return to this issue as part of a discussion on how sustainable policy outcomes may be negotiated.

The CCPR model, while systemic in its treatment of stakeholder interactions and their influence on the use and management of natural resources, may be seen to pay insufficient attention to the socio-ecological embeddedness of CCPRs. Selsky and Memon (1995) acknowledge that system interactions occur embedded within larger social systems, the collective of which they term *societal context*. They accept that a societal context, which can include "national culture, economic and political systems, and ideological forces" (1995, p.263), can constrain as well as give opportunities for decision-making affecting natural resources. Yet, the societal context for their purposes was treated as external to the CCPR setting under observation and thus merely regarded as a contextual factor. This treatment of context creates a barrier to a systems analysis and harbours the risk of underestimating the degree to which external influences, the broader socio-ecological context itself, can affect the resource system in focus.

CCPRs are arrangements nested in large socio-ecological contexts where social and ecological systems are in exchange with one another, giving rise to feedbacks within and between the two systems and their sub-systems. Resource systems and institutional arrangements are not divorced from these dynamics; they are a part of them. Socioecological inter- and intra-dependencies and dynamics make up the texture of the CCPR environment. The point here is that the environmental texture, as argued earlier on, is critical in terms of the environment's relevance to, and impact on, the management, use, and sustainability of CCPRs. To illustrate this point, a legacy of agriculture, logging, mining, and scientific forest management changed the landscape in WA's south-west. In response to these changes, perceptions grew of natural decline and permanent loss of ecological diversity and integrity, which over the years gave rise to public agitation and scientific disputes. The emergence of scepticism/cynicism formed a part of the background against which the RFA process was going to be judged by a number of RFA stakeholders. The mainstreaming of this scepticism during the RFA helped change public attitudes towards forests as well as the external dynamics of the RFA despite the stalemate inside the process. By late 1998, the amalgam of a conflict-laden past and growing synergies among an unlikely alliance of external stakeholders (musicians, dissident scientists, the churches, doctors, businessmen/and women, athletes, and academics, and the conservation movement) not only impacted on the RFA process but also on its likelihood of being accepted by the public. It was this contextual variety the RFA process did not match, which meant that external forces were more than just a contextual variable; the socio-ecological context became an intervening variable.

It is plain, that high levels of contextual complexity preclude a systems analysis to consider all factors and variables relevant to resource systems and their governing institutions. Still, as it is important for analyses such as these to be sufficiently open to the potential for external influence, which was highlighted by the WA experience. On this point, one can see parallels between the working of the model and government process realities. Closure, in terms of whom and what to consider as *part of the picture*, is a matter of judgement, based on values, beliefs, and perceptions. In a practical sense it also highlights the need for closure as boundaries need to be determined as parameters for political processes and systems analyses alike. However, especially in the case of CCPRs which by definition are likely to face contextual complexity, the determination of points of closure is problematic due to the dangers of oversimplification and a consequent lack of internal variety. What becomes apparent also is that decisions on closure are not only fateful but inherently political in nature. Accordingly, an awareness

of the occurrence and politicality of closure is paramount, and one may therefore need to look more closely for agreed modes of negotiating closure, a notion I will expand on below.

## Lessons from the WA RFA: Final Synthesis and Conclusions

This thesis, based on stakeholders' perceptions of the WA RFA corroborated with media content and RFA-related literature, sought to provide an understanding of factors that may constrain political processes. Moreover, my aim was to identify what could be considered an adequate level of public input into such processes and the degree to which, and what kind of, science may need to inform environmental policy making. Upon reflection, my goals set for this thesis outlined in Chapter One now strike as somewhat naïve and unrealistic. My objective was to distil the lessons to be learned from the RFA so as to spell out a new set of rules for civic and scientific engagement in political processes. I now realise that the articulation of a new set of rules would not be appropriate. I learned that many rules have already been devised; yet, changing political contexts and realities, featuring a mix of vested interest, power relations, and sometimes unpredictable stakeholder dynamics, often render such rules too inflexible to be Also, instead of producing answers to the political meaningful and effective. problematique I investigated, I unearthed meta-problematiques which give rise to reflection on the political apparatus and its processes. What I can articulate here is a sense of understanding of the questions that needed asking in this thesis and still need asking and answering. For many of the issues that I raised I have no answers, and my sensemaking of the RFA and its political implications, as will be outlined below, is inevitably incomplete. Nonetheless, I hope that the insights I could gain can add to the understanding of political processes and serve as a foundation for future inquires into environmental policy-making.

First of all, I acknowledge that any final verdict on the RFA in terms of failure and success is necessarily perceptual and dependent on perspective. Failures can easily be construed as successes and vice versa. For instance, the splitting of CALM subsequent to the RFA as a means of overcoming perceptions of conflict of interests and past prejudices against the department could be seen as a sign of reflexive learning and as a positive indirect outcome of the RFA. Yet, as commented by a number of research participants, the changes to the CALM Act could mean that the now separated nature

conservation agency of CALM will be basically going into the same penurious status like all other nature conservation agencies in the country as timber royalties are no longer available to fund conservation activities. From this angle, the splitting of CALM would constitute a disservice to nature conservation and thus represent a failure. Consequently, the final synthesis presented here is to be seen in light of RFA stakeholder feedback and the thesis' theoretical framework.

The findings of this study point towards the existence of multiple constraints, which affected the RFA process dynamics and the longevity of the process outcomes. The data analyses suggested that public participation was insufficiently enabled and that a merely tokenistic role was permitted to RFA stakeholders throughout the process. A lack of transparency and information sharing, restrictive communication flows, and stakeholders' disconnectedness from the decision-making processes were seen to have been responsible not only for stakeholder dissatisfaction with the RFA process but also for the disparity between the process outcomes and stakeholder aspirations. Similarly, the scientific input into the RFA was regarded as constrained by the imposed format under which science was conducted and by a differential attention to scientific information dependent on its *acceptability* to RFA management. The process critique presented above pointed toward the exclusion/marginalisation of stakeholders whose involvement was believed to have been constrained by decisions regarding, inter alia, problem specifications, process management and leadership, stakeholder consultation, use of science, and the development of problem resolutions.

These decisions represent points of closure, as depicted in Figure 7.7, for they triggered a closing of the RFA, a separation of the process from its socio-ecological context. This separation precluded an interactive learning between RFA management and stakeholders and thus impaired adaptive planning and limited opportunities for transformational change. The problems associated with these limitations became evident in the stakeholders' reactions to the process and the rejection of the process outcomes. The perceived restrictions on input and communication precluded the jointexploration of goals, values, and common ground. This communication failure meant that divergent expectations on the process could not effectively be relayed throughout the process, which in the end resulted in both sides of the process, seen from the RFA management-stakeholder dichotomy, blaming each other for not having understood what the process was about.

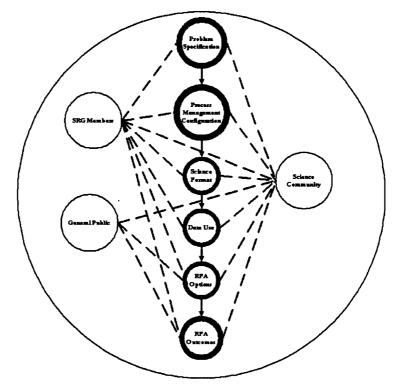


Figure 7.7: Points of Closure in the WA RFA Process - The diagram shows the various aspects of the RFA that, according to RFA stakeholders, were subject to contested closure. The solid lines connecting these points of closure depict the directionality of the process. Dotted lines denote impaired communication among RFA stakeholders and their limited input into the process.

The critical issue here is not that closure occurred but the way it occurred and that its existence was denied by some of those who brought it about. As illustrated in van Straalen and Souren's (2002) example of the life-cycle of science-policy communication applied to environmental risk assessment (see Figure 7.8), growing levels of complexity are shown to lead to greater turbulence and management problems. Action is prevented as the introduction of variety increases complexity to a point where resultant turbulence ultimately leads to the stagnation of the process. This means that a trimming of complexity is required for the sake of practicality. Closure, in this sense, can be seen as a prerequisite for action and as a *natural* phenomenon in political processes.

Explicit in van Straalen and Souren's (2002) model is the need for closure and awareness of its occurrence when problems are being trimmed. In the case of the WA RFA, similar processes of closure or trimming occurred, however, without being admitted to by those at the heart of the closing, which in turn proved to be a source of conflict. In addition, conflict arose in relation to the issues of *where, when and by whom* closure was initiated, an issue of added precariousness in light of strong perceptions of political closure in the past. Closure in the WA RFA experience was a matter of autocratic decision-making undertaken by those at the top of the decision-making hierarchy and most closely aligned to the political, scientific, and economic status quo. The RFA presented a situation, as exemplified by the composition of the RFA's *command module*, where closedness and autocratic behaviour were reinforced by the structure of the decision-making apparatus. The majority of members on the RFA Steering Committee were, with the exception of EA representatives, closely aligned to the positivistic economic and scientific paradigms, which where identified in Chapters Three, Five, and Six to have produced precisely those dichotomies the RFA was supposed to overcome.

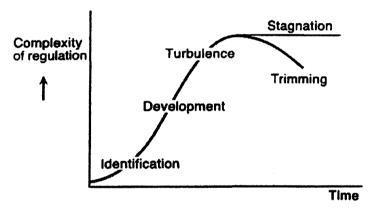


Figure 7.8: The Need for Closure (Trimming) in the Face of Complexity (adopted from van Straalen & Souren, 2002, p.32)

The review of science revealed that the problems faced by modern science are inexplicably linked to its ontological and epistemological closedness. The social science of economics, in particular, "is characterized by closed-system theorizing" and thus "forced in the face of complexity of the world to direct its energy to close it by creating and/or changing the institutional structure within the boundaries of which the theory is supposed to work" (Özel, 2002, p.1-2). Moreover, Chapter Five showed that the Westminster system itself is characterised by closedness, proving restrictive to active participation by individuals outside the political and bureaucratic apparatuses. This view was reinforced by the fact that the RFA, in terms of community consultation, was seen to have more than fulfilled government regulations regarding community input, although this did not involve the contemplation of any measures beyond Arnstein's (1969) understanding of consultative tokenism. It follows that the WA RFA Steering Committee was itself prone to be structurally and ideologically closed toward the RFA stakeholder community. The absence of any attempts by the Steering Committee to open the process can hence be considered consistent and the perceived narrowness of the RFA outcomes, which many stakeholders viewed as being reflective of a proindustry bias, considered perhaps a matter of course.

In 1990, a Commonwealth Discussion Paper (Commonwealth of Australia, 1990) investigated policy strategies that could break the cycle of acrimony over forestry in Australia. The paper recognised that the forestry debate was counterproductive and that conflict resolution would *only* be possible if there was a partnership and collaboration among stakeholders. It also drew attention to a series of what were considered to be significant issues of the forest debate, issues a policy initiative would need to address in order to resolve the long-standing conflict. These issues revolved around questions such as:

- Is timber harvesting a legitimate use of native forests?
- Does old growth have special values?
- Should agricultural land be reforested?
- Should native forests be converted to plantations?

All these were questions the RFA did not address, nor, for that matter, were issues such as climate change despite their pertinence to forestry. The Commonwealth Discussion Paper also acknowledged that the conflict over forests was exacerbated by an uncertainty in the community about forestry principles, inadequate information on the extent and nature of forests, and a lack of agreement in the community about appropriate processes for public participation. Precisely these issues formed the substance of the grievances brought forward by stakeholders in relation to the RFA. This thesis showed that many stakeholders reflected upon the RFA with a sense that uncertainty over forestry principles remained, that information flows were restricted and learning prevented, and that an agreement on modes of community participation was not reached, as all of these issues were subject to closure throughout the RFA process.

It is somewhat striking that the criticism of closure cannot be directed squarely at individuals within the management team of the RFA process. Indeed, certain individuals were seen to have been responsible for the closure of aspects of the process. For instance, the director of CALM was believed to have been responsible for the institutionalised access of science to politics and vice versa. Yet, despite perceptions of personal influences affecting the openness of the RFA process, closure itself seemed to have been an autonomous force not driven by any individual or group of individuals. Closure, so it seems, was an emergent pattern of the process, one that was structurally determined and behaviourally reinforced by members of the upper decision-making stratum, who themselves claimed to have been merely working within the limitations of a pre-determined framework. Yet, such a framework did not exist as neither the NFPS nor the WA Scoping Agreement spelled out any strict guidelines relating to the enabling of public input or the use of science in the process other than to say that these should be elements of the process.

Overall, my analysis of the RFA unearthed the pervasiveness of the paradigms of the past within Australia's political apparatuses and their treatment of science and community involvement. The concerns expressed by RFA process stakeholders were found to echo the contemporary critiques of science and participatory processes congesting the literature. Although the rhetoric of the RFA gave the impression of empowerment and shared governance, the process reflected a programmed governance, hierarchical in character and steered only in directions RFA decision-makers had control over. Power was centralised not diffused, and information was treated as a source of power and as a determinant of power relations. It represents an approach to political problem solving that O'Riordan and Stoll-Kleemann (2002a, p.96) regard as the "governance of the twentieth century" premised on the linear, hard science problem solving paradigm mentioned earlier, which is based on exclusion and power concentration, short-termed and quick-fix orientated, and prone to unintended consequences that give rise to complexity, uncertainty, and injustice (see Figure 7.9). This form of governance is resistant to stakeholder input, exhibiting a form of resilience to external change, as decisions on problem definition, process design, process leadership, and the implementation of process outcomes remain in the domain of a narrow policy community. This system does not facilitate or encourage the education of stakeholders but rather seeks to control information, resulting in highly constrained discourses and problem definitions that only serve the convenience of the political system. The closedness of the structure results in an unhealthy relationship between the governing and the governed, as secrecy breeds distrust. The ad hoc nature of bureaucratically mediated policy making creates what Walker (2001) describes as garbagecan policies. Moreover, continuity of policy is permanently threatened by the reemergence and worsening of previously solved political problems, rapid changes in political direction, and external shocks, as shown in the case of the WA RFA.

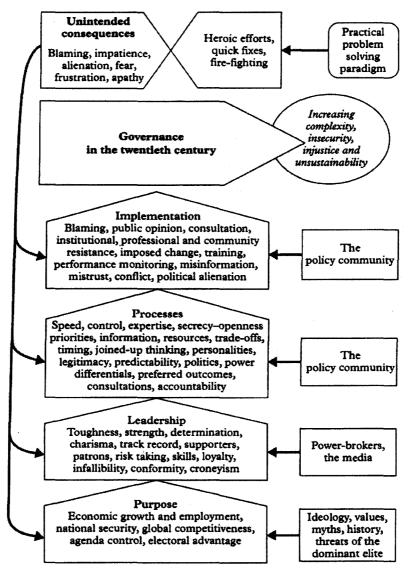


Figure 7.9: The Governance Model of the Twentieth Century (adopted from O'Riordan & Stoll-Kleemann, 2002a, p.96)

On the question of what determines adequate levels of participation, in Chapter Five I produced a *wish list*, compiling stakeholder responses to the question of what an *ideal* process would look like. The literature review preceding the analysis in Chapter Five highlighted the futility of the employment of rigid guidelines for the enabling of public participation in political processes for these processes are context dependent and

therefore unique in a sense. Therefore, I shall not speak of certain formats that participatory processes should follow but highlight instead commonalities between existing frameworks to give an understanding of what I perceive as prerequisites to meaningful participation.

Common to all better practice guidelines regarding community engagement are recommendations concerned with the blurring (dispersal) of power and responsibility, a shift away from government and passive compliance to the sharing of governance moving towards stakeholder self-determination. The contemporary literature speaks of participatory deliberation based on open and collectively engaged decision-making, a widening of the basis of power. An approach such as this, the governance of the twenty-first century (see Figure 7.10, after O'Riordan & Stoll-Kleemann, 2002a), embraces openness, implicitly incorporating open systems principles. This form of governance opens traditional closure points (e.g., leadership, problem specification, process design etc.) to processes of collective deliberations through which negotiated points of closure become the basis for action along agreed process parameters (negotiated barriers). Collective deliberation based on inclusion and openness enables the pooling of mental resources, mental models, ideals, and forms of knowledge leading to a substantially broader collective outlook on the negotiating parties' connectedness to their environment and thus increases vastly their response repertoire to environmental change. Search conferences, a recognised tool within the OST literature, represent an approach through which a process opening can be achieved in that they provide a forum for open and reciprocal learning and network building. Many other participatory modes have been developed in recent years (e.g. electronic democracy, consensus conferences, citizen juries etc.), and all intend to increase openness via inclusiveness so as to obtain requisite system variety and thus to improve learning and planning capabilities. It must be recognised, however, that no format can deliver absolute openness. Openness, just like objectivity, is a maxim that ideal-seeking human systems can aspire to; however, openness in an absolute sense cannot be obtained. To illustrate this point, deliberative participation relies on the representativeness of participating stakeholders achieved through active inclusion and openness. Yet, the very notion of representation implies closure, as the group of all potential participants is reduced to a representative selection of stakeholders. Here, a contextual (environmental) awareness is required so as not to simply replicate societal power constellations within deliberative

processes. This, however, according to the Foucauldian understanding of power, would represent one of the fundamental challenges to pluralism in policy-making. The seemingly unavoidable duality of social praxis and structure raise doubts over the preventability of this kind social replication.

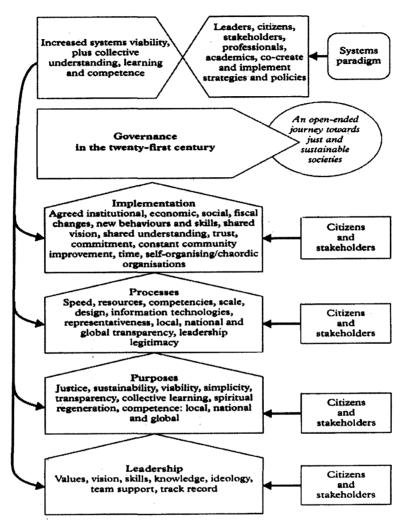


Figure 7.10: The Governance Model of the Twenty-First Century (adopted from O'Riordan & Stoll-Kleemann, 2002a, p.97)

It is evident also that a new *Bill of Rights* for political process stakeholders not only transfers power but also responsibilities to process participants. Arguably, the most fundamental civic duty lies in the willingness to participate. Many government-driven processes today, despite their societal and environmental importance, seem unable to trigger public interest in participation for they are complex and personal involvement time-intensive. Also, as shown by the WA experience, past efforts by stakeholders were frequently frustrated by governments and their bureaucracies. This means that stakeholder participation and public representation is generally limited to small interest

groups, therefore effectively pre-programming the replication of societal power A person's willingness to participate is largely dependent on an structures. understanding of the importance of personal involvement which requires education and a communication of the values of participation. Education is also needed in relation to outcome ownership especially in the face of potential costs. For instance, calls for the cessation of old growth logging imply the retrenchment of timber workers, the payingoff of existing timber contracts, and a suite of other social and economic transition costs. While those costs are initially socialised, in the long-term they have direct implications for taxpayers, who might resist additional taxes levied for the protection of old growth. In the case of the RFA, as indicated by stakeholders across the political spectrum, the public's push for a cessation of old growth logging is not to be mistaken for an environmental mandate for government. In other words, there is a high potential, indeed likelihood, for moral incontinence of stakeholders when faced in their dual capacity of ethical beings and rational consumers with the economic costs of solving social and environmental problems. Here too, education is needed to facilitate informed ethical and rational discussions on the bigger picture within which political, especially environmental, problems ought to be seen. An understanding of true costs and benefits needs to be explored, shedding light on short-term and long-term implications and the trade-offs involved when dealing in concert with complex environmental, social, and economic dimensions. Only then can environmental policy processes and their outcomes be fully owned by process participants.

The previous section indicates that there is a need for an informed public within functioning democracies, and - as was shown in Chapter Five – the sustainability literature also recognises the importance of public participation to any future sustainability transition. In this context, science, despite signs of dwindling public trust, is still to be seen as the public's most authoritative educator and foremost policy informant. Chapter Six also underscored the argument that science is needed. However, it was also shown that the exercise of science is invariably linked to power and thus prone to abuse, a predisposition exacerbated by the closedness of the dominant reductionist paradigm in science and its attraction to economic rationality. Science is always at risk of being either a driver or mere reflection of social structures and dominant constructions of order and reality, which jeopardises its future relevance and trustworthiness in policy processes that are increasingly dependent on a science that thinks outside rational squares. A new or more robust science, often coined holistic, would be one that faces a reduced risk of cooption and corruption as it would prevent the narrow political framing of complex policy issues. This means an active involvement of a conscious and politically aware science in the political process.

The notion of openness, as presented in this thesis, demands a widening of understanding and a widening of the recognised expert realm. This could be understood as a broadening of Haas' (1992) epistemic communities or Funtowicz and Ravetz's (1991) extended peer communities to what might be seen as knowledge networks. Science's instrumental role in policy processes is that of reducing uncertainty. If science is to effectively reduce uncertainty, then the uncertainty's underlying complexity ought to be matched with humanity's complete arsenal of tools of understanding the world. "The path to action lies clearly in the best understanding of nature available" (Killingsworth & Palmer, 1992, p.271), yet incomplete approaches to seeing the world are not only unlikely to deliver such an understanding they also increase the politicality of science as remaining uncertainty becomes a source of political power (Handmer et al., 2001). Therefore, the counterproductive barriers between hard and soft sciences as well as between experts and non-experts may need to be overcome as their partial explanations of reality can jointly form a more complete picture of reality, reducing uncertainty and the likelihood of unintentional consequences (see Cavaleri & Obloj, 1993) (see also Figure 7.11).

The fusion of various modes of knowing in knowledge networks would help unite perspectives for the analysis and management of natural systems. Natural sciences are relied on to explain and to dampen human-induced turbulence in natural systems. Due to complex socio-ecological interactions and inter-dependencies, the socialisation of natural sciences has long been advocated, especially in connection with highly complex and wicked sustainability problems. For instance, White and Walker (1997) advocate the use of contemporary and historical reference information in restoration ecology. In this context, environmental narratives – sources of contextual knowledge – can offer useful perspectives, contributing to the restoration of ecosystem health in degraded landscapes (see Robertson et al., 2000). The benefits associated with the use of multiple perspectives are also recognised within the field of strategic decision making. According to Mitroff (1998), the framing of problems using narrow, single perspectives can lead to

incomplete problem specifications and result in what he refers to as Type 3 errors (perfect answers to wrong problems). Also, recent conceptualisations of a science deemed sufficiently equipped to tackle sustainability issues recognise the need for other forms of understanding nature, also drawing insights from intuition and feeling (see for instance Kates et al., 2000). It is suggested that humanity's relationship with nature cannot be reduced to a cogito-ergo-sum formula as life is larger than cognition. Echoing the feminist critique of dominant science (e.g. Griffin, 1978; Merchant, 1980; Arditti et al., 1989), a fusion of hard and soft science can perhaps be understood as the joining of the head (masculine/cognitive/rational) and the heart (feminine/emotional) in a quest for self-awareness to gain awareness of others (gender/environment). An approach such as this may be needed in science for science and its practitioners to gain a fuller understanding of itself and themselves so as to come to a better understanding of the planet. A growth in self-awareness may also help science to overcome its lack of self-confidence, as addressed in Chapter Six, which has traditionally prevented its practitioners from engaging in advocacy and political debate. Future debates on sustainability science will show whether such a new science will form a new metadiscipline or indeed represent the birth of adisciplinarity.

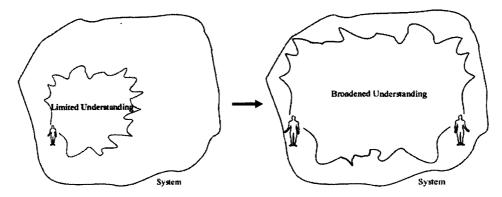


Figure 7.11: Broadened Understandings Through a Fusion of Modes of Knowing (based on Cavaleri & Obloj, 1993, p.69) – A single perspective (mode of knowing) is segmental and incomplete and can only enable a limited understanding of the reality of the system it is applied to. Fused modes of knowing or multiple perspectives can lead to a broader, more complete understanding of a system reality.

The notion of knowledge networks recognises the value of possible contributions of socalled *non-experts* to our understanding of nature based on local knowledge and venerable experience. Non-experts local (contextual knowledge), observations, and inclinations about local contexts, processes, and connectivity formed over years of personal exposure can prove more insightful than the results of meticulously executed short-term studies by acknowledged experts (Holman & Dutton, 1978; Krimsky, 1984; Funtowicz & Ravetz, 1991; Renn, 1992; Laird, 1993; Bailey et al., 1999). As noted by Funtowicz and Ravetz (1991, p.149). "[k]knowledge of local conditions may not merely shape the policy problems, it can also determine which data are strong and relevant." This is not to suggest that lay-knowledge is necessarily scientific but that it is another valid source of knowledge worthy of consideration. All modes of knowing are equally valid, yet not equally useful and applicable to certain problems. This is why the existence and validity of answers produced outside the traditionally recognised expert realm should not be denied or dismissed but their value and possible contribution to a given problematique acknowledged and considered. Again, it is a matter of negotiating these points of closure in terms of how such an integration of different knowledges could occur. Critical in that regard are also questions as to the when and how non-experts should, or may need to, become involved. Also, echoing Yearley's (2000, p.110) concerns, how are non-experts' insights or the "extended facts" (after Funtowicz & Ravetz, 1991) to be treated, how can their truthfulness be determined, and how should these facts be incorporated into processes of political decision making? These questions still need answering and further conceptual and empirical work may be needed. Yet, in light of the data presented in this thesis, I am inclined to suggest that far more work may still be required in making explicit the need for breaking down the resistance toward the opening of "closed bodies of knowledge" (Wynne, 1995). Despite much progress in theoretical debates, certain perceptions, which view these opening attempts as direct attacks on the authority and robustness of science, are still held widely.

Overall, what dampens my enthusiasm in regard to the *new* conceptions of deliberative participation advanced in this work is that these so-called new ideas are not genuinely new. Many of them are as old as the early debates on democracy themselves, though some have been revived over the last 40 years. Thus, the question as to why some 40 years later one continues to speak of their theoretical desirability as opposed to their political actuality is reason for concern. It is the absence of new decision-making structures (there are isolated exceptions) that demand a final reflection on the issue of power also as it relates to this thesis' research question regarding process constraints.

The issue of power highlights the fundamental weakness of any participatory model that seeks to change traditional patterns of decision making or entrenched structures of thought and governance. For instance, O'Riordan and Stoll-Kleemann's (2002a) vision of a new mode of governance still relies heavily on the accommodation of stakeholder needs by those powerful actors, who the model assumes to relinquish power. Active participation is dependent on education and active enabling and assistance, fundamental to which is a genuine willingness of those who hold power for this to occur. They possess the means of education, facilitation, and enablement. Tertiary institutions and NGOs used to be able to fulfil an educator role. However, mounting market pressures faced by these institutions today increasingly compromise their ability to educate and inform democratic processes, which threatens to further reduce societies' pluralistic learning and planning capabilities.

The strength of participatory or deliberative models is usually derived from the logic of collective benefit, implying that higher degrees of participation/cooperation lead to larger collective benefits. This is also the case in OST, which sees humans as purposeful systems with the potential to work collaboratively towards a better world, yet contingent on their willingness to do so. However, as evidenced in the plight of open access resources, the logic of collective action (group theory), and the prisoner's dilemma, the collective is neither ranked as highly by individuals as may be collectively assumed nor encouraged by political systems subscribed to free market liberalism, consumer sovereignty, and individualism. The problematique arising from the unlikeliness of group consensus on matters regarding the common good was also highlighted in the discussion on sustainability constraints in Chapter Five.

Habermas (1987; cited in O'Riordan & Stoll-Kleemann, 2002a, p.99) suggests that the emancipatory ideals of modernity are under threat of "being subverted to the directed rationalities of commerce, expertise and private interests." I concur with this interpretation and point, in this context, to the marketisation of politics, nature, and society that has led to what Foucault coined *engraving*. I am referring to the *engraving* of economically sanctioned views in science and political discourses, which fuel the widely lamented ecologico-economical and socio-political dualisms and work against change from outside the political apparatus and produce politically apathetic and self-interest based societal dynamics and structures. These processes of economic *normalisation* even find expression in the models/theories employed in this thesis. Social ecology, for instance, adopts the language of resource commodification used in commons research when dealing with natural assets. Stakeholders are referred to as resource users or are

addressed in terms of appropriator classes (see for instance Selsky & Creahan, 1996). While this vernacular might be highly reflective of today's economic reality, it unwittingly replicates and fuels patterns of economic hegemony. This kind of language use also attests to the degree to which not just language but society in general has been engraved by a rationality, which, however, is increasingly understood to undermine the integrity of social and ecological systems. Moreover, this rationality is underlying the actions of contemporary governments world-wide, Australian governments representing no exception (see Chapters Three, Five, and Six). The largely unquestioned and culturally accepted dominance of this mechanistic and utilitarian worldview (Milbrath, 1994; Schafer, 1994), despite promises of diversity through deregulation and competition,<sup>95</sup> has led to an unprecedented degree of power concentration on the markets (e.g., food production, information technology, media) and in social and political structures, which all have become aligned to serve an overriding economic development agenda. This agenda represents a meta-constraint for it prevents, not directly but mediated through normalised social and political structures and discourses, the broadening of, and inclusion of alternative, perspectives This means, as pointed out by Handmer, Dovers, and Norton (2001), that other rationalities (e.g., ecological rationality) remain subordinate to the dominant economic rationality in the context of the political problem conception, framing, and decision-making. Issues are raised, framed, and solved in accordance to underlying, often unspoken, but strongly adhered to economic maxims, which may explain why social and environmental problems persist despite much energy spent on rational problem solving. In the end, a pervasive economic rationality constrains socio-political structures, discourses, processes, and dynamics; yet, quite covertly as the constrainedness is implicit. Despite its visibility, the constraint's engravedness is what thwarts its recognition.

It is this meta-constraint, as was foreshadowed in Chapters Five and Six, which framed the RFA as a national process. The constraint became evident in the analysis of the interview data which revealed widely held views of the political protection of industry interests, especially those of large businesses. Perceptions such as these were reinforced by the alleged narrowness of the public consultation paper and the RFA document

<sup>&</sup>lt;sup>95</sup>Globalisation increases connectivity and rates of change, which is why competition as the basis for market-mediated exchange and interaction may expose itself as an inappropriate behavioural principle for human systems in the twenty-first century.

itself. The mining sector served as another prompt for the forming of these viewpoints, for this resource sector, while a key stakeholder in the process, was - being subject to different resource legislation - largely exempt from scrutiny under the RFA, despite the industry's impact on forested ecosystems. Moreover, Bunnings, the largest timber company in WA, which was seen by conservationists to have been behind the drive for continued old growth logging, was widely believed to have had its interests served by the process and the final RFA agreement. Even the State Government's ad hoc amendments to the RFA, which reduced the industry take for karri timber, effectively favoured Bunnings, yet at the expense of small timber millers, confirming stakeholders' suspicions that economic muscle meant political protection and highlighting parallels between political an economic power concentration. The implicitness of the economic constraint was captured by statements made earlier about a seemingly autonomous closure of the RFA. Its subtle, yet strong, influence on the RFA found reflection in the governing structures of the process which were embedded in larger political structures at the state and federal level and were subject to, or drivers of, the same constraint. Processes initiated from within those constrained structures therefore carried this watermark of constrainedness.

It is ironic that the governments, upon which positive change towards deliberative decision making in the political process depends, are seen to drive and promote today's neo-liberal growth agenda and orthodox economic credo (Walker, 1989). It is ironic because the seeming resilience of current political/bureaucratic structures derived from politico-economic entanglements appears to be one of the key obstacles to be overcome for the enablement of such processes. The notion of strength (resilience<sup>96</sup>) is also relative as the ideologically driven impenetrability of the political structures is starting to undermine their own adaptive capacities, as the forces of globalisation increasingly limit the ability of governments to affect political, social, and economic change (Pusey, 1991b) which not only corrodes their legitimacy but also raises doubt over their trustworthiness (Macnaghten & Urry, 1998). In other words, long-term political stability is brought into question as the DP1 structures of governments are coming under threat from the environmental feedbacks they create.

<sup>&</sup>lt;sup>96</sup> As suggested by Walker et al (2002), resilience is not necessarily desirable, especially in situations where system configurations lead to a decline in social welfare, loss of social and natural capital, etc.

What is seemingly needed is an understanding of the implicit existence of economic constraints and a critical reflection on their effects on, and their long-term implications for science, society, and nature. However, an understanding of, and reflection on, these constraints are contingent on an awareness of their existence and the dangers they may Despite years of their documentation and their growing visibility one must pose. question the degree to which an awareness of these constraints exists as their root causes remain largely unaddressed in discourses on environmental policy-making (e.g. climate change, salinity, fisheries). Certainly, one explanation lies in the political threat such awareness would pose within the mindsets of those whose interests are served by the status quo. The silence of scientists and citizens in that regard is unhelpful and in itself an expression of an unwitting social endorsement and replication, which in turn may be indicative of a need for further explication efforts. It is plain that an agenda for environmental change needs to be concerned primarily with socio-political reform. Yet, the critical issues may not be whether this reform is needed or what a reformed system would look like, as much work has already been done in that area, but how system transformation can be initiated in the face of an implicit, systemic constrainedness as here may lie the stumbling blocks to a more sustainable future.

## Reflections

In the closing of this thesis, I would like to draw attention to a range of issues in connection with this work that I believe require further comment and clarification. I would also like to use this opportunity to reflect on this study's contributions and limitations and to finish with some personal observations concerning the sustainability agenda and its future.

To begin with the contributions of this study, I regard this work as contributing to (a) the area of theory building and (b) qualitative research method. Firstly, an attempt was made to apply OST and social ecology, conventionally employed at the organisation (firm) level, to a large and murky socio-political conflict. The theories were used as means of making sense of the RFA and to develop an understanding of the relationships between political structures (systems) and their socio-ecological environments. The use of the OST-based social ecology perspective provided much needed conceptual guidance in terms of situating the WA RFA as a natural resource conflict. In addition, the structure of this thesis was determined by the behavioural CCPR model adopted for this work, which also helped explain further system-environment relations. Overall, the use of OST and social ecology paved the way for a systems critique of the RFA process, highlighting the closedness of the process and the political structures governing it. The systems analysis highlighted the need for structural and procedural openness whilst leading to an argument for negotiating closure within socio-political processes as a means of establishing a platform for legitimate action.

In other words, this work points to the need for political processes to be open in terms of process design as well as process outcomes. At the same time, it is recognised that action (meaning here process initiation, finalisation, etc.) depends on closure and that boundaries need to be determined. The question addressed in this study is the degree of inclusiveness of this *closing procedure*, as the acceptability of the ensuing process depends on it. Interests excluded from the determination of process parameters are unlikely to give a positive response to any outcomes achieved by that process. As was shown in the case of the WA RFA, stakeholders were excluded from the 'scoping' of the RFA process. The data analysis revealed that, as a consequence, those stakeholders were fundamentally unhappy with the process and the outcomes it arrived at. In this context, the application of OST enabled the systematic treatment of the nature of this stakeholder discontent and the resultant, dysfunctional dynamics between RFA stakeholders and the political apparatuses in charge of the RFA process. This is where I see this thesis' key contribution to lie. I was able to make sense of a contemporary, complex political process, shedding light on obstacles to effective public participation, in a volatile political process. Thus, I am confident that the insights gained from this study can be instructive for the design of future political initiatives aimed at stakeholder engagement. Furthermore, I believe that the application of OST to a meta-system problematique will conceptually add to the fields of social ecology and systems thinking.

The use of colour-coding in the context of discourse clustering I consider an innovative approach for dealing with data confidentiality. While I was unable to ascribe data fragments to individual RFA stakeholders, it was possible to present verbatim quotes attributable to sufficiently precise discourse groups without divulging identifying information. This approach enabled a form of data presentation, which effectively minimised author pre-eminence and gave a relatively *unfiltered* voice to research participants. Qualitative researchers facing similar methodological confidentiality constraints may benefit from this approach. This is because the use of colour coding protects effectively research participants, yet provides qualified freedom in terms of data use. This in turn allows the circumnavigation of other methodological safeguards and the unimpeded portrayal of research information.

The colour-coding method was complemented by the discourse analysis approach adopted for the purposes of this study. The format employed provided me with the opportunity to present the discourses of the WA RFA as a whole as large parts of the interview data could be maintained in their original form. With a focus on the *discursive whole* I was able to canvass many, albeit not all, fringe as well as mainstream perceptions of the WA RFA. This enabled a more holistic treatment of a large number of diverse discourse communities and helped reveal many silent and hidden views in the rhetorical landscape of the RFA. Overall, I believe that the format chosen for this study was well suited for my intention to provide a dialogical overview of the WA RFA and to give insights into how the process and its outcomes were perceived by RFA stakeholders. Future research dealing with similar degrees of data complexity may benefit from this form of data treatment. This method not only helps maintain data integrity it also facilitates the management and sense-making of large and unwieldy datasets which are common in this line of qualitative work.

Following on, comments are warranted on what might have been perceived as a crusade against the Department of Conservation and Land Management. It was not the aim of this thesis to discredit the work done by individuals within the department and the department itself, which in so many regards is held in high esteem locally, nationally, and internationally. Nor has it been my intention to substantiate scientific claims or others that run counter to views potentially held by certain staff within the agency. While much of what this thesis has produced might be seen as a general sort of smearing of the name CALM, I would like to point out that next to all research participants were quick to add to their respective critiques on aspects of CALM procedures and operations their sense of admiration for the work done by the department and the individuals working within it (e.g. Most of the CALM staff were very professional - and - CALM had the best nature conservation - and - CALM ... was doing a really good job - and - We worked very closely with CALM - and -CALM has done some good work - and -. I am not saying that CALM officers are not good). In other words, none of the aforementioned was meant to be a reflection of the department as a whole or all of its members of staff.

I have made it clear that this thesis dealt with RFA stakeholder perceptions, and it was a widely held perception that CALM assumed a very strong role regarding the science and the management of the RFA process. In light of the department's conflict laden public relations history, it should not come as a surprise that its centrality to the RFA process gave rise to perceptions that is was CALM ... that drove that process, that the options presented in the Public Consultation Paper pretty much covered what CALM was on about, that it was all done behind closed doors. Many such quotes could be produced at this point. The following statement, however, may capture the dominant sentiment that was expressed by research participants:

There was a sense of concern that CALM were going to take the foreshadowed process and do the same thing to the process like they had done to a number of other processes to do with the forests and that was to dominate the government process in such a way that other scientists, other people that want to be involved, the public at large, and so on, and certainly the conservation movement, were excluded from participating. So there was a sense that this would occur.

So, it does not matter whether these concerns were justified or not. The point that I am making here is that (a) sentiments such as these were certainly wide-spread and (b) seemingly little was undertaken to counter these perceptions and to alleviate the underlying concerns. In fact, it could be argued that the steps that were taken by process officials only helped fuel existing anxieties and suspicions.

I now wish to address the issue of trans-disciplinarity and what it meant for this thesis; also with regards to limitations arising. While the need for trans-disciplinary research is now increasingly recognised and promoted (Somerville & Rapport, 2000), problems have emerged regarding its assessment, especially in connection with a project such as this as questions arise over what can, and ought to, be expected (Hodge, 1995). In other words, boundaries for trans-disciplinarity have yet to be negotiated. Trans-disciplinary work is generally burdened by the insurmountable variety it endeavours to embrace, compounded by problems associated with a disciplinary boundaries is problematic, especially when in the course of research many traditional boundaries are being crossed, at times unbeknownst to the researcher. The danger lies here in the threats of incompleteness and superficiality as new synthetic understandings can come at the expense of depth and discipline-bound understanding.

This thesis was affected by the complexity and variety of its subject matter and the fields of knowledge from which it borrowed. I thus relied on closure for the sake of manageability. Below I wish to provide an acknowledgement of my trimmings, in a sense reflect on my closure, which however should not be understood as the erection of this project's demarcation lines or barriers. Instead, these may be seen as the offering of new breaking points or points of departure for future studies.

The breadth of the thesis largely prohibited an in-depth treatment of all relevant aspects of the RFA or all relevant bodies of literature and schools of thought. On these points, this thesis does not claim completeness, nor can I give assurances that questions raised in this thesis have not already received a more advanced treatment within discrete disciplinary discourses, despite an ongoing effort on my behalf to be abreast with the literature. To my understanding, these are the risks faced by trans-disciplinary research, and therefore, in the interest of learning, I hope that any instances of incompleteness, naivety, or superficiality can be seen as an invitation to critique and dialogue.

Overall, the limits I set for this thesis I consider justified in light of what this thesis laid out, and was able to achieve. Put simply, the aim of this thesis was to gain an understanding of a political process with great contextual richness with an emphasis on the treatment of science and process stakeholders. To this end, in the context of primary data collection and the inclusion of relevant literature, I sought to embrace a large variety of viewpoints. On this score I believe to have been successful. The resultant complexity meant, however, that I needed to be selective about which aspects to include and to elaborate. As far as the case study data was concerned, many of these decisions were made for me, as confronted with confidentiality constraints a large number of data sets I could not use for it would have jeopardised the anonymity of research participants. In the end, I was restricted to focus my analysis on data (a) I was allowed to use, (b) I was able to corroborate with other data sources, and (c) I was able to address in sufficient depth whilst staying within the usual limitations of space and time which govern these types of research. Expounding point (b), weak thematic groups were included, and data outliers considered where dissonance was at issue. This restriction applied primarily in a thematic sense where space and time constraints disallowed the pursuit of vaguely supported themes deemed too broad, too specific or too tangential for my purposes. Acknowledgement is made of excluded themes below.

As to the treatment of the literature, I recognise to have ventured into very dense environments of academic work and therefore readily admit to the possibility, indeed likelihood, of having treated complex issues with a degree of naivety and simplicity. Especially, I am aware that sections dealing with the public understanding of science, the nature of science, power, democracy, and public participation could have been embellished substantially. Although I recognise that these are areas that deserve critical engagement, personal disciplinary limitations as well as space and time restrictions influenced my decisions on data inclusion and exclusion and level of engagement. However, I did not see the purpose of this thesis in the expanding of boundaries within established modes of thinking but in crossing boundaries and the highlighting of complementarities between various schools of thought. What I intended to expand was a socio-political understanding of the notion of socio-ecological openness as it relates to science and modes of public participation and to illuminate its applicability to environmental policy making and political processes in general. In doing so, I hope to have demonstrated the relevance of OST to the understanding of larger socio-ecological systems outside the organisational (firm) context from where it emerged.

My choice of discourse analysis I see justified by the findings of my study, although I am aware of the obvious dangers of methodologically determined vindication. The discourse method I employed proved useful for the unearthing of opinions outside dominant frames of discourse, which helped increase data variety and thus with the neutrality of this research. My focus on D is course helped give expression to a diverse range of stakeholder perceptions and allowed me to give some structure to what I regarded a messy discursive environment. On this point, an added focus on semiotics could have provided further insights into semantic differences reflective of the disparity in RFA stakeholders' perceptions of forests and forestry. For instance, issues of spiritual connection, identification, instrumentalism, and other issues (dis-)connecting stakeholders (from) to forests could have been compared and contrasted. I stood corrected a number of times concerning vernacular as I learned about the valueladenness of language in the forestry context (e.g., timber crop, timber harvest etc.). A semiotic approach could have delivered a deeper understanding of stakeholder polarity and compatibility of interests and thus would have added a useful dimension to the analysis of the RFA.

The discourse approach chosen here lent itself to the presentation of rhetorical variety within a political process. Other and more systematic approaches could have been used, yet the idea was to minimise author intervention and hence refrain from imposing analytical layers onto the data and instead offer a, to my mind, transparent interpretation of the RFA's discursive field. Admittedly, the length I needed to go to for the presentation of the interview data could speak against this approach, especially as it would prove impractical for larger data sets. Also, confidentiality constraints caused data presentation to be more involved and complicated than was perhaps desirable. Constraints such as these, however, are not uncommon in this line of research, which is why other discourse-based approaches (e.g., Q-method (see for instance Steelman &

Maguire, 1999)) would probably prove more user-friendly. Nonetheless, I hope to have demonstrated the power of discourse and the importance of its analysis within the political context.

This thesis attested to the internal and external complexity of the RFA, and without a doubt a much wider range of issues pertinent to the RFA could have been included. Again, this was a matter of ability, time, space, and admittedly judgement. At this point, I wish to acknowledge a number of issues I considered integral to an analysis of the WA RFA process but for the reasons cited earlier I found myself unable to include.

First and foremost, the interests of Indigenous Australians I regret to have not been able to include as part of my analysis of the WA RFA. WA's Noongar communities did play a role in the WA RFA, and an analysis of their departure from, and rejection of, the process and its outcomes would have been a valuable exercise. I am afraid that my exclusion of their role in the RFA may be seen as another social replication of their plight in Australian politics, an impression I am merely able to counter with the arguments of data availability and time. Unfortunately, the perceived marginalisation of Indigenous interests throughout the WA RFA process was mirrored in the sampling design employed for the purposes of this thesis. Only few references were made by interviewees to Indigenous concerns throughout the interview process, and thus only a limited insight could be gained into Indigenous perceptions of the WA RFA during the data analysis. The resulting paucity of data did not allow for a more thorough treatment of the views of WA's Noongar communities.

An analysis into the economics of forestry would have also been a highly informative enterprise. Many analyses have already been conducted in the past, and some these findings are mentioned throughout this thesis. However, a WA-specific study is yet to be undertaken. In this context, research participants identified a need for the exploration of workable ratios between timber volumes, employment figures, and social returns. Especially, as it is also applicable to other resource sectors, holistic measurements of social returns from industries working in these sectors and their measured inculcation in the policy process are sine qua non. Moreover, there is a need for more comprehensive social studies on regional levels, as those conducted as part of the RFA represented the first of their kind and attracted criticism for the simplicity with which regional needs were perceived to have been assessed. Also, the time is nigh for greater emphasis to be placed on research into questions of how qualitative findings of this nature are incorporated in decision making models.

Other issues relevant to an analysis of the WA RFA could include: the role of softwood and hardwood plantations to which little attention was paid during the RFA; the scientific pros and cons of woodchipping and their social and environmental implications as well as a range of other scientific aspects under dispute; a detailed analysis of the RFA document and its amendments and their long-term implications for forestry. I am convinced this list could be very long, indeed.

Finally, an issue of particular interest to me was that of how the WA RFA compared to the RFAs signed in other RFA regions. This question formed a part of the initial research, and a total of six interviews was conducted, transcribed, and analysed for a comparison between the Western Australian RFA and those signed in Queensland and Tasmania. A meaningful analysis, however, would have significantly stretched the already capacious size of this thesis since the differences between the three states were vast and would have demanded a significant amount of contextual detail. Consequently, I hope to present such an analysis at a later stage in the form of publications. An analysis such as this could then also include research data from similar studies conducted in other Australian RFA regions (e.g., North East NSW RFA or Southern NSW RFA).

Personally, I feel that funding-dependent, trans-disciplinary PhDs, such as this, face constraints in terms of time and space, which demand closure at the most inopportune time. I speak of poor timing as I feel that one finishes at a stage when an understanding of the issues at hand is only starting to ripen and the really interesting questions are beginning to assume shape. Whilst I am relieved to have come to this point of closure, I note with a sense of sadness not to have been able to address a range of questions, which I consider worthwhile pursuing and thus perhaps as possible directions for future research. For instance, issues relating to power and self-interest demand a more thorough treatment within the OST framework. On this point, I also perceive a need for the revisiting of the purposefulness and directionality of systems. Moreover, how do participatory models incorporate closure and how can they be widened so as to cater for socio-ecological complexity? What constitutes negotiated closure, at what point has closure been negotiated, and what is the permanence of these closure points? In other words, when do we engage in renegotiations? How does science deal with other modes of knowing, how are they meant to be weighted, and who decides on their relevance? What questions can we ask science, and what answers can we expect? Also, what are the *implicits* and *explicits* in sustainability discourse as it relates to engraving and the subtlety of implicit constraints? Most of all, how can societal agreement be reached on the essence and direction of sustainability, or what is it we are looking for? It is questions such as these I regard as formidable research topics, not merely for their theoretical appeal but also their acuteness and real-life applicability.

On the final question of those listed above I wish to comment briefly in the closing of To me, sustainability is a matter of exploring jointly humanity's this thesis. necessities/options for the future. In a microcosm, the RFA process presented such an opportunity for the exploration of future use and management options in relation to forestry in Australia. Joint-exploration, however, did not materialise in the face of multiple constraints which prompted me to explore questions about political processes, the role of the public, the role of science, and the general rules of engagement within processes of that kind. I learned to accept that constraints are a fact of life, many of which are constructed and their existence perceptual. The notion of ecological sustainability has emerged against the background of growing perceptions of socioecological constraints facing humanity. The concept's perceptual nature has given rise to the ecocentric-anthropocentric divide within the current sustainability debate characterised by a fundamental disagreement over the absolutes in the context of sustainability. Do limits exist, can we reach them, when do we reach them, are limits really limiting or do they offer sufficient room for infinite variety and change? These questions will remain perceptual and therefore a matter of ideological and philosophical duality as evidenced by the paradigmatic stalemate in the debate.

Socio-ecological change is the only *absolute* in this debate. Our understanding of the survival of social and other natural systems points towards a need for requisite variety so as to ensure system adaptability and resilience in the face of change. Accordingly, a lack of requisite variety will compromise system survival within a changing world. In various forms, calls for pluralism within human political systems have been made throughout

the last century (e.g. James, 1976 [1912]; Haraway, 1988). We have come to understand the importance of variety/pluralism in both social and ecological systems as demonstrated, for instance, by the rise of the democratic state and, of late, in our understanding of biodiversity protection. It defies logic, but perhaps bespeaks the human condition, that current sustainability debates - debates on our future on this planet - face a doubly-bound closure toward pluralism in terms of input and rationality.

In terms of input, the ESD rhetoric recognises that policies dealing with the natural environment and its future affect all of humanity, which is why the relevant literature speaks of a collective, democratic shaping of the future. Yet, the debate has been largely closed during the 1990s, involving non-representative elites such as politicians, business leaders, and academics only poorly offset by NGOs.

In terms of rationality, these debates focus on variations of only one set of future scenarios, based on various models of substitutability and growth with corresponding levels of depletion and toxicity. These debates are quantitatively driven with little room for discussions on quality. It may indeed be possible to have man-made and technologically underpinned substitutes for old growth forests, wilderness, and other environmental amenities and systems. However, leaving ethical considerations aside, the question may not be whether these substitutions are possible but whether they are desirable. The RFA highlighted that human relationships with nature cannot be reduced to scientific prescriptions for minimum viability. The debate was shown to have gone beyond the question of what was needed from a science point of view (even where there were obvious question marks) to what was wanted by stakeholders. Sustainability is a construct shaped by social and ecological needs but also by visions on future quality and desirability. The last 100 years have witnessed an unprecedented increase in the quantitative standards of living in western world countries. Today, many indicators suggest that since the 1960s the increases in these countries came at the expense of the quality of life worldwide. For its implicitness we do not seem to recognise the constraints imposed by the very rationality that compels us to carry on with this now globalised development trajectory. While we understand pluralism as an expression of sustainability, implicitly we continue to treat it as an impediment.

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# Appendix 1

## **Interview Schedule**

#### **General Questions:**

When did you get involved in the WA RFA process?

Of what nature was your involvement in the WA RFA process?

What was your motivation for participating in the WA RFA?

Do you think WA needed a RFA?

What were your expectations on the WA RFA in terms of process and what it would achieve?

What are your views on the RFA process in terms of community involvement?

What are your views on the science of the WA RFA process?

What are your thoughts on the outcomes of the RFA process?

Do you see from your point of view any procedural flaws within the RFA process? If so, what flaws do you perceive?

Do you view the RFA as an adequate vehicle for what it aimed to achieve?

What, in your view, would an *ideal* process look like (e.g. if the RFA was to be done again, what would you like to see done differently?)?

Do you have any further comments or more details to add to any of the preceding questions? Should you wish to elaborate on any further issues on more neutral territory I would gladly arrange a new interview time for you.

Do you have any recommendations as to whom I should also be talking to about the WA RFA?

2. <sub>6. 1</sub>4

#### Additional (Specific) Questions:

Who was in charge in scoping the CRA projects?

Do you regard the CRA projects' terms of reference as adequate?

Did the availability of time and resources have an impact on the CRA projects? If yes, to what extent?

Who dealt with the research data after the studies were completed?

Are you satisfied with use of scientific data and the ways it has been dealt with throughout the RFA process?

In your scientific opinion, does the WA RFA (as signed in May 1999) represent an agreement that is scientifically sound?

From a science point of view, what are your thoughts on the JANIS criteria?

What are your views on clearfelling and old growth logging?

What, in your view, were the key issues of the forest debate in WA?

How would you describe the situation of the timber industry and the state of the forests in general prior to the WA RFA?

What did the RFA mean to the forest industry?

Do you view the RFA as a Commonwealth imposition on an issue that is essentially a State issue?

Who or what determined the composition of the Steering Committee?

How would you describe the nature of the dynamics between the WA State and the Federal governments during the WA RFA process?

## **Interview Consent Form**

#### Background:

The aim of this research project is to investigate the Western Australian (WA) Regional Forest Agreement (RFA) in the wider context of environmental policy-making in Australia. The WA RFA will be treated as a common property resource (CPR) issue as the forest areas specified in the agreement are held in common by the Western Australian public and managed by the State Government and its agencies on behalf of the public. This study acknowledges the fact that these forest areas are subjected to multiple, overlapping, and potentially conflicting uses by a wide and diverse range of resource stakeholders.

This research employs interviews with individual members of the scientific community, government, environmental groups and other RFA stakeholder groups, aiming to (a) help reconstruct the WA RFA process, (b) gain insights into the individual roles of RFA stakeholder groups within the process, (c) investigate the behavioural dynamics of stakeholder groups and (d) understand the perceptions of RFA stakeholders of the RFA process and its outcomes.

#### **Conditions:**

The research participant will be involved in a face-to-face interview. The interviewee has the right to refuse to answer questions and to terminate the interview at any time. Supervisory approval (where applicable) has been obtained prior to the commencement of the interview. For the purpose of data analysis the tape-recording of the interview is considered essential; however, the recording may be refused by the research participant. The interviewee will be guaranteed confidentiality and receive the opportunity to read and edit the interview transcript with confidentiality in mind. Furthermore, the participant will be asked to approve the use of the interview data in the data analysis. At no stage of the research project will the participant's identity be divulged in any written form emanating from the project, and the participant is assured that all data will be kept securely and be treated confidentially.

Although the researcher will take all necessary precautions to protect the identity of the research participant, it needs to be acknowledged that individuals participate in this research exercise at their own risk. This specifically relates to potential breaches of workplace rules and regulations.

I understand the conditions outlined above and agree to voluntarily participate in this research exercise:

Name:	 Date:		
Signature:	 		
I agree with the recording of this interview:	YES		NO
I wish to review/edit the interview transcript:	YES		NO
If required, I permit viewing of interview data by members of the supervisory panel under the provision of confidentiality.	YES		NO

## **Telephone Interview Consent Form**

#### Background:

The aim of this research project is to investigate the Western Australian (WA) Regional Forest Agreement (RFA) in the wider context of environmental policy-making in Australia. The WA RFA will be treated as a common property resource (CPR) issue as the forest areas specified in the agreement are held in common by the Western Australian public and managed by the State Government and its agencies on behalf of the public. This study acknowledges the fact that these forest areas are subjected to multiple, overlapping, and potentially conflicting uses by a wide and diverse range of resource stakeholders.

This research employs interviews with individual members of the scientific community, government, environmental groups and other RFA stakeholder groups, aiming to (a) help reconstruct the WA RFA process, (b) gain insights into the individual roles of RFA stakeholder groups within the process, (c) investigate the behavioural dynamics of stakeholder groups and (d) understand the perceptions of RFA stakeholders of the RFA process and its outcomes.

#### **Interview Conditions:**

The research participant will be involved in a telephone interview. Supervisory approval (where applicable) has been obtained prior to the commencement of the interview. For the purpose of data analysis the tape-recording and transcribing of the interview is considered essential; the recording will be done via a listening device connected to a dictaphone. During the interview the participant will be informed of the commencement and termination of the recording. It is the privilege of the research participant, however, to object to the recording. The interviewee has the right to refuse to answer questions and to terminate the interview at any time. The interviewee will be guaranteed confidentiality and receive the opportunity to read and edit the interview transcript with confidentiality in mind. Furthermore, the participant will be asked to approve the use of the interview data in the data analysis. At no stage of the research project will the participant's identity be divulged in any written form emanating from the

project, and the participant is assured that all data will be kept securely and be treated confidentially.

Although the researcher will take all necessary precautions to protect the identity of the research participant, it needs to be acknowledged that individuals participate in this research exercise at their own risk. This specifically relates to potential breaches of workplace rules and regulations.

I understand the conditions outlined above and agree to voluntarily participate in this research exercise:

Name:	 ₩₩₩111- <u>-</u>	Date:		
Signature:	 			
I agree with the recording of this interview:	YES		NO	
I wish to review/edit the interview transcript: [	YES		NO	
If required, I permit viewing of interview	YES		NO	
data by members of the supervisory panel				
under the provision of confidentiality:				

### **Review Letter and Data Authorisation Form**

Dear [Name of Research Participant].

Please find attached the transcript copy of the interview conducted on [Date of Interview]. This review copy provides you with the opportunity to revisit the interview, and I would like to point out a number of issues for you to bear in mind while reading the transcript.

#### 1. Omissions

Should you wish to remove certain details and information from the transcript, please cross out the relevant sections on the transcript. Should you be reviewing a digital copy of the interview transcript, please highlight the sections to be deleted.

#### 2. Additions

In some parts of the interview transcript you may identify areas you wish to add further information to. In an event such as this simply write any extra information next to or underneath the relevant section(s). Alternatively, append the information to the document with a reference to where you wish for it to be inserted.

#### 3. Corrections and Clarifications

Should you identify any wrongly stated information or parts that require further clarification please make the necessary adjustments in the manner previously described.

#### 4. Confidentiality

Please examine the transcript with a view to whether any part of it could be unequivocally attributed to you. If certain parts of the transcript do not pass this criterion, please highlight the phrase or section, and indicate (a) changes you wish to make as above or (b) whether you wish to isolate that phrase or section as "NOT FOR PUBLICATION." After you have reviewed the transcript please complete and sign the checklist form attached and forward it together with all amendments and additions to the address shown below or send it via e-mail. If you require a copy for your own purposes, please indicate this on the checklist.

I would like to thank you for your time and help. Your support is very much appreciated; indeed it is crucial for the success of this research project.

Sincerely,

Martin Brueckner (PhD candidate at the Centre for Ecosystem Management)

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Note: Transcript sections marked with (...) do not indicate omissions. These marks merely represent long pauses, interjections or incomplete sentences.

## **RFA-Related National and International Agreements**

### International Agreements

- Convention on Wetlands of International Importance, Especially as Waterfowl Habitat, 1971, Ramsar
- Man and the Biosphere Programme, 1971 -
- Convention concerning the Protection of the World Cultural and Natural Heritage, 1972, Paris
- Convention on International Trade in Endangered Species of Wild Fauna and Flora
- (CITES), 1973, Washington
- Convention of Conservation of Migratory Species of Wild Animals, 1979, Bonn
- International Tropical Timber Agreement (ITTA), 1983
- Convention on Biological Diversity, 1992
- Climate Change Convention, 1992
- Statement of Forest Principles, 1992
- Agenda 21, 1992
- Rio de Janeiro Declaration on Environment and Development, 1992

#### **Regional Agreements**

- Convention on Conservation of Nature in the South Pacific, 1976, Apia.
- Convention for the Protection of the Natural Resources and the Environment of the South Pacific Region (SPREP), 1986, Noumea.

### **Bilateral Agreements**

• Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment, 1974 (JAMBA). • Agreement between the Government of Australia and the Government of China for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment, 1986 (CAMBA).

### National Strategies and Commonwealth Initiatives

- The Inter-Governmental Agreement on the Environment (1992)
- The National Forest Policy Statement (1992)
- The National Grasslands Strategy
- The National Rangelands Strategy (1996)
- The National Conservation Strategy for Australia (1983)
- The National Coastal Strategy, and related Commonwealth Coastal Policy
- The National Strategy for the Conservation of Biological Diversity (1996)
- The Australian National Strategy for the Conservation of Australian Species and Ecological Communities Threatened with Extinction (1996)
- The National Greenhouse Response Strategy (1992)
- The National Strategy on Ecologically Sustainable Development (1992)
- The National Decade of Landcare Plan
- The National Marine Conservation Strategy (1995)
- The National World Heritage Management System

# **Scoping Agreement Parameters**

Scoping agreement will identify the following:

- The region to be covered by, and the broad objectives of, the regional forest agreement
- Potential forest use and resource allocation options
- The need for any further information collection and assessment
- Specific information collection and decision making processes to be considered for accreditation under the Intergovernmental Agreement on the Environment
- The estimated cost of the agreement process (including administration, staff, data and research costs)
- A broad administrative framework for managing assessments and negotiating the regional forest agreement
- Proposed community, Aboriginal and Torres Strait Islander (see Section 4), and industry consultative opportunities, structures and time frames
- Firm time frames for accreditation processes, for assessment and for negotiation of the regional forest agreement

Excerpt taken from Commonwealth of Australia and Government of Western Australia (1996b).

# **CAR Reserve System Principles**

**Comprehensiveness** - includes the full range of forest communities recognised by an agreed national scientific classification at appropriate hierarchical levels

Adequacy - the maintenance of ecological viability and integrity of populations, species and communities.

**Representativeness** - those sample areas of the forest that are selected for inclusion in reserves should reasonably reflect the biotic diversity of the communities.

Excerpt taken from Commonwealth of Australia (1992a).

## **CAR Reserve System Criteria**

#### Biodiversity

- (1) As a general criterion, 15% of the pre-1750 distribution of each forest ecosystem should be protected in the CAR reserve system with flexibility considerations applied according to regional circumstances, and recognising that as far as possible and practicable, the proportion of Dedicated Reserves should be maximised.
- (2) Where forest ecosystems are recognised as vulnerable, then at least 60% of their remaining extent should be reserved. A vulnerable forest ecosystem is one which is:
  - i) approaching a reduction in areal extent of 70% within a bioregional context and which remains subject to threatening processes; or
  - ii) not depleted but subject to continuing and significant threatening processes which may reduce its extent.
- (3) All remaining occurrences of rare and endangered forest ecosystems should be reserved or protected by other means as far as is practicable.
- (4) Reserved areas should be replicated across the geographic range of the forest ecosystem to decrease the likelihood that chance events such as wildfire or disease will cause the forest ecosystem to decline.
- (5) The reserve system should seek to maximise the area of high quality habitat for all known elements of biodiversity wherever practicable, but with particular reference to:
  - the special needs of rare, vulnerable or endangered species;
  - special groups of organisms, for example species with complex habitat requirements, or migratory or mobile species;
  - areas of high species diversity, natural refugia for flora and fauna, and centres of endemism; and
  - those species whose distributions and habitat requirements are not well correlated with any particular forest ecosystem.
- (6) Reserves should be large enough to sustain the viability, quality and integrity of populations.
- (7) To ensure representativeness, the reserve system should, as far as possible, sample the full range of biological variation within each forest ecosystem, by sampling the range of environmental variation typical of its geographic range and sampling its range of successional stages.

Forest ecosystems are often distributed across a variety of physical environments, and their species composition can vary along environmental gradients and between the micro-environments within the ecosystem.

This approach will maximise the likelihood that the samples included in the reserve system will protect the full range of genetic variability and successional stages associated with each species, and particularly those species with restricted or disjunct distributions.

(8) In fragmented landscapes, remnants that contribute to sampling the full range of biodiversity are vital parts of a forest reserve system. The areas should be identified and protected as part of the development of integrated regional conservation strategies.

### **Old Growth Forest**

- (1) Where old-growth forest is rare or depleted (generally less than 10% of the extant distribution) within a forest ecosystem, all viable examples should be protected, wherever possible. In practice, this would mean that most of the rare or depleted old-growth forest would be protected. Protection should be afforded through the range of mechanisms described in section 4.
- (2) For other forest ecosystems, 60% of the old-growth forest identified at the time of assessment would be protected, consistent with a flexible approach where appropriate, increasing to the levels of protection necessary to achieve the following objectives:
  - the representation of old-growth forest across the geographic range of the forest ecosystem;
  - the protection of high quality habitat for species identified under the biodiversity criterion;
  - appropriate reserve design;
  - protection of the largest and least fragmented areas of old-growth;
  - specific community needs for recreation and tourism.

### Wilderness

(1) Determining potential wilderness areas:

• Potential areas will have a minimum NWI rating of 12. In addition, minimum thresholds for each of the wilderness quality indicators will be set within the regional context. These thresholds will take into account the importance of the indicators, and in particular the biophysical naturalness component as a primary indicator.

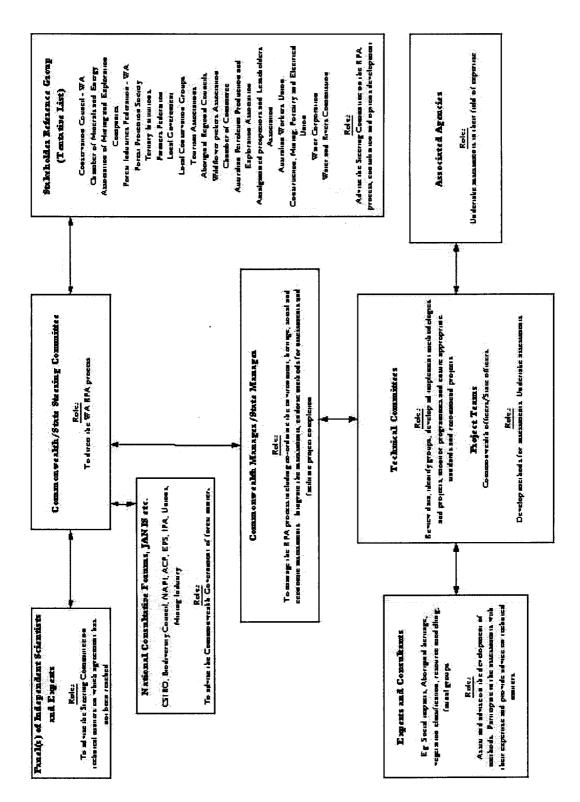
- The guideline for size which is considered generally appropriate for areas encompassing forested wilderness is 8000 ha. However, thresholds of less than 8000 ha may apply to areas contiguous with the sea or which adjoin wilderness areas in adjacent regions. Higher thresholds may apply within a region where wilderness is extensive.
- The presence in potential areas of "nodal" areas with higher wilderness quality may provide an indication of their significance and may guide the future management of identified wilderness areas.
- Other factors which are not considered in determining the NWI rating may need to be considered, in determining wilderness quality. These factors may include the include the impacts of exotic plants and feral animals on biophysical naturalness.

### (2) Determining wilderness boundaries:

- Potential areas identified using the NWI database will be considered in a regional context to ensure their viability as wilderness, including considerations of shape.
- Both ecological and management features such as topography, water catchment boundaries, roads and other transport routes, may be useful when delineating boundaries.

Excerpt taken from Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-Committee (1997)

## WA RFA Management Structure



## **Published CRA Reports**

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